Predictors of Poor Sleep Quality in Call Handlers

Dear Editor,

The article by Raja and Bhasin[1] assessed the independent predictors of sleep quality of 375 call handlers, who were under 40 years of age, in international call centers. Sleep quality was assessed using Athens insomnia scale. About 78% of participants were male and 83.5% of respondents were unmarried. Prevalence of insomnia, including suspicious cases, was 77.6%. By logistic regression analysis, independent predictors for sleep quality were found to be smoking, poor social support, heavy workload, lack of relaxation facility at office, and prolonged travel time to office. I would like to comment on their study.

First, Patterson, *et al*,[2] reported that short and long sleep duration and late chronotype were associated with physical inactivity, sedentary behavior, and dietary problems. They also reported that percentages of current smoking in short and adequate sleepers were 9.8% and 6.9%, and percentages of current smoking in those with late and intermediate chronotypes were 14.9% and 7.4%, respectively. There is also clear evidence that smoking status is closely related to obesity,[3] and that short sleep duration is significantly associated with subsequent obesity.[4] Taking all these together, I recommend the authors including obesity index and chronotype as independent variables in their analyses too.

Related to the first query, there is a report on sex difference in the relationship between sleep and obesity.[5] Li, *et al*,[6] reported that short and long sleep duration are both risk factors for metabolic syndrome in men. In contrast, there is no significant association between sleep and metabolic syndrome in women. Raja and Bhasin[1] handled mainly male workers, and the association in female works should therefore be assessed in further studies.

Finally, the working status is closely related to sleep and lifestyle factors.[7,8] There is a significant association between sleep and mental health.[9] Taken together, the causality of the association between sleep quality and its predictors should be comprehensively evaluated.

Conflicts of Interest: None declared.

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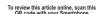Fax: +81-3-5685-3065
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Authors' Reply

We appreciate the well-advised comments of Dr. Kawada on our paper.[1] Our study had a cross-sectional design and was conducted to assess the sleep quality and determine its independent predictors among call handlers employed in international call centers in NCR of Delhi, *viz* Delhi, Gurgaon, and Noida.

The authors wished we could have included obesity index and chronotype as independent variables in our analyses of sleep quality. However, for feasibility purposes, we could not measure the anthropometric parameters of individual call handlers for calculating the obesity index or collect any data on characteristics of study participants such as chronotype (morning person and evening person) rate of shift rotation, and rest periods after shift work.

The number of female call handlers in our study was only 22%. The investigators did not anticipate this at the beginning of the study; otherwise, we could have made some changes in the methodology to get a reasonably fair representation of female call handlers. It has already been addressed as a limitation in our paper.

Since our study was cross-sectional, issue of temporality was yet another limitation in understanding the association of various factors with sleep quality of call handlers. Whether poor sleep quality preceded or succeeded these factors is thus difficult to delineate. We, therefore, need to conduct more studies to create a database for health problems among call handlers to make a strong advocacy for better understanding of sleep quality among them.

Conflicts of Interest: None declared.

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