Gender differences in care home admission risk: partner’s age explains the higher risk for women

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Abstract

Background: older women have a higher risk of care home admission than men, this difference remains even after accounting for variations in health. A likely reason for this is the difference in social support provided by spouses. Older men may provide less care for their wives than women do for their husbands.

Objectives: this study assessed two competing explanations for this. First, older men are less willing to undertake traditionally feminine caring roles; secondly, older men are less physically able to provide care.

Design: the Northern Ireland Longitudinal Study (NILS), a representative (c28%) sample of the Northern Ireland population.

Findings: a total of 20,830 couples were followed over 6 years, with 415 care home admissions among NILS cohort members. Women had a higher admission risk after controlling for cohort members’ age and health; however, there was no gender difference after adjusting for partner’s age.

Conclusion: these results suggest that advanced age and physical frailty explain why men provide less care for their partners than women do; rather than being unwilling to undertake a caring role. The narrowing gap in life expectancy between men and women may have an effect on the future demand for formal care.

Keywords: care home admission, informal care, gender differences, elderly

Introduction

Most studies within the UK have demonstrated that women are more likely than men to be admitted to a nursing or residential home. This excess risk persists even after adjustment for differences in age and health status [1, 2]. Other studies have shown that the difference is mainly within married couples as admission risk is, for example, similar for men and women living alone [3].

There are two explanations for this gender difference. The first is that older men provide less care because they are less willing or less equipped to do so, due to socio-cultural gender stereotyping. This is somewhat supported by cross-sectional studies demonstrating a female preponderance of caring [4]. The second is that the difference is due to demographic factors. Women tend to marry men older than themselves [5]. This means that the partners of older women may be less physically able to provide care due to their own age-related frailty. This difference is important for future demand for care home places; the first may be a consequence of historical demarcation of roles, a pattern that may not be evident in future generations, the alternative is somewhat fixed by the age of people’s partners.
Earlier population-based longitudinal studies have adjusted for the socio-demographic characteristics and health status of the cohort member, but had limited information on partners. The aim of this study was to decide which of these two explanations is more plausible.

Methods

The Northern Ireland Longitudinal Study (NILS) is a representative 28% sample of the population (approximately 500,000 individuals) derived from the Northern Ireland Health Card registration system, to which the 2001 Census returns is linked. In Northern Ireland as in the rest of the UK people are entitled to ‘free at the point of use’ health and social care, almost 100% of entitled people are contained in this health card registration system. This study focused on NILS members aged 65 or over at the time of the census and not living in a care home. Cohort members’ age, sex and self-reported morbidity were taken from census returns. The limiting long-term illness (LLTI) census question was used in this analysis as it is closely aligned to physical dimensions of health [6] and therefore better reflects the ability to undertake caring. Although NILS only links events over time for cohort members, household and co-resident information at the time of the census is available. The items of information on cohort members’ partners used in the analysis were partner’s age and LLTI status.

Change of residential address identified from health card registration system data was used to indicate residence at one of the 399 care homes registered with the regional care home inspectorate operating during the study period. People living in care at the time of the census were excluded. There was no loss to follow-up from the health card registration system. A total of 1,354 (6.1%) persons with missing data for age or health variables were excluded from the analysis.

The relationship between cohort member and partner characteristics and risk of admission during the 6 years of follow-up was investigated using Cox proportional hazards models. Age was fitted with its mean-centered square in models to account for the exponential relationship between age and admission risk. Proportional hazards assumptions were graphically checked for each explanatory variable. Two sets of sensitivity analyses were undertaken; the first used 3 rather than 6 years of follow-up to assess if time since the assessment of personal characteristics affected the results. The second used only admission to nursing home as the endpoint to see if the results also held for those requiring more intensive levels of care. Although there was some reduction in precision (due to fewer admissions), there was no dramatic change in the estimates’ magnitude or interpretation between these models and those presented below: Stata 10 (College Station, TX, USA) was used for all analyses.

**Results**

A total of 20,830 people aged 65 and over were living with a partner in a two person household; this represents 37.8% of all non-institutionalised people at the time of the census; a further 11.3% were also married but living with children and excluded. Of the cohort, 9,367 (45%) were female; 31% were aged 75 year or over and 47% reported an LLTI.

Table 1 compares within 5-year age bands the partner’s age and LLTI status for male and female cohort members. It shows that women tend to have partners who on average are towards the upper limit of the age band (i.e. older than them) while men tend to have younger partners; the average age difference of male and female partners being approximately 5 years. The prevalence of poor health at baseline increased with age in both sexes but at all ages women had sicker partners, except for the 85 year or older group where men’s partners more often had LLTIs.

