Reviewer's report

Title: Obstructive sleep apnea and multimorbidity

Version: 2 Date: 19 June 2012

Reviewer: Kazuo Chin

Reviewer's report:

This study examined the prevalence and severity of several morbidities in 120 OSA patients and their association between with disease severity. Considering that OSA is a systemic disease affecting multiple organs and having comorbidities, this is an important issue for the field. However, there are some methodological flaws which make it difficult to draw useful conclusion from this study.

Major comments:

1. In addition to the lack of hypothesis, the objectives of this study did not quite fit the Introduction. The first sentence of the last paragraph of the Introduction states, "Evidence of an association between OSA and multimorbidity...thereby affecting the quality of life and health of patients.". However, the health status of patients was not evaluated in this study.

2. Regarding Table 2, the authors said that there was a correlation between the severity of OSA and the proportion of patients with comorbidities. The statistical method and the results of these analyses should be given.

3. Why did the authors use bivariate analyses (absent and mild vs. moderate and severe) in Table 3? Using the absolute value of AHI as continuous variables or ANOVA with each OSA severity seem to be appropriate.

Minor comments:

1. The authors should explain DBMA in detail, because most of readers do not know DBMA well.

2. Page 8, lines 16 to 17. Did the authors estimate 'sufficient' sample size? In addition, I would like you to show how you estimated the sample size in this study.

3. The response rate to the questionnaire in this study is low.

Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.