# Factors associated with poor bladder health in community-dwelling Australians aged 40–75 years

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## ABSTRACT

The objective of this study was to identify significant predictors of poor bladder health in middle-aged and older community-dwelling Australians that may be addressed by public health interventions. A cross-sectional study recruited 656 volunteers aged 40–75 years in one Australian state capital city. We report bladder health in this paper, measured as the summed non-sex-specific bladder health questions (N=5) in the Pelvic Floor Bother Questionnaire (PFBQ). Associations between bladder health and putative predictors identified from the literature (age; sex; health concerns; polypharmacy; smoking; cognition; nutrition; alcohol intake, regular exercise; body mass index; walking speed) were examined. Bladder health was tested as a scaled variable in three categories (no problems, some problems and many problems). Univariate linear regression models, chi square models and analysis of variance models were applied to test strength of associations. Significant crude associations between predictors and poor bladder health were stratified by gender and age groups (40–49 years, 50–59 years, 60–69 years and 70+ years) to test for confounding. The sample comprised 218 men and 438 women. Increasing age, high body mass index, slow walking speed and health concerns were significant crude predictors of poor bladder health. Gender and age were significant confounders of all these associations. Broad public health interventions that promote regular physical activity to people aged 45–75 years may result in faster walking speeds and lower body mass index, which in turn may improve general health, and prevent and improve poor bladder health.

**Keywords** public health, bladder, associates, middle aged

## INTRODUCTION

Poor pelvic floor health (PFH) can reflect one or more concerns such as involuntary urine or faecal leakage, urinary frequency or urgency, or constrained or painful voiding of bladder or bowel[1]. Globally, unintentional loss of urine is the most common manifestation of pelvic floor dysfunction[2–5]. Pelvic floor health is defined as "the physical and functional integrity of the pelvic floor unit through the life stages of an individual (male or female), permitting an optimal quality of life through its multifunctional role, where the individual possesses or has access to knowledge, which empowers the ability to prevent or manage dysfunction"[2(p.991)]. Poor PFH is often under-reported and under-treated due to embarrassment or stigma, and there appears to be widespread acceptance that signs and symptoms of incontinence are a normal part of ageing[3–5].

Poor PFH can significantly impact on physical and mental wellbeing and quality of life[6,7] and is reported to contribute to chronic urinary tract infection, interrupted sleep and subsequent fatigue, reduced physical activity, and compromised mental health[8–10]. This can curtail social and recreational activities which can further impact on physical and mental health[9]. Persistent urinary and/or faecal leakage are common reasons for older people to enter residential care[9,10].

Our recent report of the prevalence of poor PFH in Australian community-dwelling adults highlighted a

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range of intimate bladder and bowel concerns that many otherwise healthy people experienced every day[11]. Factors commonly associated with poor PFH in women often relate to childbirth[3–5]. However, non-sex-specific causal factors for poor PFH have also been proposed, for instance obesity, compromised cognition, poor nutrition, sedentary lifestyles, polypharmacy, and regular smoking and alcohol consumption[12–18]. Although poor PFH is not a simple topic to address in a public health sense, some proposed associated factors could be addressed via public health better lifestyle campaigns, health promotion, education and individual pharmaceutical and non-pharmaceutical approaches[2–5,12–18].

This paper reports data from a cross-sectional observational study[11,19] to identify factors associated with bladder health in community dwelling adults aged 40–75 years. We interrogated the data to seek information on which putative predictors were significantly associated with bladder health in community-dwelling adults aged 40–75 years? Do gender and age influence the association between significant predictors and bladder health?

## METHODS

This study was approved by the Southern Adelaide Clinical Human Research Ethics Committee (South Australia) (391.16).

Study sampling and data collection methods were previously reported[11,19]. In summary, volunteers aged 40–75 years who were generally healthy and living in the community were recruited for a general health assessment. Consenting participants completed surveys for self-reported measures (online or on paper) and objective physical assessments (conducted face-to-face with researchers).

