

RISK FACTORS OF DIAPER/PAD-USE FOR URINARY INCONTINENCE IN ELDERLY NURSING HOME RESIDENTS IN JAPAN

Hypothesis / aims of study

Japan has the longest life expectancy in the world. Over the past 50 years, the percentage of elderly people (>65 years old) in the population of Japan has increased four-fold from 5.7% in 1960 to 23.1% in 2010 [1]. The Long-Term Care Insurance System in Japan started in 2000 to promote socialization of care. The Care-Needs level is determined by the National Nursing Care Needs Board considering the statement made by the applicant's primary physician and notes written by the assessor [2]. Urinary incontinence is a common problem among residents living in nursing homes. The prevalence of urinary incontinence in nursing home residents has been reported to be ranged from 43 to 77% [3]. Urinary incontinence is closely related to their quality of life and caregivers' burden. The aims of this study were to survey the prevalence of urinary incontinence and to identify risk factors for a diaper/pad-use in elderly people living in nursing homes in Japan.

Study design, materials and methods

Data were retrieved from a multicentre, prospective, cross-sectional surveillance among nursing home residents in Japan. We reviewed their personal information including status of urinary incontinence (diaper/pad-use), gender, age, the Care-Needs level, and the primary physician's statement. The primary physician's statement comprises five core elements of physical and mental conditions of the elderly; severity of physical disability, severity of dementia, short-term memory, ability of decision-making for daily living, and ability of communication. Determination of urinary incontinence (diaper/pad-use) in this study is any leakage of urine with necessity of wearing a diaper or pad. First, we surveyed the prevalence of urinary incontinence and diaper/pad-use for urinary incontinence. Second, we determined risk factors for diaper/pad-use by using a logistic regression analysis.

Results

In this study, 255 residents (73 males and 182 females, mean 83.4± 8.5 years old) from 10 nursing homes were included. Total 194 residents (76.1%) suffered from urinary incontinence; however, the consultation rate to urologists was only 6.3% (16/255 elderly). Neither gender nor age is associated with diaper- or pad-use. Multivariate analysis revealed that dependency of locomotion, cognitive disability and disability of communication were significantly associated with the risk of diaper/pad-use. The odds ratio and 95% confidence interval were 5.701 (2.564 to 13.558) for dependency of locomotion, 5.508 (2.096 to 16.527) for cognitive disability, and 6.314 (2.297 to 18.876) for disability of communication, respectively (Table 1). Moreover, the prevalence of diaper/pad-use increased logarithmically in proportion to number of these risk factors; the ratio of diaper- or pad-use in the elderly with all the three risk factors was 100% (58/58 elderly), while 36.4% (24/66 elderly) in the elderly without any of these risk factors (Figure 1).

Interpretation of results

The results of the present study indicate dependency of locomotion, cognitive disability and disability of communication are the independent risk factors for urinary incontinence in nursing home residents in Japan. Evaluating them prior to admission to nursing home might be useful to estimate a risk of urinary incontinence (diaper/pad-use) of elderly who needs a long-term care. Interestingly, these three factors are included in the five core elements of the primary physician's statement which are used for determining the Care-Needs levels. Limitation of our study is a small sample size and cross-sectional nature. Further studies with large sample size are warranted to confirm our observation. Moreover, we need to survey longitudinally to clarify whether the status of urinary incontinence could be altered during their stay in nursing homes in the dependence on the status of these three risk factors.

Concluding message

Dependency of locomotion, cognitive disability and disability of communication are the independent risk factors for urinary incontinence in nursing home residents. To facilitate their urinary continence, a multidisciplinary team consisted of urologists, orthopedists, physiotherapists, nursing staffs, and caregivers would be needed to support those elderly people also in aspect of locomotion, cognition and communication.

Factors	Univariate OR (95% CI)	Multivariate OR (95% CI)
Severity of physical disability Independent in ADL/House-bound Chair-bound/Bed-bound	Reference 10.043 (4.789 – 21.064)	Reference 5.701 (2.564 – 13.558)
Severity of dementia Not demented/Need supervision Need assistance/Incapacitated daily living	Reference 9.752 (4.011 – 23.710)	Reference 5.508 (2.096 – 16.527)
Short-term memory No problem With problem	Reference 2.007 (1.108 – 3.635)	Reference 2.321 (0.987 – 5.742)
Ability of decision-making for daily living Independent Dependent	Reference 6.225 (3.339 – 11.605)	Reference 1.724 (0.698 – 4.323)
Ability of communication Independent Dependent	Reference 15.310 (6.597 – 35.531)	Reference 6.314 (2.297 – 18.876)

Table 1. Risk factors of diaper/pad-use

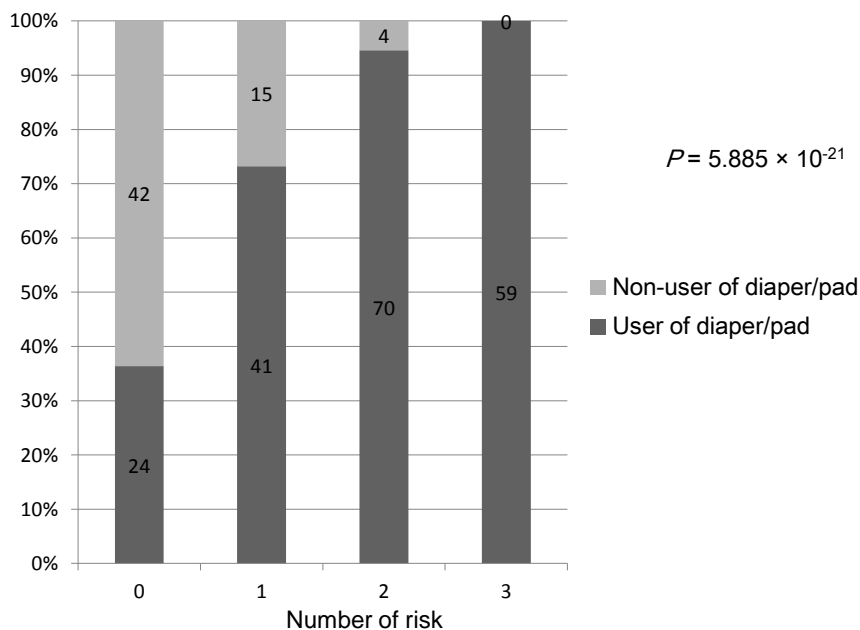


Figure 1. Prevalence of diaper/pad-use with number of risk factors

References

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Disclosures

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