



KEY POINT SUMMARY

OBJECTIVES

The purpose of this study was to more rigorously examine the negative impact of restraints than previous studies so that restraint use is further limited. The authors of the study hypothesized that the initiation of physical restraints would be associated with lower subsequent mental and physical health outcomes. The study examined the following mental health outcomes: cognitive performance, depression, and behavior issues. Also, it examined the following physical health outcomes: falls, activities of daily living (ADLs), pressure ulcers, contractures, and walking dependence.

Physical Restraint Initiation in Nursing Homes and Subsequent Resident Health

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Key Concepts/Context

Prior research suggests that the pediatric population's heightened perception of the quality of the physical environment can have an impact on the creation of a healing environment.

Methods

The study used a large sample size and considered statistical variation at the market, facility, and individual levels in a regression model of outcomes. It used the longitudinal information on a sample of unrestrained new residents and investigated initiation and the subsequent health outcomes of individuals who are and are not restrained.

The data was pulled from the following resources:

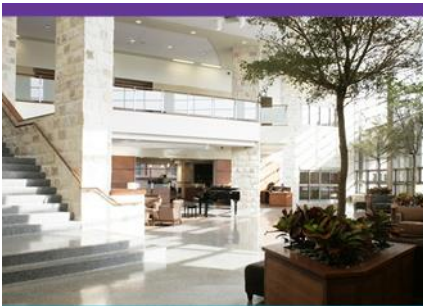
- Minimum Data Set (MDS) data (a summary assessment of nursing home residents)
- Online Survey, Certification, and Reporting data (facility and aggregated resident data from nursing home certification)
- Area Resource File (a publicly available data set summarizing a large array of census, health, and social resource information)

The survey sample included 12,820 residents from 740 nursing homes in Pennsylvania. The study excluded short-stay residents, hospice residents, and those in coma. It included residents with at least four MDS records about 3 months apart and newly admitted residents who were not restrained in the first two quarters of their residency.



DESIGN IMPLICATIONS

Findings suggest that the benefits of not using restraints are substantial. Therefore, it could be necessary to limit the use of restraints.



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Dependent and independent variables: In the first step, it modeled with who got restrained (dependent variable: physical restraint initiation; independent variables: resident (age, sex, race) and psychoactive medications). In the second step, it modeled the association of restraint initiation with subsequent changes in health outcomes (dependent variables: cognitive performance scale, ADL, depression, behavior issues, falls, pressure ulcers, contractures, walking dependence; independent variables: physical restraint initiation). The control variable were owners (profit or not-for-profit), nursing home chain, Medicaid occupancy, bed size, occupancy rate, RNs per bed, LPNs per bed, NAs per bed, NA per nurse, market competition, county occupancy rate, nonprofit market share, and managed care.

Findings

A personal history of falls in the first two quarters was associated with restraint initiation in the third quarter. An increase in falls from the admission quarter to the second quarter was further associated with restraint initiation. Likewise, low ADL performance in the first two quarters was associated with restraint initiation, and the worsening of ADL performance between the admission quarter and the second quarter was further associated with restraint initiation. Low cognitive performance and the absence of pressure ulcers during the first two quarters were associated with restraint initiation, but changes in these measures between the admission quarter and the second quarter did not have a significant association with restraint initiation. The average use of psychoactive medications in the first two quarters of residency was associated with restraint initiation in the third quarter. Demographics (age, race, gender) were all insignificant. For-profit facilities, facilities with a low ratio of nurse aides to nurses, and facilities in counties with high managed care penetration were more likely to use physical restraints.

Out of eight outcomes examined subsequent to physical restraint initiation, the authors found the following three outcomes were associated with prior restraint use: lower cognitive performance, low ADL performance, and more walking dependence. The authors did not find a significant relationship between physical restraint initiation and subsequent levels of depression, behavior issues, falls, pressure ulcers, or contractures.

Limitations

This study combined trunk, limb, and chair restraint use into a single measure of restraint use. Further research may find that different categories of restraints are associated with different resident outcomes. Finding such relationships requires that researchers examine each type of restraint separately. However, the sample size may not provide enough power for the analysis.