Comprehensive information on PFH was captured using the Pelvic Floor Bother Questionnaire (PFBQ)[20]; this tool was identified as the most appropriate instrument to measure PFH in community-dwelling adults from the range of instruments recommended by the 6th International Consultation on Incontinence[21]. The relevance and acceptability of PFBQ was confirmed by the expert reference group for our study[19]. Of 656 community-dwelling participants aged 40–75 years, we found that 65% overall (70% women, 56% men) reported experiencing at least one bladder concern regularly[21]. Women were almost twice as likely than men to report bladder concerns across all age groups – OR 1.9 (95%CI 1.4–2.8). Bowel problems were less frequently reported, by fewer than 10% men and women across the age groups[11]. Bladder health was reported as the summed score of the five PFBQ items relevant to bladder health for both men and women (binary questions 1a–5a; urine leakage during physical activities; frequency of urination; urgency to urinate; leakage associated with urgency; discomfort on urinating). For analysis, this bladder health variable was treated as a scaled variable, and also in three categories of good bladder health (no problems) (scores 0,1), moderate bladder health (some problems) (scores 2,3) and poor bladder health (many problems) (scores 4,5).

As reported in the literature predictors of poor PFH such as older age and female gender are widely accepted[1–7]. Age was calculated from birthdate, in years, and for analysis was treated as a scaled variable and put into categories (40–49 years, 50–59 years, 60–69 years, and 70–75 years). Sex was a binary variable. Other predictors were identified from a comprehensive literature search[19]. Three scaled variables were derived from summed scores from questionnaires:

- Cognition, measured by the General Practitioner Assessment of Cognition test (GPCOG), where each correct answer scored one point (for a total of nine)[22,23].
- Nutrition, scored as the sum of self-report binary responses to questions from the Australian Dietary Guidelines Eat for Health[24], with scores assigned to daily intake of vegetable, fruit, primary protein, choosing wholegrains and eating a weekly substitute grain, and limiting fast foods, processed foods and high sugar foods.
- Regular exercise, determined from the total number of self-reported minutes per week spent walking, on moderate-exertion activity, vigorous exertion exercise, and gardening (Active Australia Survey[25]).

There were two continuous predictor variables:

- Body mass index (BMI) was calculated by weight (kgs)/height$^2$ (metres). BMI is a measure of general body health[17,26].
- Walking speed was assessed by the Six Minute Walk Test (6MWT) standardised by height[27,28]. Walking speed is an objective indicator of physical fitness and overall health (reported for this paper in metres per second)[29].

Categorical predictors comprised:

- Currently smoking (self-reported) Yes/No)[30].
- Polypharmacy (self-reported) (measured as no regular medications, one to four regular medications, or more than five regular medications)[31,32].
- Alcohol consumption (self-reported) classified as none, less than 10 drinks per week (acceptable intake), or more than 10 (at-risk intake)[33].
- Individual health concerns (self-reported from the question 'Do you have any other concerns about your health that we haven't asked you about today?' Answer options were Yes/No[6,7,9,10,18].

### Data management

We tested for normalcy of the frequency distributions of the scaled variables using the Shapiro-Wilks test, where significant p values indicated non-normal distributions. We described each distribution by mean, standard deviation (SD), median, count, minimum and maximum, and 25th and 75th percentiles. None of the frequency distributions were normal. After adding 1 to each summed score to avoid the challenges of zero

values, we log transformed the total bladder score so that it approximated a normal distribution for subsequent analysis[34].

For scaled predictor variables, univariate linear regression models (Pearson $r^2$ values) were constructed to test crude associations between the scaled bladder health scores and BMI, walking speed, cognition, exercise and nutrition[34]. Significant crude associations were identified by F values ($p<0.05$), and $r^2$ values provided estimates of strength of associations. Gender (binary) and age (continuous) were then added as dummy variables to the models with significant crude associations to test for confounding. Significant confounding effects were identified by F values with p values <0.05 and significant increases in the adjusted $r^2$ values from the crude value. Mean values and SD for each predictor variable were reported across each category of bladder health, and significant differences between means were assessed using analysis of variance (ANOVA) models and reported as F values, degrees of freedom (df), p values.

