

# Is cigarette smoking damaging more severely cardiovascular system in COVID-19 era?

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## Editorial

Epidemiological survey usually conducted by using cohort studies, case-control studies and metanalisis permitted to define the adverse association existing between cigarette smoking and cardiovascular system.<sup>1-3</sup> Evidence indicated that active smoking injures the cardiovascular system chronically causing structural lesions, which become, in the long run, irreversible alterations primarily due to coronary atherosclerosis progression, whereas exposure to environmental smoking is responsible of both transiently cardiac impairment and chronic alterations which are similar to those observed in active smokers after continuous exposure.

Year after year the relationship between harm effects of smoking and cardiovascular system achieved significant evidence due to effective and always more extensive findings.<sup>4,5</sup> Epidemiological studies undoubtedly allowed classifying either the different steps or type of the lesions. It is worth noting that they primarily consisted of a coronary obstructive pathology in a large percent of observations.

Carbon monoxide and nicotine are the main compounds able to cause cardiovascular damage. The first chemical is primarily responsible of irreversible cardiovascular damage in the time, whereas nicotine causes primarily a functional and reversible harm to the heart and blood vessels in both active smokers and individuals passively exposed to tobacco smoking. However, an irreversible damage is the final result of nicotine effects. Evidence also indicates that carbon monoxide damages heavily respiratory system.

The pandemic era of COVID-19<sup>6,7</sup> disease, characterized by severe acute respiratory syndrome and thromboembolism affect the large majority of individuals who have been infected by the virus because of close proximity or longer distances inhalation particularly indoors. Therefore, epidemiological findings have been particularly addressed towards COVID-19 pathology since the pandemic has resulted in significantly global socio-economic disruption worldwide.

As a justified consequence, epidemiological studies on the role of cardiovascular risk factors have been relatively neglected primarily for what concerned the incidence of cigarette smoking. It is worth again underlying the harmful effects of smoking on heart and lung.

## Conclusion

With regard to the interaction existing between type of damage caused by cigarette smoking and pathology due to COVID-19, it would be useful monitoring the rate and type of smoking of both active smokers and individuals passively exposed to avoid a more severe symptoms due to Covid-19 disease although this assessment is merely a study hypothesis to be demonstrated by further investigations.

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