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Torimoto K[1], Hirayama A[1], Matsushita C[1], Yamada A[1], Matsumoto Y[1], Fujimoto K[1]
1. *Nara Medical University*

INFLUENCE OF LOWER URINARY TRACT SYMPTOMS ON SLEEP DISORDER AND GENERAL HEALTH-RELATED QUALITY OF LIFE IN ELDERLY SUBJECTS

Hypothesis / aims of study
Nocturia is considered to be strongly associated with sleep disorder and general health-related quality of life (GHQOL) in elderly subjects, but it is not clear if other lower urinary symptoms (LUTS) are involved in them. Therefore, we conducted a community-based study to examine whether LUTS influence sleep state and how the influence of LUTS on sleep state reduces GHQOL.

Study design, materials and methods
This study was performed as part of the Fujiwara-kyo study, a community-based longitudinal study that has been conducted in Nara prefecture in Japan since 2007. The subjects of the Fujiwara-kyo study were 4427 men and women aged ≥65 years old who were living in their own homes and were able to walk independently. Baseline data included results for physical examinations, blood tests, medical history, and self-administered questionnaires including the International Prostate Symptom Score (IPSS), International Physical Activity Questionnaire (IPAQ), Geriatric Depression Scale (GDS), 36-Component Short-Form Survey (SF36) and Pittsburgh sleep quality index (PSQI). Subjects with a score of ≥1 on question 7 of the IPSS (nocturia) were included in the current study. Sleep disorder and GHQOL were assessed using the PSQI and SF36, respectively. Independent factors associated with sleep disorder were determined by multivariate analysis. The effects of LUTS on PSQI and SF36 scores were evaluated.

Results
Of the 4427 subjects, 3313 had a nocturia score ≥1 and gave complete replies to self-administered questionnaires. Female gender, weak stream and nocturia in the IPSS, stroke, hypertension and depression were independently associated with sleep disorder. Controlling for nocturia revealed significant correlations of weak stream with subjective sleep quality sleep efficacy, sleep disorder, and daytime dysfunction. (Table.1)
All SF36 components in subjects with a nocturia score ≧2 and a high weak stream score were lower than those in other groups. There was no difference in any SF36 component between subjects with a nocturia score of 1 and a high weak stream score and those with a nocturia score ≧2 and a low weak stream score (Fig.1).

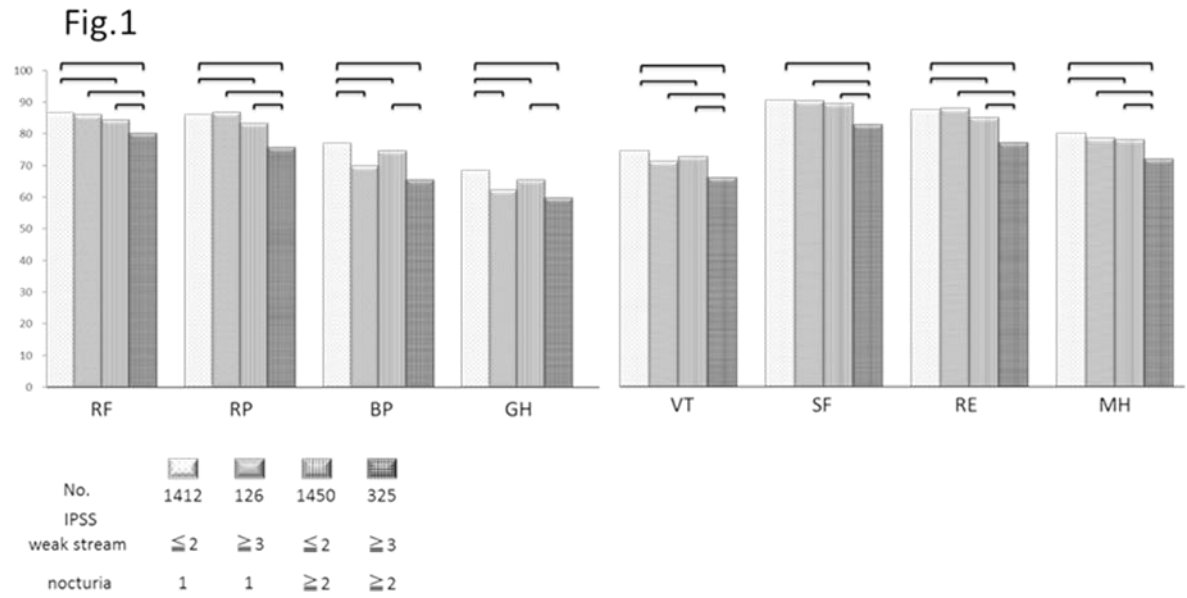
Interpretation of results
Nocturia and weak urinary stream are not only independently associated with sleep disorder but also deteriorate GHQOL in elderly subjects.

Concluding message
This study suggests that active treatment is needed for patients with weak stream who suffer from sleep disorder.

Table.1 Spearman's and Partial correlation between each component of PSQI ,weak stream and nocturia in IPSS

	Spearman's correlations				Partial correlations			
					controlling nocturia		controlling weak stream	
	weak stream		nocturia		weak stream		nocturia	
	r	p	r	p	r	p	r	p
Subjective sleep quality	0.15	<0.0001	1.20	<0.0001	0.11	<0.0001	0.10	<0.0001
Sleep latency	0.05	0.007	0.06	0.002	0.01	0.61	0.07	<0.0001
Sleep duration	0.02	0.189	-0.03	0.07				
Sleep efficacy	0.07	<0.0001	0.11	<0.0001	0.05	0.005	0.11	<0.0001
Sleep disturbance	0.15	<0.0001	0.12	<0.0001	0.11	<0.0001	0.03	0.07
Use of sleep medication	0.03	0.07						
Daytime dysfunction	0.14	<0.0001	0.05	0.008	0.11	<0.0001	0.02	0.25
Weak stream	1.00		0.20	<0.0001				
Nocturia	0.20	<0.0001	1.00					

Figure 1.SF36 subscale scores in subjects classified using IPSS scores for nocturia and weak stream. PF physical function, RP physical role functioning, BP bodily pain, GH general health, VT vitality, SF social function, RE emotional role functioning, MH mental health. Bars indicate p<0.05.



Disclosures
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