**Table 1. PFBQ non-sex-specific bladder health questions (N=5) per age group**

| Sex / Age group | Bladder health questions score | | | |
|---|---|---|---|---|
| | Median | 25th percentile | 75th percentile | Maximum score |
| **Male** | | | | |
| 40–49 | 0 | 0 | 1 | 4 |
| 50–59 | 0 | 0 | 1 | 5 |
| 60–69 | 1 | 0 | 2 | 5 |
| 70+ | 1 | 0 | 2 | 5 |
| **Female** | | | | |
| 40–49 | 1 | 0 | 2 | 5 |
| 50–59 | 1 | 0 | 2 | 5 |
| 60–69 | 1 | 0 | 2 | 5 |
| 70+ | 1 | 0 | 3 | 5 |

Where the variables included categorical data, a different statistical analysis was required. Chi square models were reported as degrees of freedom (df), p values and tested differences in the number of subjects in each cell of categorical cross-tabulations. Differences in bladder health scores between the levels of categorical putative predictors were tested using ANOVA models, reporting F values (df) and p values. Where significant crude differences were identified ($p<0.05$), sex and age group were added as independent variables to the ANOVA models, to test for confounding.

## RESULTS

Of the 656 participants, 439 (67%) were female, the mean sample age was 59.9 years (SD 10.6) and, as previously reported, the cohort was comparable with local age, sex and socio-economic population estimates[13,21,35]. Descriptive statistics are reported for the five-item non-gender-specific bladder score n=656 (mean 1.3, SD 1.4; median 1 (IQR 0–2) (range 0–5)). This demonstrated the non-normal frequency distribution of the overall response variable. Table 1 reports the descriptive statistics for the sex-age categories of the bladder health score. Table 2 reports descriptors of the frequency distributions of the predictor variables.

As anticipated from our previous research into individual PFBQ bladder elements[21], there were significant gender and age group effects (overall $F=6.9$, $df=4$ ($p<0.05$), effect of sex $F=11.5$ ($p=0.02$), age group effect $F=5.4$ ($p=0.001$. A higher percentage of men than women reported suffering all five bladder elements, approximately 5% men aged 50–59 years and over 70 years, compared with 3% for women aged 50–59 years and 3% for women aged over 70 years. There were no gender differences in those participants reporting all five bladder elements.

The mean and SD, minimum and maximum values for each scaled predictor variable for three levels of bladder health are reported in Table 3. There were

**Table 2. Descriptors of frequency distributions of the predictor variables**

| Variables | n=656 | Median | Mean | SD | Minimum | Maximum | 25th percentile | 75th percentile |
|---|---|---|---|---|---|---|---|---|
| **Age** | 647 | 62.0 | 60.0 | 10.7 | 28.0 | 80.0 | 51.0 | 69.0 |
| **BMI** | 639 | 26.7 | 27.6 | 5.1 | 17.8 | 51.0 | 24.2 | 30.1 |
| **Cognition** | 637 | 9.0 | 8.3 | 1.1 | 4.0 | 9.0 | 8.0 | 9.0 |
| **Nutrition** | 493 | 6.0 | 6.1 | 1.8 | 0.0 | 9.0 | 5.0 | 7.0 |
| **Exercise** | 537 | 285.0 | 402.7 | 445.4 | 0.0 | 3030.0 | 148.0 | 480.0 |
| **Walking speed** | 623 | 1.6 | 1.5 | 0.3 | 0.0 | 2.6 | 1.4 | 1.7 |
| **Health concerns** | 654 | 1.0 | 0.7 | 0.5 | 0.0 | 0.1 | 0.0 | 0.1 |
| **Smoking** | 641 | 0.0 | 0.0 | 0.2 | 0.0 | 1.0 | 0.0 | 0.0 |
| **Alcohol** | 486 | 1.0 | 3.3 | 5.1 | 0.0 | 50.0 | 1.0 | 3.0 |
| **Polypharmacy** | 626 | 0.0 | 0.3 | 0.5 | 0.0 | 1.0 | 0.0 | 1.0 |

