

The Effects of Smoking on the Hearing Status - A Hospital Based Study

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Dear Editor,

This letter comes in response to the article which was written by Adesh Kumar et al., which was entitled, "The effects of Smoking on the Hearing Status-A Hospital Based Study" which was published in JCDR, Vol -7(2), February 2013 [1].

In view of the globally rising problem of smoking, this article addressed its effects on hearing status and it drew our attention to a health concern which was often not given enough importance. While we appreciate the health awareness that could be generated by the article, we have some concerns regarding the methodology of this study.

The authors have diligently laid down the criteria which were used to exclude patients with history of ototoxic drug use and other pathological conditions which could affect hearing, from the study. However exclusion of patients with "any kind of hearing loss" would not have made this study possible, as the study was centred at measuring the association between smoking and hearing loss.

While the authors in this study had used a sample size of 108 patients, no information has been given on the sample size calculation. The control group of 40 subjects were reported to have been age matched. Contrary to this statement, we found that in (Table/Fig-2), which depicted the age composition of study groups, the proportion of non-smokers in each age group category was not matched with that of smokers.

Chi-square test was used to determine the association between

smoking and hearing loss. But in many of the cells, the expected value was less than 5, with many cells showing the observed cell value of zero (Table/Fig-3). As per the property of Chi-square test, a minimum expected cell value of 5 is essential for performing the test. This problem arises because of the small sample size. Due to the same reason, the significant associations of hearing loss with age and type of hearing loss with smoking status cannot be drawn by using the Chi-square test, as can be seen in (Tables 4 and 5) respectively.

While the authors reported in the discussion that age and smoking had multiplicative effects on hearing impairments, no data was provided to support this statement in the results. The study reported that "the quantity of cigarettes which were smoked and duration of smoking were found to be statistically associated with hearing loss". The details which have been given in (Table/Fig-8) and (Table/Fig-9) show many cells with expected count of less than 5. With this small sample, it is not possible to generalize the results which have been mentioned above.

We recommend a more methodological rigour in the study, in order to draw concrete conclusions.

REFERENCES

- [1] Adesh Kumar, Rajiv Gulati, Sangeeta Singhal, Abrar Hasan, Asif Khan. The Effect of Smoking on the Hearing Status - A Hospital Based Study. *J. Clin. Diagn. Res.* 2013 February; 7(2): 210-14.

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