

TOBACCO USE CESSATION IN THREE PATIENTS SUFFERING FROM PSYCHOTIC DISORDERS: THE IMPACT OF THE COVID-19 PANDEMIC

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SUMMARY

Background: Tobacco use is one of the major causes of morbidity and mortality among patients suffering from psychotic disorders. The association between severe COVID-19 and tobacco use is still debated. The aim of this paper is to enhance the importance of providing up to date informations about nicotine and tobacco use in connection with the SARS-CoV-2-related conditions.

Methods: We present 3 cases of sudden tobacco use cessation in 3 long-term heavy smokers receiving mental health care for chronic psychotic disorders. Fear of severe form of COVID-19 was their principal motivation. Nicotine replacement therapy and quitline counseling were provided and no major withdrawal symptoms were declared.

Results: As mass media later wrongly presented tobacco use as a protective factor regarding COVID-19, all three patients resumed smoking. Rigorous counseling took advantage of psychotic symptoms to correct false informations and finally promote tobacco use cessation.

Conclusions: The COVID-19 pandemic might paradoxically represent a great motivational factor to quit smoking, especially when considering patients suffering from severe mental health disorders. Beyond the terrible suffering it causes, we illustrate with a case serie that this opportunity must be exploited by mental health professionals to improve quality and life expectancy of their patients.

Key words: tobacco use cessation - COVID-19 - Psychotic disorders

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INTRODUCTION

Since the outbreak of the coronavirus disease 2019 (COVID-19) pandemic, numerous studies are trying to identify risk or protective factors among infected individuals (Richardson et al. 2020). As the SARS-CoV-2 is a new causative viral agent, the medical community lacks large prospective studies to assess the question of tobacco use. Tobacco is already known to destroy bronchic epithelia, alter immunity and therefore increase frequency and severity of infections in smokers (Arcavi & Benowitz 2004). Research recently demonstrated that nicotine has a direct impact on the angiotensin-2 conversion enzyme receptor (Brake et al. 2020) which is also the binding target of the virus to enter into the cell (Li 2005). An Italian meta-analysis claimed that there was no association between tobacco use and the severity of COVID-19 (Lippi & Henry 2020), while Tindle and colleagues are investigating nicotine as a protective factor against COVID-19 (Tindle et al. 2020). On the contrary, another review claimed that tobacco use must be considered as a risk factor (Vardavas & Nikitara 2020).

The prevalence of tobacco use is significantly higher in patients with mental health disorders and especially in those suffering from psychotic disorders. It is estimated that 70-80% of them smoke tobacco, meaning its impact regarding psychological or physical health is a critical burden (Ziedonis et al. 2008). Successful cessation rates in patients suffering from schizophrenia

or bipolar disorders are significantly lower than in the general population (27% and 16% versus 42%, respectively) (Lasser et al. 2000). Despite the psychiatric comorbidities, along with higher nicotine dependence and heavier smoking, the motivation to quit is similar to the general population (Prochaska et al. 2017).

Stages of change theory by Prochaska and DiClemente and motivational interviewing demonstrate that providing person-centered informations is a crucial intervention to motivate tobacco users (Miller & Rollnick 2013). It has been recently suggested that COVID-19 might stimulate some patients to quit smoking (Klemperer et al. 2020). Presenting three case reports, the aim of this paper is to demonstrate that the COVID-19 pandemic is paradoxically a great occasion to engage psychotic patients into smoking cessation.