Legend: Unit measures: Age (years) , BMI (weight/height2 ) Cognition (GP COG score) Nutrition Australian Dietary Guidelines Eat for Health24 , Exercise (minutes/day) , Walking speed (6MWT) minutes , Health concerns Yes or No, Smoking Yes or No , Alcohol (standard drinks/week), Polypharmacy (measured as no regular medications, one to four regular medications, or more than five regular medications)

no significant differences across these bladder health categories for cognition (F=1.1, df=2 p=0.32); nutrition (F=0.1 df=2 p=0.92); or exercise (F=1.0 df=2, p=0.35). However, significant differences were found for walking speed (F=11.5, df=2, p=<0.001); and BMI (F=7.2, df=2, p=<0.001). Scatter plots of the associations between bladder health and cognition, nutrition, exercise, walking speed and BMI are provided in Figure 1.

The scaled predictor variables for each of bladder health categories are described in Table 3. The percentage of subjects in each bladder health category with each level of categorical predictors is reported in Table 4. There were significant differences in proportions across categories for gender, individual health concerns, and regular medications.

Crude and adjusted linear associations between the total bladder health score and scaled predictor variables are reported in Table 5. Older age, high BMI and slow walking speed were significantly associated with poor bladder health in both crude and adjusted models. After adjusting for gender and age, high BMI and poor walking speed explained variability in the total bladder health score (7% and 6% respectively).

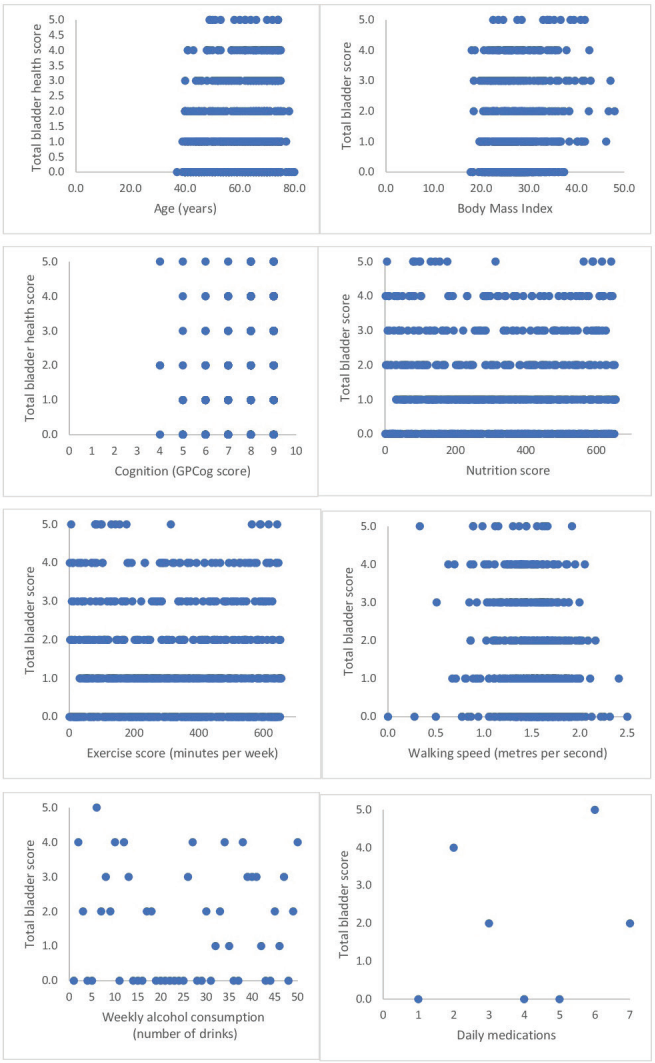


**Figure 1. Scatter plots of the associations between bladder health and cognition, exercise, walking speed, alcohol consumption and polypharmacy**

The associations between bladder health and other predictor variables became significant when gender and age were added to the models, indicating the importance of these two variables in understanding changes in bladder health.

