

SECULAR CHANGE OF PREVALENCE RATE OF URINARY INCONTINENCE AND EFFECT OF PELVIC FLOOR MUSCLE EXERCISE ON ELDERLY WOMEN IN NORTHERN JAPAN.

Hypothesis / aims of study

The aim of this study is to clarify the secular change of prevalence rate of urinary incontinence (UI) on elderly women in northern Japan. In addition, we investigated the effect of pelvic floor muscle exercise on UI among them.

Study design, materials and methods

A longitudinal study was conducted to assess the above-mentioned rate in Sapporo City of northern Japan. 1600 women aged between 65 and 74 years, namely 1.4% of women with responsible age in the entire Sapporo City, were randomly selected from the resident registration. We surveyed a prevalence rate of UI among them in October 2010. In addition, we conducted the second survey in October 2011. We surveyed them using a self-administrated questionnaire by post. The prevalence of UI was defined as frequent UI at least once a week or so. ICIQ-Short Form was used in this investigation. We simultaneously surveyed whether they routinely conducted pelvic floor muscle exercise.

Results

We got answers from 803 women among 1600 women (response rate 50.1%) in 2010, and, we got answers from 746 of these 803 women (response rate 92.9%) in 2011. As shown in Table 1, prevalence rate of UI was 29.5% (237/803) and 37.1% (277/746) in 2010 and 2011, respectively.

As shown in Table 2, the largest proportion of women with UI present both in 2010 and 2011 (30.7%) had conducted pelvic floor muscle exercise ($p<0.001$). Contrastly, the lowest proportion of women with UI absent both in 2010 and 2011 (16.4%) had conducted pelvic floor muscle exercise.

Furthermore, we asked 81 women with changed frequency of UI symptom, whether their frequency of UI decreased or increased during a year from 2010 to 2011. As shown in Table 3, a marginally significantly larger proportion of women with increased frequency of UI symptom did not conduct pelvic floor muscle exercise ($p=0.052$).

Table1 Secular change of UI

	Number (%) of UI present	Number (%) of UI absent	Total (%)
2010 year	237 (29.5)	566 (70.5)	803 (100.0)
2011 year	277 (37.1)	469 (62.9)	746 (100.0)

Table2 Secular change on UI according to conduction of pelvic floor muscle exercise

Status of UI symptom	Conduction of pelvic floor muscle exercise		Total (%), n=746
	Yes (%), n=156	No (%), n=590	
UI absent both in 2010 and 2011	73 (16.4) *	373 (83.6)	446 (100.0)
UI present in 2010 but UI absent in 2011	4 (17.4) *	19 (82.6)	23 (100.0)
UI absent in 2010 but UI present in 2011	17 (22.7) *	58 (77.3)	75 (100.0)
UI present both in 2010 and in 2011	62 (30.7) *	140 (69.3)	202 (100.0)

*: $P<0.001$ with the chi-square test

Table3 Conduction of pelvic floor muscle exercise in 81women with changed frequency of UI symptom

Changed frequency of UI symptom	Conduction of pelvic floor muscle exercise		Total (%), n=81
	Yes (%), n=31	No (%), n=50	
Decreased	18(50.0) *	18(50.0)	36 (100.0)
Increased	13(28.9) *	32(71.1)	45 (100.0)

*: $P=0.052$ with the chi-square test

Interpretation of results

Increased prevalence rate of UI in elderly women up to 7.6% from 29.5% to 37.1% during a year may suggest that aging would profoundly influence it.

Concluding message

Our result may suggest that continual pelvic floor muscle exercise may be expected to suppress increase in frequency of UI symptom.

Disclosures

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