

Prevalence of Falls among Older Women in Malaysia and Its Association with Urinary Incontinence



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Introduction

- In an ageing society, falls is a serious issue that contributes to morbidity and mortality.
- Additional health problem such as urinary incontinence could further increase risks.
- Urinary incontinence could present in the form of stress, urge incontinence or mixed.
- Previous studies have demonstrated the link between urinary incontinence and falls.
- This sub-study aims to demonstrate the prevalence of falls among older women in Malaysia and its association with urinary incontinence.

Methodology

- Data was obtained from the National Health and Morbidity Survey (NHMS) 2018, a cross-sectional survey focusing on elderly health in the population.
- Secondary data obtained were for women aged ≥ 60 years old ($n=$). Information on socio-demography and falls history were obtained from face-to-face interview. Urinary incontinence was measured using a validated tool, Questionnaire for Urinary Incontinence Diagnosis (QUID) which could assess stress and urge incontinence.
- Descriptive and logistic regression complex sampling analysis was done using SPSS version 22.

Results

Variables	Prevalence of falls among older women (n=2105)			
	Unweighted count	Estimated population	Prevalence (%)	95% CI (upper,lower)
Malaysia	307	242 543	14.7	12.71,17.04
Strata				
Urban	142	182322	15.3	12.78,18.32
rural	165	60221	13.3	10.91,16.26
Age				
60 – 69	179	144110	13.3	10.93,16.25
70 – 79	95	69573	16.1	12.41,20.67
$\geq 80+$	33	28860	21.9	13.94,32.93
Ethnicity				
Malay	216	160476	16.3	13.64,19.37
Chinese	52	55492	13.5	10.22,17.82
Indian	6	8538	8.3	3.26,19.92
Bumiputera Sabah	20	9414	14.9	8.36,25.43
Bumiputera Sarawak	6	4483	7.9	4.45,13.64
Others	7	4140	15.7	4.58,42.35
Marital Status				
Married	147	129496	15.6	13.33,18.49
Not married	159	112338	13.7	11.45,17.63
Education				
No formal	100	57860	15.4	11.52,20.44
Primary	137	105851	14.7	11.97,18.05
Secondary	57	64727	14	10.04,19.45
Tertiary	13	14103	16.1	9.86,25.32
Occupation				
Employed	24	18271	10.4	6.64,16.05
Unemployed	283	224272	15.3	13.01,17.83
Any UI				
Yes	32	26960	24.3	13.8,39.1
no	255	195370	14.0	
Stress Incontinence				
Yes	24	22370	33.5	22.0,47.4
No	263	199960	13.9	11.8,16.2
Urge Incontinence				
Yes	19	12398	20.1	8.0,41.9
No	268	209932	14.5	12.5,16.8

Table 1: Prevalence of falls among older women in Malaysia

Variables	Crude OR (95% CI)	P value	Adjusted OR (95% CI)	P value
Strata				
Urban	1.12 (0.71,1.54)	0.861	1.02 (0.55,1.49)	0.728
rural	1		1	
Age				
60 – 69	1		1	
70 – 79	1.46 (0.99,2.15)	0.069	1.20 (0.70,1.92)	0.533
$\geq 80+$	1.11 (0.54,1.73)	0.962	1.04 (0.34,1.85)	0.782
Ethnicity				
Malay	0.98 (0.46,1.47)	0.757	1.21 (0.81,1.63)	0.352
Chinese	1.12 (0.68,1.64)	0.455	1.03 (0.48,1.69)	0.573
Indian	1.00 (0.67,1.43)	0.535	0.96 (0.54,1.47)	0.690
Others	1		1	
Marital Status				
Married	1.30 (0.76,1.98)	0.675	1.15 (0.71,1.56)	0.842
Not married	1		1	
Education level				
No formal	1.25 (0.78,2.10)	0.438	1.15 (0.91,1.47)	0.684
Primary	0.81 (0.65,1.01)	0.170	0.92 (0.46,1.28)	0.891
Secondary	1.27 (0.82,1.96)	0.278	1.03 (0.68,1.56)	0.259
Tertiary	1		1	
Occupation				
Employed	1		1	
Unemployed	1.45 (0.89,2.10)	0.335	1.01 (0.52,1.58)	0.375
UI				
Yes	1.98 (1.30,3.09)	0.02	0.96 (0.31,1.59)	0.712
no	1		1	
Stress Incontinence				
Yes	3.09 (2.02,5.07)	0.02	1.51 (1.03,20.4)	0.04
No	1		1	
Urge Incontinence				
Yes	1.478 (0.52,4.19)	0.04	0.87 (0.29,1.65)	0.518
No	1		1	

Table 2: Risk factors of falls among older women in Malaysia

- The prevalence of having at least 1 fall episode in the past 12 months at the date of interview among women aged 60 and above was 14.7% in Malaysia.
- Those aged >80 years old, from urban area, unemployed and with a spouse have higher prevalence of falls compared to their counterparts.
- The prevalence of falls among women with urinary incontinence was 24.3%; higher for stress incontinence (33.5%) compared to urge incontinence (20.1%).
- Older women with urinary incontinence have almost 2 times odds of falling [OR 1.98 (95% CI: 1.3, 3.0)]. Those with stress incontinence 3 times odds of falling [OR 3.09 (95% CI: 2.0,5.0)] as to urge incontinence [OR 1.48(95% CI: 0.52,4.19)].
- Multiple logistic regression revealed that urinary incontinence were positively associated with those who had stress urinary incontinence [aOR 1.51 (95%CI: 1.03,2.04)]

Discussion & Conclusion

- Prevalence of falls increases with age which is consistent with previous studies. The finding that urinary incontinence is associated with falls was similar to studies done in England, Australia, Japan and the United States.^{3,4,5,6}
- This could be due to the need to rush to the bathroom due to incontinence.⁴ Another study suggested that the discomfort and anxiety associated with it which could interfere with balance leading to falls.⁶
- Urinary incontinence should be considered as a risk factor for falls especially in women. Likely due to the small sample size, significant associations when multiple factors were considered were unable to be demonstrated.
- Further studies should be done in the future with larger sample size to explore the association in order to determine the necessity and suitable early preventive strategies.

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