Differences between bladder health scores between the levels of the categorical variables are reported in Table 6. The only predictor variable with significant differences across bladder health categories was health concerns. Gender and age similarly exerted significant confounding influences on all associations.

Important predictor variables such as BMI, walking speed and health concerns were significantly associated with each other. Higher BMI was strongly associated with slower walking speed (F=69.4, p<0.05, $r^2$=10.1%). Both high BMI and slow walking speed were significantly different for people with, and without, health concerns (df=1) (F=15.6, p<0.05; F=20.5, p<0.05 respectively). Gender was significantly associated with the differences in walking speed related to health concerns, but not for BMI. Age was significantly associated with both BMI and walking speed related to health concerns. Mean differences in BMI and walking

**Table 3. Mean predictor variable values for three categories of bladder health**

| Variable | n | Mean | SD | Minimum | Maximum |
|---|---|---|---|---|---|
| **Good bladder health (scores 0,1)** | | | | | |
| **Age** | 411 | 58.9 | 10.7 | 28. | 80.0 |
| **Nutrition** | 313 | 6.16 | 1.7 | 0 | 9.0 |
| **Exercise** | 332 | 415.1 | 456.2 | 0 | 3030.0 |
| **Cognition** | 407 | 8.3 | 1.1 | 4.0 | 9.0 |
| **BMI** | 408 | 27.1 | 4.4 | 17.8 | 46.2 |
| **Walking speed** | 397 | 1.6 | 0.2 | 0 | 2.5 |
| **Moderate bladder health (scores 2,3)** | | | | | |
| **Age** | 164 | 61.1 | 10.7 | 40.0 | 78.0 |
| **Nutrition** | 126 | 6.1 | 1.9 | 1.0 | 9.0 |
| **Exercise** | 138 | 408.2 | 434.6 | 0 | 3000.0 |
| **Cognition** | 160 | 8.3 | 1.0 | 4.0 | 9.0 |
| **BMI** | 161 | 27.9 | 5.9 | 18.4 | 47.9 |
| **Walking speed** | 159 | 1.5 | 0 | 0.5 | 2.6 |
| **Poor bladder health (scores 4,5)** | | | | | |
| **Age** | 72 | 63.4 | 9.5 | 41.0 | 75.0 |
| **Nutrition** | 54 | 6.1 | 1.6 | 2.0 | 9.0 |
| **Exercise** | 67 | 329.7 | 411.1 | 0 | 2500.0 |
| **Cognition** | 70 | 8.1 | 1.1 | 4.0 | 9.0 |
| **BMI** | 70 | 29.4 | 6.2 | 18.0 | 50.9 |
| **Walking speed** | 67 | 1.4 | 0.3 | 0.3 | 2.1 |

Legend: Unit measures: Age (years) , BMI (weight/height$^2$) Cognition (GP COG score) Nutrition, Australian Dietary Guidelines Eat for Health[24] score recommended number of serves of vegetables, legumes/beans and fruit per day, Exercise (minutes/day) , Walking speed (6MWT) minutes.

**Table 4. Poor bladder health categorical predictors**

| Variable / Levels | Bladder health | | | Chi² df=2 | p value |
|---|---|---|---|---|---|
| | Good | Moderate | Poor | | |
| **Sex** | | | | | |
| Male | 37% | 29% | 24% | 6.8 $_{df=2}$ | 0.03 |
| Female | 63% | 71% | 76% | | |
| **Alcohol intake** | | | | | |
| Moderate | 63% | 25% | 12% | 1.9 $_{df=2}$ | 0.37 |
| At-risk | 68% | 27% | 5% | | |
| **Smoking** | | | | | |
| No | 96% | 98% | 93% | 2.6 $_{df=2}$ | 0.26 |
| Yes | 4% | 3% | 7% | | |
| **Health concerns** | | | | | |
| No | 37% | 28% | 18% | 12.5 $_{df=2}$ | 0.002 |
| Yes | 63% | 72% | 82% | | |
| **Polypharmacy** | | | | | |
| None | 36% | 31% | 19% | 12.5 $_{df=4}$ | 0.04 |
| <5 | 62% | 76% | 81% | | |
| 5+ | 2% | 2% | 0% | | |

Legend: Unit measures: Health concerns Yes or No, Smoking Yes or No , Alcohol (standard drinks/week), Polypharmacy (measured as no regular medications, one to four regular medications, or more than five regular medications)

speed are reported in Table 7 for people with, and without, health concerns, in gender and age groups, highlighting the consistently higher values for BMI, and slower values for walking speed, for people with health concerns.

