Longitudinal Health Outcomes: Are GREEN HOUSE Nursing Homes Really Better?

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Introduction

Background

- Traditional nursing home model has been criticized for medically focused care within the institutionalized environments.
- In the past few decades, nursing home care philosophy is shifting to create more homelike environments and provide person-centered care.
- Several culture change models have emerged since the 1990s, such as Eden Alternative, Green House homes and Wellspring models.
- Green House is one promising culture change model by transforming architecture to make small-scale home and to have private room and dining room like home, and providing care respecting resident’s choice and preference.
- Despite widespread adoption of GH model, little research evidence is currently available about the effects of this model.

Aim

- The purpose of this study was to investigate the effects of Green House nursing home model on residents’ health outcome trajectories over time comparing traditional nursing home residents.

Methods

Design

- A longitudinal design based on secondary analysis

Data

- Data sources: Study of Activities of daily living (ADL) Levels in Traditional Nursing Homes and THE GREEN HOUSE
  - A retrospective observational study
  - Using minimum data set (MDS) from 2004 to 2009.
  - MDS is assessed by registered nurse every 3 months
- Study Sample: 242 older adults who have stayed in nursing homes at least six months
  - Green House residents (n=93)
  - Main building (traditional home) residents (n=149)
- Analyzed data: 18 months data from admission with 7 time points were included in the study, although several residents were dropped out over time due to death or relocation.

Measures

<table>
<thead>
<tr>
<th>Variable</th>
<th>Measurement</th>
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<tr>
<th>Health outcome variable</th>
<th>Measurement</th>
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<tbody>
<tr>
<td>Physical function</td>
<td>Activities of daily living (ADL, 0 – 40)</td>
</tr>
<tr>
<td>Cognitive function</td>
<td>Cognitive performance scale (CPS, 0 – 6)</td>
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<tr>
<td>Depressive mood</td>
<td>Mood score (MSS, 0 – 8)</td>
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Covariates (time-invariant)

- Age
- Gender: Male (0), Female (1)
- Dementia: No (0), Yes (1)
- Chronic disease: Comorbidity score (0 – 9)

Group variable

- Facility Type: Traditional nursing home (0), GH nursing home (1)

Data analysis

- Latent growth curve modeling using linear & quadratic term

Results

1. Descriptive characteristics of residents (N=242)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Green House residents (n=93)</th>
<th>Main building residents (n=149)</th>
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<tbody>
<tr>
<td>Age</td>
<td>M (SD) = 87.2 (7.2)</td>
<td>M (SD) = 85.8 (9.7)</td>
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<tr>
<td>Female</td>
<td>73.1%</td>
<td>73.8%</td>
</tr>
<tr>
<td>Dementia</td>
<td>55.6%</td>
<td>50.0%</td>
</tr>
<tr>
<td>Comorbidity score</td>
<td>M (SD) = 1.9 (1.2)</td>
<td>M (SD) = 2.3 (1.4)</td>
</tr>
</tbody>
</table>

2. Growth trajectories of outcome measures by group (controlling for age, gender, dementia and comorbidity score)

1. Physical function
2. Cognitive function
3. Depressive mood

Conclusion & Implication

- Although change patterns of physical and cognitive functions did not have significant group differences over time, depressive symptoms for Green House residents got dramatically worse than traditional nursing home residents. The finding of depression was contrary to the previous studies showing positive quality of life outcomes for Green House residents.
- Closer relationship between residents and staff in GH homes might influence more recognition of resident’s depressive symptoms by staff; however, Green Home’s small-scale environment with only 10-12 residents might not be easy to provide group activities to be more socially engaged.
- Given an increasing pressure of long-term care cost, sounder research evidences of the impact of the Green House model may be necessary to claim expand new culture change nursing home models.