There was a total of 110,000 person-years of follow-up, and 415 people were admitted. The overall admission rate was 3.8 admissions per 1,000 person-years. The relative risk of admission for married women compared with married men was assessed controlling first for the age and health status of the cohort member, and then for the characteristics of their partner (Table 2). Before adjusting for the

### Table 1. Average age of partner, and proportion of partners with limiting long-term illness by cohort members’ age

<table>
<thead>
<tr>
<th>Age of cohort member</th>
<th>Cohort member—male</th>
<th>Cohort member—female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean age of partner</td>
<td>% Partners with an LLTI</td>
</tr>
<tr>
<td>65–69</td>
<td>64.6</td>
<td>41.1</td>
</tr>
<tr>
<td>70–74</td>
<td>68.7</td>
<td>44.5</td>
</tr>
<tr>
<td>75–79</td>
<td>72.7</td>
<td>47.5</td>
</tr>
<tr>
<td>80–84</td>
<td>76.3</td>
<td>55.5</td>
</tr>
<tr>
<td>85+</td>
<td>80.7</td>
<td>66.0</td>
</tr>
</tbody>
</table>

**LLTI** ‘Do you have a long-term illness, health problem or disability which limits your daily activities or the work you can do? Yes/No’.

### Table 2. Relative risk of admission to care home for females compared with males for married couples: data represent hazard ratios (95% CI) with adjustment for characteristics of cohort member and for their co-resident

<table>
<thead>
<tr>
<th></th>
<th>Female excess risk of admission</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unadjusted</td>
<td>1.16 (0.97–1.40)</td>
</tr>
<tr>
<td>Adjusted for</td>
<td></td>
</tr>
<tr>
<td>Cohort members’ age and age squared</td>
<td>1.41 (1.16–1.71)</td>
</tr>
<tr>
<td>Age, age squared and LLTI</td>
<td>1.56 (1.12–1.65)</td>
</tr>
<tr>
<td>Age, age squared, LLTI and partner’s age</td>
<td>1.13 (0.91–1.41)</td>
</tr>
<tr>
<td>Age, age squared, LLTI, partner’s age and partner LLTI</td>
<td>1.13 (0.91–1.40)</td>
</tr>
</tbody>
</table>
cohort members’ age, there is weak evidence for a 16% excess risk for females, and after accounting for their age women are approximately 40% (HR: 1.41 95% CI: 1.16–1.71) more likely than men to be admitted to a care home. This study focused only on married cohort members, and thus excluded the oldest, widowed individuals. As women have a longer life expectancy and outlive their husbands, proportionally more high admission risk older women will have been excluded than men. This may explain why there is no gender difference before accounting for age. After controlling for age in the models, the expected age independent risk differential reappears. Further adjustment for cohort members’ health status (presence of a ILTT) reduced the excess risk for females only a little. However, controlling for differences in age of cohort members’ partners eliminated the difference in admission risk between men and women (HR: 1.13 95% CI: 0.91–1.41). Again, the inclusion of a measure of health status of the partner did not add significantly to the model.

Discussion

This study goes some way to debunking the myth that older men do not do caring to the same extent as their female peers; the primary reason why married women are more likely than married men to be admitted to a care home is because they tend to have older partners. The likelihood of increasing frailty and therefore the inability to provide sufficient support for an older partner rises steeply with age. The age difference between partners is evident in virtually all societies and a recent review has shown that it has fluctuated between 2 and 3 years over the last 100 years in England, with no evidence of any long-term trends [5]. This difference corresponds well with the findings reported here.

This study was based on a large sample of over 20,000 couples. As such, findings can be considered highly robust and accurate measures of effect size with considerable power to detect differences. The findings of no gender difference after controlling for spouse age is thus very unlikely to be a false negative finding. The study has a number of limitations that are worth mentioning. The study focused only on two person households (heterosexual couples exclusively among this cohort) to eliminate other potential influences such as number of people in the household [7–9] and so the findings are not generalisable to other household types. We were unable to assess the effect of change in household characteristics such as death or institutionalisation of a spouse but a sensitivity analysis using only 3-year follow-up produced very similar findings suggesting that any misclassification bias arising from the change in living arrangements is unlikely to significantly alter the findings. This study had no direct information relating willingness to undertake a caring role; however, the results of this study show that age of co-resident alone is sufficient to explain the gender difference, rendering explanations based around differences between the sexes in their willingness to provide care redundant.

In conclusion, it is evident that living with a partner significantly reduces the risk of admission for both men and women, and that the higher admission risk of women compared with men appears to be due primarily to the differences in the age and frailty of their partners. The projected narrowing of the gap in life expectancy between men and women may mean that there are more men around to provide such support in future years, hence increasing the informal care resource available for the future older population.

Key points

- Women have a higher risk of care home admission.
- This could be due either to older men being less willing to provide care, or being less physically able to.
- Analyses suggest that age-related frailty, not willingness to undertake a caring role explains the increased admission risk.

Acknowledgements

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Conflicts of interest

None declared.

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