## DISCUSSION

This study adds important information to current knowledge about bladder health in middle and older-aged Australian community-dwelling adults. Most research into incontinence in an Australian context has been conducted on people aged over 65[4], thus this paper provides rare support for the 2013 Australian Bureau Statistics findings that continence issues are a concern for many Australians over 40 years of age[35].

Increasing age was associated with decreasing bladder health for both men and women, with women reporting significantly more problems than men in each age group. Regular physical activity has been reported as being associated with good physical and mental health[12–18], and it is not surprising that we found that good physical health indicators were related to good bladder health. Walking speed is an indicator of physical fitness, and slower walking speeds were related to poor bladder health. The association between high BMI and poor bladder health is unsurprising as fitter people generally have lower BMI[12–14]. That people's health concerns were

**Table 5. Associations between total bladder scores and continuous or integer predictor variables**

| | Crude association | | | | Adjusted association | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Variable | F value, r² | % | Direction | p value | F value r² | % | Direction | p value | Age p value | Gender p value |
| **Age** | 17.3 | 3 | +ve | 0.001 | 13.6 | 4 | +ve | .0008 | | 0.002 |
| **BMI** | 20.9 | 3 | +ve | 0.0008 | **15.9** | 7 | **+ve** | 0.001 | 0.001 | .0001 |
| **Cognition** | 0.01 | 0 | –ve | 0.75 | **9.8** | **5** | **–ve** | **0.001** | **0.001** | **0.005** |
| **Walking speed** | 26.1 | 4 | –ve | 0.001 | 8.9 | 6 | –ve | .0008 | 0.003 | 0.02 |
| **Exercise** | 2.4 | 1 | +ve | 0.12 | **10.1** | **5** | **+ve** | **0.001** | **0.001** | **0.007** |
| **Nutrition** | 0.84 | 1 | +ve | 0.84 | **8.6** | **5** | **+ve** | **.0001** | **0.001** | **0.04** |

Significant findings are bolded.
For the integer factors, the positive direction of association is indicated as +ve and the negative direction of association is indicated as –ve.
Legend: Unit measures: Age (years) , BMI (weight/height²) Cognition (GP COG score) Nutrition, Australian Dietary Guidelines Eat for Health[24] score recommended number of serves of vegetables, legumes/beans and fruit per day, Exercise (minutes/day), Walking speed (6MWT) minutes.

**Table 6. Association between total bladder scores and categorical predictor variables**

| | Crude differences | | Confounding effects | | | |
|---|---|---|---|---|---|---|
| | | | Sex effect | | Age group | |
| | F value | p value | F value | p value | F value | p value |
| **Health concerns** | **11.5** $_{df=1}$ | **0.002** | **9.89** $_{df=1}$ | **0.001** | **3.6** $_{df=3}$ | **0.03** |
| **Smoking** | 0.32 $_{df=1}$ | 0.82 | **12.1** $_{df=1}$ | **<0.001** | **15.3** $_{df=3}$ | **<0.001** |
| **Polypharmacy** | 0.8 $_{df=2}$ | 0.80 | **11.7** $_{df=1}$ | **<0.001** | **4.5** $_{df=3}$ | **0.03** |
| **Alcohol** | 1.5 $_{df=2}$ | 0.73 | **7.1** $_{df=1}$ | **0.002** | **5.6** $_{df=3}$ | **0.02** |
| **Exercise** | 0.9 $_{df=1}$ | 0.97 | **6.6** $_{df=1}$ | **0.003** | **7.1** $_{df=3}$ | **0.01** |
| **Nutrition** | 0.5 $_{df=1}$ | 0.61 | **4.3** $_{df=1}$ | **0.03** | **7.0** $_{df=3}$ | **0.01** |

