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HEALTH-RELATED QUALITY OF LIFE AND SLEEP IN PATIENTS WITH SYMPTOMATIC NOCTURIA

Hypothesis / aims of study

We attempted to assess the general health-related quality of life (GHQL) and the quality of sleep in patients complaining of nocturia compared with Japanese norms, and to decide factors that had significant impacts on GHQL of patients.

Study design, materials and methods

Eighty patients, 64 men and 16 women, median age 71.5 years, whose chief complaint was nocturia, were enrolled in this study. GHQL and quality of sleep were assessed using the Medical Outcome Study Short Form-36 (SF-36) and the Pittsburgh Sleep Quality Index (PSQI). SF-36 scores were adjusted for comparison with a general population; a score of 50 represented normal function with a standard deviation of 10 points. The scores of PSQI were compared with previously published data of the Japanese general population [1]. Age, nocturia score (I-PSS#7) of the International Prostate Symptom Score (I-PSS), the sum of the remaining 6 scores of I-PSS, I-PSS QOL score, uroflow variables (voiding volume, peak flow rate, and post-void residual urine), four variables extracted from frequency-volume charts (urine volume per day, average nocturnal voided volume, urinary frequency during 24 hours, and nocturnal polyuria index [2]), and scores of the six domains and the global score of the PSQI were candidate predictors in the analysis of correlation with GHQL. The one-sample test, Spearman rank correlation coefficient, and stepwise regression model were used for statistical analyses and p values <0.05 were considered significant.

Results

All domains except for “daytime dysfunction” in the PSQI were significantly worse than those of Japanese norms. By univariate analysis using Spearman rank correlation coefficient, age, I-PSS#7, I-PSS QOL, sleep quality, sleep latency, sleep duration, sleep disturbance, hypnotic medication use, daytime dysfunction, global score of PSQI, and nocturnal polyruia index were significantly associated with 5, 6, 2, 5, 3, 1, 3, 2, 8, 2, and 3 of the 8 domains of the SF-36, respectively. By multivariate analysis using a stepwise regression model, I-PSS#7 had the strongest impact on physical function, role physical, and bodily pain domains, sleep quality on general health perception and mental health domains, and daytime dysfunction on vitality, social function, and role emotional domains. Daytime dysfunction had a significant relationship with three other domains, even in multivariate analysis, however I-PSS#7 did not influence any of the other 4 domains. Sleep quality, sleep duration, and I-PSS QOL had significant impacts on multiple other domains of SF-36. Objective variables had no relationship with GHQL.

Interpretation of results

Generally, GHQL and quality of sleep were markedly deteriorated in patients with symptomatic nocturia compared with Japanese norms. Although the

frequency of urination during nighttime *per se* had a significant impact on several aspects of GHQL, daytime dysfunction was more profoundly associated with GHQL; while other aspects of sleep including sleep quality and sleep duration were similarly important.

Concluding message

Although the reduction of nighttime frequency is one of the major goals of treatment of symptomatic nocturia, improvement of several aspects of sleep is similarly or more important for patients with symptomatic nocturia. Urologists need to be aware of the bothersomeness of other sleep problems in patients with symptomatic nocturia.

1. Subjective sleep quality and sleep problems in the general Japanese adult population. Psychiat Clin Neurosci, 55: 213-215, 2001
2. Evaluation of the etiology of nocturia in men: the nocturia and nocturnal bladder capacity indices. Neurourol Urodyn, 18: 559-565, 1999