Validation study of STOP-Bang score for screening sleep-disordered breathing

Tomoyuki Kawada¹

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Dear Editor,

Nahapetian et al. conducted a validation study of three variations on STOP-Bang score for sleep-disordered breathing (SDB) [1]. The authors calculated conventional, weighted, and continuous STOP-Bang scores, and compared with apnea-hypopnea index (AHI) >15/h by in-home polysomnograms-derived SDB. Receiver operating characteristic (ROC) curves analysis was adopted for the screening of SDB. I have two queries on their study outcome.

First, the authors concluded that modified STOP-Bang score such as weighting the variables and using continuous variables of body mass index (BMI), age, and neck circumference had an advantage against conventional STOP-Bang score. But the authors also described that area under the curve (AUC) of continuous STOP-Bang score was significantly larger than those of conventional and weighting STOP-Bang score. Please describe the consistent results. Unfortunately, there was no description of statistical method for comparing two AUCs in their Table 4 and Figure 1. The ROC curve analysis was first introduced in Radiology [2–4], and the size of the sample is important for the statistical power. Although I appreciate the enough number of samples in their analysis, please specify the name of the statistical software for conducting statistical comparison of AUC in each ROC curve.

Second, the authors adopted BMI > 35 as the cut-off value of SDB. Kim et al. adopted BMI > 30 as the cut-off value for

Korean subjects and concluded that (conventional) STOP-Bang questionnaire kept high sensitivity for screening obstructive sleep apnea [5]. But its specificity was lower than the acceptable level, when compared with the Sleep Apnea of Sleep Disorder Questionnaire. There is a difference in the distribution of BMI in subjects with different ethnicity. I suppose that neck circumference should also be re-evaluated in subjects with different ethnicity. Taken together, the criteria of conventional STOP-Bang score can be applied to a population within the same ethnicity.

Compliance with ethical standards

Disclosure The author has indicated no financial support.

Conflicts of interest The author declares no conflict of interest.

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✉ Tomoyuki Kawada
kawada@nms.ac.jp

¹ Department of Hygiene and Public Health, Nippon Medical School, 1-1-5 Sendagi, Bunkyo-Ku, Tokyo 113-8602, Japan