

## OLDER PEOPLE LIVING ALONE WITH URINARY INCONTINENCE IN A SOUTH AUSTRALIAN POPULATION

### Hypothesis / aims of study

The aim of this study was to explore demographic characteristics of an older population living alone with urinary incontinence.

### Study design, materials and methods

The Australian Longitudinal Study of Aging (ALSA) is an ongoing multidisciplinary prospective study of the older population which commenced in 1992 in South Australia. The baseline random sample of 2087 adults, aged 65 years and over, lived in the community or in supported care (included hostels, nursing homes, and hospitals). Four of 7 data collection waves asked about urinary incontinence and included demographic data pertinent to living alone. For this study, data from participants who resided in the community was extracted from waves 1, 3, 6 and 7 - a period of 11 years.

In all waves participants were asked whether they accidentally passed urine. 'Accidental' is considered an Australian colloquial equivalent of 'involuntary' in this context. An answer of 'never' defined continence and an answer of 'occasionally' or 'often' defined urinary incontinence. Temporally immediate, the question did not ask for recall. This question did not define the type or severity of urinary incontinence.

Demographic variables used in this study included: sex, marital status, born in Australia, and speaking another language at home.

### Results

At the beginning of this study 1,961 participants lived in the community. Men (78 years) were older than females (76 years, Mann-Whitney U  $p < 0.001$ ,  $r = 0.17$  post-hoc power = 0.98), and more females experienced accidental leakage than men (Chi-square,  $p < 0.001$ ,  $\phi = 0.13$ , post-hoc power = 1.0).

The number of community dwelling participants decreased over time due to death, moving into supported care or being lost to follow up. In the final wave, 372 participants lived in the community. Overall, the median age increased from 76 to 83 years (Mann Whitney U test,  $p < 0.001$ ,  $r = 0.43$ , post-hoc power = 1.0).

During the study, the percentage of people living alone rather than with others in the community rose from 27.1% to 55.9% (Chi-square,  $p < 0.001$ ,  $\phi = 0.25$ , post-hoc power = 1.0). Those living alone were increasingly women (an increase from 53.9% to 73.1%, Chi-square,  $p < 0.001$ ,  $\phi = 0.16$ , post-hoc power = 1.0).

In contrast to the general population (median = 76 years) those living alone had a higher age (median = 81 years) at the beginning of the study, and this rose to 84 years (Mann-Whitney U  $p < 0.001$ ,  $r = 0.32$ , post-hoc power = 0.96). Likewise, those living alone with urinary incontinence had a median age of 81 at the beginning and 84 by the end of the study (Mann-Whitney U  $p < 0.001$ ,  $r = 0.28$ , post-hoc power = 0.43).

As the community-dwelling group contracted over time, the number of those living alone with urinary incontinence rose from 6.4% to 19.6% of the community dwelling population (Chi-square  $p < 0.001$ ,  $\phi = 0.15$ , post-hoc power = 1.0).

Logistic regression was used to identify which parameters were associated with living alone with urinary incontinence compared to the general community-dwelling population at the beginning of the study. Five independent variables were chosen: age, Australian birth, other language at home, sex and marital status. The total model was significant (Chi-square  $p < 0.001$ ). Older people living alone with urinary incontinence were more likely to be female ( $p < 0.001$ , odds ratio = 1.6, 95% CI = 1.3-2.1, post-hoc power = 0.87), born in Australia ( $p = 0.009$ , odds ratio = 1.5, 95% CI = 1.1-2.1, post-hoc power = 0.97), widowed ( $p = 0.04$ , odds ratio = 2.1, 95% CI = 1.0-4.3, post-hoc power = 0.99) or never married ( $p = 0.03$ , odds ratio = 2.5, 95% CI = 1.1-5.6, post-hoc power = 1.0). Neither age nor speaking another language at home was associated with living alone with urinary incontinence.

Logistic regression was used to identify which of these parameters had changed in the population who lived alone with urinary incontinence between the first and last waves of data collection. The same five variables were included in the analysis. The total model was significant (Chi-square  $p = 0.001$ ). Over time, those living alone with urinary incontinence were more often female ( $p = 0.04$ , odds ratio = 2.26, 95% CI = 1.0-4.9, post-hoc power = 0.99) and older ( $p < 0.001$ , odds ratio = 1.4, 95% CI = 1.1-1.2, post-hoc power = 0.41), but marital status, place of birth or language spoken at home remained constant.

### Interpretation of results

This data demonstrates that in a given population nearing the end of life, the demographics of those living alone, and those living alone with urinary incontinence shift over time. Age was not an associated factor with living alone with urinary incontinence but other factors such as being newly widowed, being female, and interestingly, not being an immigrant were all associated with living alone with urinary incontinence in this community. However as this population moved towards end of life, both age and gender became more important predictors of living alone with incontinence in later life.

### Concluding message

A more complex analysis of this dataset will identify predictors that contribute to the demographic shift of those living alone with urinary incontinence as the population nears end of life, including variables such as cognitive function and activities of daily living.

### Disclosures

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