

## What are the Criteria and Conditions for Performing the Micronucleus Assay in Oral Exfoliated Cells from Waterpipe and Cigarette Smokers?

I read the published paper titled “Comparison of Repair Index in Cigarette and Waterpipe Smokers: A Bio-Monitoring Assessment Using Human Exfoliated Buccal Mucosa Cells” by Jalili *et al.*<sup>[1]</sup> in the International Journal of Preventive Medicine. The authors demonstrated that oral micronucleated cells were increased in waterpipe smokers when compared to control and cigarette smokers. The same picture was observed in broken eggs and karyorrhexis. Karyolysis increased in the groups of waterpipe and cigarette smokers as well. The current knowledge and available information if smoking induces chromosome damage in oral cells is yet very conflicting and, therefore, the publication of this manuscript is timely. This is because some studies have demonstrated negative findings,<sup>[2]</sup> whereas others have observed a high number of micronuclei in oral cells of smokers.<sup>[3]</sup> To solve the question, the article conducted by Bonassi *et al.*<sup>[4]</sup> have demonstrated that micronucleus is increased in oral cells only in heavy smokers ( $\geq 40$  cig/day). In this sense, it is mandatory to clarify how many cigarettes were consumed per day by smokers. In the manuscript, it was written that “The number of smoked cigarettes per year and the number of smoked waterpipe per year (Pack  $\times$  years = PY) were registered.” Nevertheless, these data were not shown in the manuscript. Therefore, it was not possible to interpret the data with accuracy. Another question refers to the number of cells evaluated. It was written that “The number of MN, BE, KR, and KL were counted in 1000 cells from randomly selected fields.” According to the recommendations as given in the International Micronucleus Assay Group, it has been established the analysis of a minimum of 2000 cells/volunteer.<sup>[4]</sup> In particular, such a way would improve the quality of the study.

In the control group, the Mean  $\pm$  S.D. of micronucleus frequency in oral cells was  $3.05 \pm 2.79$ . It was established that an interval between 0.3 and 1.7‰ is acceptable when evaluating ordinary micronucleus incidence in oral exfoliated cells.<sup>[4]</sup> This needs further clarification. Moreover, it was noticed that presents the same findings as. Duplication of data is not recommendable in the manuscript. shows some metanuclear changes in buccal mucosa cells; however, broken eggs and karyorrhexis are impossible to identify.

I assume that such comments are important for the correct understanding of the relevant paper that evaluated cytogenetic damage in buccal mucosa cells of waterpipe and cigarette smokers.

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### Ethical Considerations Code of Ethics

Not applicable

### Authors' Contributions

D.A.R. wrote the Letter to the Editor.

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### Conflicts of interest

There are no conflicts of interest.

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