E D I T O R I A L

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Smoking and COVID-19

Pušenje i COVID-19

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The coronavirus (SARS-CoV-2) pandemic is still progressing in most countries, and another wave of infection could be expected this fall. However, we do not know enough about various factors that affect COVID-19, a disease caused by this virus. For example, it is not known if the virus affects smokers and non-smokers in the same way or to the same extent.

It is well known that smoking damages the immune system and lung tissues. As a result, chronic smokers are more sensitive to infectious agents. They are twice as likely to get the flu, and flu symptoms are usually more severe in smokers. Tobacco smoking is also clearly associated with lung cancer and chronic obstructive pulmonary disease. In Serbia, the incidence of smoking is slowly decreasing. Two useful health actions possibly blunted this harmful habit. A long time ago, one was introduced in Yugoslavia by medical students from Tuzla and Banja Luka (January 31, the Non-Smoking Day) several years before the World Health Organization determined that May 31 would be the World NoTobacco Day [1, 2].

In a previous coronavirus (MERS-CoV) outbreak in 2012, smokers had higher mortality than nonsmokers [3]. It is thus important to establish the effect of tobacco smoking on the outcomes of infection with COVID-19. Since the beginning of the current pandemic, Chinese doctors sought a relationship between smoking and this viral disease. Accordingly, they measured not only mortality but also the number of infections in both smokers and non-smokers, the ratios of the number of these patients who required intensive care to those who did not, and how many required mechanical respiration.

In one of five such studies conducted in Wuhan [4], 191 patients were followed, 137 survived and 54 died. Among the dead, 9% were smokers and 4% were non-smokers. Another, more extensive study [5] showed that smokers were 1.4 times more likely to have severe symptoms requiring placement in intensive care units with mechanical respiration. Although these, and most other published results, indicate a negative impact of smoking on this viral disease [6], one exception is the study by Lippi and Henry [7] of Chinese patients that was based on preliminary meta-analysis. They found that smoking did not seem to be significantly associated with enhanced risk of severe COVID-19 disease. Further research should determine whether the impact is significant in better-designed studies.

Because there are many smokers in some parts of Serbia, a large number of people are at risk for this viral disease. It would be worthwhile to establish the severity of COVID-19 disease in several populations: smokers, passive smokers (people who live with a smoker in the household or work in smoking rooms), former smokers (those who quit smoking more than a year ago) and non-smokers. This will determine how our population reacts to exposure to tobacco smoke.

In addition to the effects of tobacco smoke on the spread of coronavirus and the severity of COVID-19 infection, it is worth noting that smoking stimulates the liver enzymes, cytochrome P450 (CYP) 1A2 and CYP2B6, that metabolize various drugs, including chloroquine and hydrochloroquine. Hospitalized patients rapidly become nonsmokers because smoking is prohibited there. In addition to abstinence problems, the activities of liver enzymes gradually decrease, and in a week enzyme activity approximates that of non-smokers [8]. If a smoker takes a drug that is metabolized in the liver before coming to the hospital, and continues with the same higher dose, after becoming an enforced non-smoker, it may cause toxic effects. These antimalaria drugs have not even been proven effective for resolution of COVID-19.

In this time of home isolation and social distancing, many people tend to increase their cigarette consumption,

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including the relapse of former smokers [9]. Pandemic management teams, including all doctors, should openly address this problem so that the general public becomes aware of the risks. In addition to information provided about the harmfulness of increased cigarette consumption for the outcome of COVID-19 infection, smokers should be advised to reduce or quit using cigarettes. Ex-smokers might rely on non-pharmacological procedures, or they might temporarily use pure nicotine pharmaceutical preparations or the nicotine antagonist, bupropion. Bupropion reduces nicotine dependence and may be used in an abstinence crisis [10].

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