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Comments on the Association between Workplace Environment and Metabolic Syndrome

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Dear Editor,

Occupational epidemiology is a challenging field, especially in examining the underlying mechanisms of the multifactorial health conditions, *eg*, metabolic syndrome. Using the right methodology in occupational epidemiology is of paramount importance, so that proper use of statistical-epidemiological methods, such as stratification and testing interactions, might change the results of a study.¹⁻³

We read with interest the article of Jeong on the association between workplace environment and metabolic syndrome recently published in *The IJOEM*.⁴ Although the results are valuable, some issues might need more clarifications. Although, the author emphasizes the effect of workplace environment, the discussion is just focused on the metalworking fluid, and other workplace factors, such as shift work, have apparently been overlooked. In addition, the challenging reported results showing that lack of physical activity and shift-working are non-significant protective factors for the metabolic syndrome are also strange (Table 1 of the article⁴).

It seems that the study participants had had exposure to various workplace environmental factors. However, nothing is mentioned addressing this issue, for example, through assessing the possible in-

teractions in the analysis carried out. This issue might affect the results and their interpretations. Furthermore, the work experience of the participants has not been taken in to account. This might introduce bias in the results obtained as it could disturb the homogeneity of the study sample.

Conflicts of Interest: None declared.

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Authors' Reply

Dear Editor,

Consideration of non-occupational factors such as smoking, obesity, drinking, and low physical activity, which are risk factors for metabolic syndrome, is not mentioned in the discussion section of the article.¹ These factors have already been discussed in other studies.

I agree that interpretation of results is very important. We found that shift work and low physical activity are non-significant risks for metabolic syndrome (Table 1 of the article¹). Although the reported ORs are <1 (reflecting protection), because the effects are not statistically significant, the observed effects are more likely attributed to the sampling variation rather than a true effect. On the other hand, although shift work and low physical activity were

not found significantly associated with metabolic syndrome, some researchers reported a significant association between these variables and metabolic syndrome. These results are expected to be attributed to the characteristics of the environment where the subjects work in the labor intensive manufacturing environment.

Finally, the work experience of participants was not available. This is one of limitations of this study.

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