

Prevalence and Correlates of Disordered Sleep in Southeast Asian Indians with Type 2 Diabetes (*Diabetes Metab J* 2012;36:70-6)

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Rajendran et al. [1] recently reported the positive association between duration of diabetes and global Pittsburgh Sleep Quality Index (PSQI) score for 120 patients after adjustment for several related factors. By overviewing the characteristics of the patients presented in their Table 1, the diabetic management seems not satisfactory. They speculated that increase in the prevalence of neuropathy and nocturia by long duration of diabetes would accelerate worsening of global PSQI score. But before accepting their results, there are three queries on their approach for making final conclusion.

First, they adopted a logistic regression analysis after presenting simple correlation coefficient. Namely, there was a positive relationship between global PSQI score and duration of diabetes in years with 18.1% of explanation rate ($P < 0.05$), which was presented in their Fig. 1. Thereafter, they presented main results in their Table 3. Unfortunately, a regression coefficient of “duration of diabetes” was -0.196, and the odds ratio (95% confidence interval) was 0.822 (0.728 to 0.928). This value presents a negative relationship between duration of diabetes and global PSQI score, and the explanation rate was 13.2%. Odds ratios of other variables such as age, sex, medication, body mass index, and HbA1c presented reasonable direction in change compared with past academic information, although they did not reach the level of statistical significance. The explanation rate was not satisfactory to accept their results, and

multivariate analysis presented a negative association between duration of diabetes and global PSQI score.

Second, I recommend conducting multiple regression analysis instead of logistic regression analysis to avoid information loss for global PSQI score. Hung et al. [2] recently reported that decreased sleep quality judged by PSQI was related to pre-diabetes and newly diagnosed diabetes except impaired fasting glucose. They adopted multivariate linear regression analysis and logistic regression analysis by adjusting several cardiometabolic risk factors. The dependent values are derived from PSQI in both analyses, and information loss is larger in logistic regression analysis from the statistical viewpoint.

Finally, I suppose that “duration of diabetes” itself has a difficulty for making adequate judgment on the onset of diabetes. In addition, the pathophysiological severity of diabetes is different from person to person, and the medication as a variable should be handled with caution. Furthermore, there is no information on physical activity or fitness, which is an important factor to affect diabetes [3] and sleep status [4].

Sleep is important for the occurrence of diabetes [5-7], and diabetes itself has an important factor to make disturbance for sleep [6]. I suppose that Rajendran et al. intended to show the latter relationship, although causality could not be clarified by cross-sectional study. I appreciate their effort to conduct such a clinical study, but large-scale and long-term prospective co-

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hort studies are required to make a conclusion on the relationship between duration of diabetes and sleep quality.

CONFLICTS OF INTEREST

No potential conflict of interest relevant to this article was reported.

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