Legend: Unit measures: Health concerns Yes or No, Smoking Yes or No, Alcohol (standard drinks/week), Polypharmacy (measured as no regular medications, one to four regular medications, or more than five regular medications)

**Table 7. Differences in integer predictor variables by health concerns, age and sex for total bladder score**

| Sex / Age group | No health concerns (n=214) | | Health concerns (n=440) | |
|---|---|---|---|---|
| | BMI | Walking speed m/sec | BMI | Walking speed m/sec |
| | Mean (SD) | Mean (SD) | Mean (SD) | Mean (SD) |
| **Male** | | | | |
| 40–49 | 26.9 (2.9) | 1.7 (0.3) | 28.1 (4.5) | 1.8 (0.2) |
| 50–59 | 27.6 (2.6) | 1.7 (0.2) | 29.2 (4.0) | 1.6 (0.3) |
| 60–69 | 26.8 (4.0) | 1.7 (0.3) | 27.1 (3.5) | 1.6 (0.3) |
| 70+ | 25.2 (6.5) | 1.6 (0.2) | 28.2 (4.0) | 1.5 (0.3) |
| **Female** | | | | |
| 40–49 | 25.9 (3.9) | 1.7 (0.3) | 27.3 (5.5) | 1.5 (0.3) |
| 50–59 | 26.4 (4.6) | 1.6 (0.2) | 29.6 (7.1) | 1.5 (0.3) |
| 60–69 | 25.3 (4.5) | 1.5 (0.2) | 27.7 (5.4) | 1.5 (0.3) |
| 70+ | 28.6 (6.3) | 1.3 (0.2) | 27.9 (5.2) | 1.3 (0.3) |

NB: Two participants did not report health concerns

also associated with poor bladder health concurs with current literature[1,3,35].

Public health interventions for bladder health need to focus on variables related to lifestyle which are most amenable to change[12–14,18,35]. Three significant predictors (slower walking speed, higher BMI and health concerns) may be mutable to public health interventions to improve general health[5,12,13,15,16,19]. Improving walking speed, reducing BMI and addressing people's health concerns may not only improve bladder health, but may also reduce risks of other chronic conditions such as hypertension, cardiac performance, obesity and falls risk.

### Limitations

This study was limited in its capacity to draw causal inferences from the cross-sectional design, by the self-selected sample, and by difficulties in establishing a robust sample size in an unknown population. Whether increasing age, increasing BMI and decreasing walking speed are indeed related to decreasing bladder health should be tested in randomly selected samples from known community sources, followed over suitably lengthy periods of time. The log transformative process required adjusting the total bladder health score by 1 to avoid the issue of log transformation of 0. This may have inflated the model outputs, incurring Type 1 errors.

### Public health implications

The significant age and gender effects persisted throughout the modelling process. This highlights the need for bladder health interventions to be relevant to men and women aged 40 years and older living independently in the community. Poor bladder health should not be an accepted part of growing older[3–5]. Community-based interventions targeting improved fitness and weight-loss, as well as education about general health and pelvic floor function, could have an added benefit by improving bladder health for people of all ages. With only 31% of people with urinary incontinence reported as seeking professional help[35], the findings of this research highlight the importance of intervening in an issue that has high levels of under-reporting, misconception and high morbidity burden[1,5,7,35].

## CONCLUSION

Improving walking speed and BMI with non-gender-specific public health campaigns seem feasible to improve bladder health in community-dwelling adults over 40 years of age. People may find it challenging to speak to healthcare providers about poor bladder health, but it may be addressed by interventions to improve general health, increase physical activity and lose weight. Preventing poor bladder health is essential to reduce the predicted burden of ageing on Australia's future healthcare system, and to safeguard individual good health now, and into the future.

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