METHODS

Three patients treated in an ambulatory mental health center for chronic psychotic disorder expressed during a routine consultation their desire to quit smoking. Standard assessment revealed they were suddenly motivated by the COVID-19 pandemic. They share common characteristics: unemployed males in the late fifties and chronic psychotic disorder with residual symptoms despite appropriate psychotropic medication (shown in Table 1). They also suffer from chronic obstructive pulmonary disease GOLD II or III and gastritis. Their tobacco use began during adolescence, the number of cigarettes per

Table 1. Diagnosis, symptoms and psychotropic medications

	Patient 1	Patient 2	Patient 3
Main DSM-V diagnosis	Schizophrenia	Schizoaffective disorder	Schizoaffective disorder
Current main symptomatology	Apragmatism Paranoid delusions	Megalomaniac delusions Auditive and visual hallucinations	Anhedonia Panic attacks
Drugs	Aripiprazole 400 mg/month* Clozapine 300 mg/day	Haloperidol 300 mg/month* Amitriptyline 10 mg/day	Duloxetine 120 mg/day Mirtazapine 45 mg/day Quetiapine 200 mg/day Clotiapine 40 mg/day Prazepam 20 mg/day Diazepam 20 mg/day

*Long-Acting Injection

day is greater than 40 and time to first cigarette is lower than 5 minutes. Patients 1 and 2 had never experienced smoking cessation before while Patient 3, being currently alcohol-abstinent for 2 years, declares a few weeks of tobacco use cessation during prior hospitalizations.

Their three principal motivations to quit smoking were: fear of pulmonary infection, being a danger for their relatives and financial gain. Importantly, they reported that they didn't want to quit smoking before the COVID-19 pandemic and now have strong confidence in their ability to quit.

They declined the use of bupropion and varenicline but took nicotine transdermal patches and in parallel benefited from professional tobacco phone counseling once a week. Doses of patches were adjusted and apart of increased levels of anxiety, no significant withdrawal symptoms were reported.

RESULTS

After 2 weeks, Patient 3 continued to smoke 5 cigarettes per day while others stopped completely. Three to four weeks later, all patients resumed smoking, claiming tobacco use was a protective factor against SARS-CoV-2 infection. Ideas of conspiracy theory regarding vaccination or being the subjects of a secret study were observed. By that time, a french study (Miyara et al. 2020) showed that tobacco use was less frequent in symptomatic COVID-19 patients than in the general population. This was reported by the media using confusing titles: it highlighted tobacco as a protective factor instead of presenting nicotine as a potential therapeutics (Vif 2020). The patients also reported that numerous online video supported that hypothesis. Unsurprisingly, misleading information about the COVID-19 pandemic is commonly found and shared on the internet (D'Souza et al. 2020, Li et al. 2020).

The next two bimensual consultations focused on deciphering trustful and up to date informations. Indeed, Lo and Lasnier showed that the conclusions by Lippi and Henry (2020) were erroneous due to their statistical analysis (Lo & Lasnier 2020). A systematic review and a meta-analysis (Patanavanich & Glantz 2020) also indicates that tobacco use is associated with poor prognosis of COVID-19. Finally, Berlin and colleagues stres-

sed the difference between a supposed nicotine protective effect and known devastating effects of tobacco (Berlin et al. 2020).

These new data drove the patients motivation to quit smoking. Patient 2 asked for voluntary hospitalization to get better support, and both Patient 1 and Patient 3 continued tobacco use cessation with nicotine replacement therapy and phone counseling. Dosage of duloxetine and clozapine were gradually tapered to prevent toxicity (Kroon 2007). Notably, explanations about the past and present tobacco industry manipulation (Andrade et al. 2013, Pierce 1998) took advantage of the paranoia and anger of these patients.

CONCLUSIONS

The COVID-19 pandemic is a double-edged sword : it has already caused hundreds of thousands of dead and it creates high level of fear and anger, but these emotions can serve the patient needs. Patients suffering from chronic psychotic disorders often experience bad medical conditions and are therefore at risk of more severe COVID-19 (Zhao et al. 2020). Many are also long-term heavy smokers, as this case reports illustrate. Nevertheless, mental health professional should emphasize tobacco use cessation in this special context. More and more scientific data are available and can tip the scales in favor of tobacco use cessation in ambivalent patients.

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Contribution of individual authors:

Oliver Theuerkauff collected data and wrote the first draft of the manuscript.

Catherine Hanak mentored Oliver Theuerkauff and reviewed the manuscript.

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