

# Review of: "Smoking, vaping and hospitalization for COVID-19"

Ivan Berlin<sup>1</sup>

<sup>1</sup> Assistance Publique – Hôpitaux de Paris

Forsalinos et al. examined the prevalence of current smoking (and electronic cigarette use) among patients hospitalized for COVID-19 in China. Data are from 13 publications. The authors report a 6.5% (95%CI; 4.9 to 8.2) smoking rate. Current smoking was probably assessed by self-report without biochemical verification. They estimated that the prevalence of current smoking is 31.1 % (95%CI: 29 to 33.4) in the general population in China. Because of this lower prevalence among COVID + hospitalized patients compared to the general population's prevalence, the authors suggest that their findings do not support the argument that current smoking is a risk factor for hospitalization for COVID-19 and that smoking might even have a protective role. They also raise the hypothesis that nicotine may have a beneficial effects on COVID-19.

The main weakness of this paper is the lack of adequate comparison group e.g. COVID-19 negative patients hospitalized in China and having the same clinical and other characteristics. It is inadequate to compare COVID-19 patients needing hospitalization with the general population. Therefore, no conclusions and hypotheses can be drawn. Moreover, it is likely, that in an adequate comparison group the prevalence of self-reported current smoking would be even less than 6.5%: hospitalized individuals are older, may have several comorbidities with higher likelihood of being former smokers, etc.

It is difficult to conceive that smoking, a known and major risk factor for bacterial and viral infections (e.g. Arcavi & Benowitz: Cigarette smoking and infection. Arch Intern Med 2004; 164: 2206-16) and which negatively affects the respiratory tract can be protective against a viral infection targeting mainly the same tissues. Moreover, smoking behavior is characterized by repetitive hand-to-mouth movements, a risk factor for SARS-CoV-2 infection which are strongly advised against to reduce viral contamination.