

World No Tobacco Day: Nurses Called to Prepare and Fight the Disproportionate Health Risks of COVID-19 in Smokers

Coronavirus disease 2019 (COVID-19) has shone a spotlight on the egregious reality of risk and racial inequities, particularly in current and former smokers and has amplified the opportunity to address these racial inequities through effective treatment of tobacco use disorder and nicotine dependence. In honor of the World Health Organization's **World No Tobacco Day** campaign on May 31, 2020, we recognize the people (our patients) who have fallen victim to tobacco dependence and stand by them to advocate for them, and protect them from the deleterious effects of tobacco use. Quitting tobacco products, including cessation of cigarettes, has immediate, short-term, and long-term health benefits.¹ As members of the 4 million-strong nurses in the US and 21 million worldwide we are uniquely positioned to combat tobacco dependence and squash tobacco use in many ways including helping our patients quit smoking.

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection and the resulting COVID-19 pandemic has had far reaching effects around the world. Subsequent evidence suggests that the highly contagious and aggressive COVID-19 may be particularly dangerous for current and former cigarette smokers², especially those who suffer from smoking related disorders including chronic cardiovascular and pulmonary disorders.³ Even more concerning is recent evidence that demonstrates illness, hospitalization, and mortality from COVID-19 disproportionately affects ethnic and racial minority communities, just as the rates of smoking are higher in these minority groups. Awareness and understanding of the underlying factors and direct contributors to such outcomes in high-risk patients is critical for nurses to take action and save lives.

It is well established that cigarettes contain the upwards of 7,000 chemicals and 69 carcinogens.⁴ These chemicals and the primary constituents (N-nitrosamines, polycyclic aromatic hydrocarbons (PAHs), aromatic and heterocyclic amines, aldehydes, heavy metals, and other additives) of tobacco smoke from the combustion of a lit cigarette, are known irritants to the vital tissues of the body.^{5,6} Repetitive exposure to these toxicants, through routine cigarette smoking, causes systemic inflammation and damage throughout the body, including the vasculature (vessels) and organs. The pulmonary system, including the trachea, airways (large and small), and lower respiratory tract, as well as the endothelial (mucosal) lining of these anatomic structures, are negatively targeted by cigarette smoke exposure. This direct respiratory tract exposure and diffusion of toxicants across the alveoli cause local tissue deterioration and pathologic changes to the alveolar walls. Irreversible changes that distort the vital function of the respiratory tract are occurring faster than the body can repair these injuries. These changes lead to conditions of lung impairment, including asthma, chronic inflammatory pulmonary processes like bronchitis, chronic obstructive pulmonary disease, emphysema, and pulmonary fibrosis⁷ that often lead to premature death. Furthermore, smoking causes impaired immune function with current smokers at higher morbidity and mortality risk from seasonal respiratory infections.⁸⁻¹⁰

The dangerous intersection of COVID-19 and smokers is not an aberrant coincidence. Vulnerable populations and minority groups suffer disproportionate rates of tobacco dependence and related morbidity and mortality. These populations are represented by adults aged 25-44, people who have lower levels of education, are living at or below the poverty level, uninsured or on state Medicaid health plans, members of ethnic and racial minority groups, people who suffer from disabilities or

mental health illness, and men and women who identify as gay, lesbian, or bisexual.¹¹⁻¹³ Many of these social determinants of health and risk factors for tobacco (nicotine) dependence are the same as those that place people at risk for food insecurity, unstable housing and unsafe living conditions, lack of access to healthcare, and subsequent delayed diagnosis of illness. These direct determinants of health position smokers at high risk for developing COVID-19, suffering protracted illness and complications from this disease, and higher than average death rates with members of ethnic and racial minority groups seemingly at highest risk.^{14,15}

To support **World No Tobacco Day** and in the spirit of preparing nurses in the fight against tobacco, you are welcomed to visit the [American Nurses Association tobacco cessation webpage](#) for useful tips, facts, stats, and quit tools to help your patients today. The [2020 CDC Tips for Former Smokers Campaign](#) page features stories from former smokers to help your patients along their cessation journey. Also, learn how to promote and facilitate smoking cessation within your clinical practice by viewing the **American Academy of Nurse Practitioners (AANP) FREE** continuing education (CE), **Strategies to Facilitate Smoking Cessation** This CE may be accessed by setting up a free CE account (no membership required) at <https://aanp.inreachce.com/Details/Information/929537b4-d2c6-410d-809b-8b3ed76b76d8?ref=featured>

1. Hays JT, Croghan IT, Baker CL, Cappelleri JC, Bushmakin AG. Changes in health-related quality of life with smoking cessation treatment. *Eur J Public Health*. 2012;22(2):224-229.
2. Patanavanich R, Glantz SA. Smoking is Associated with COVID-19 Progression: A Meta-Analysis. *Nicotine & tobacco research : official journal of the Society for Research on Nicotine and Tobacco*. 2020.
3. Vardavas CI, Nikitara K. COVID-19 and smoking: A systematic review of the evidence. *Tob Induc Dis*. 2020;18:20.
4. U.S. Department of Health & Human Services. The Changing Cigarette. *How Tobacco Smoke Causes Disease: The Biology and Behavioral Basis for Smoking Attributable Disease*. Rockville, MD: U.S. Department of Health and Human Services; 2010:15-22.
5. Hecht SS, Szabo E. Fifty years of tobacco carcinogenesis research: from mechanisms to early detection and prevention of lung cancer. *Cancer Prev Res (Phila)*. 2014;7(1):1-8.
6. U.S. Department of Health & Human Services. Chemistry and Toxicology of Cigarette Smoke and Biomarkers of Exposure and Harm. *How tobacco smoke causes disease: The biology and behavioral basis for smoking-attributable disease*. Rockville, MD: U.S. Department of Health and Human Services; 2010:27-80.
7. U.S. Department of Health & Human Services. Pulmonary Diseases. *How Tobacco Smoke Causes Disease: The Biology and Behavioral Basis for Smoking Attributable Disease*. Rockville, MD: U.S. Department of Health & Human Services.; 2010:437-474.
8. Zhou Z, Chen P, Peng H. Are healthy smokers really healthy? *Tob Induc Dis*. 2016;14:35.
9. Arcavi L, Benowitz NL. Cigarette smoking and infection. *Archives of internal medicine*. 2004;164(20):2206-2216.
10. Park JE, Jung S, Kim A, Park JE. MERS transmission and risk factors: a systematic review. *BMC Public Health*. 2018;18(1):574.
11. Creamer MR, Wang TW, Babb S, et al. Tobacco Product Use and Cessation Indicators Among Adults - United States, 2018. *MMWR Morb Mortal Wkly Rep*. 2019;68(45):1013-1019.

12. Jamal A, King BA, Neff LJ, Whitmill J, Babb SD, Graffunder CM. Current Cigarette Smoking Among Adults - United States, 2005-2015. *MMWR Morb Mortal Wkly Rep.* 2016;65(44):1205-1211.
13. Siahpush M, Singh GK, Jones PR, Timsina LR. Racial/ethnic and socioeconomic variations in duration of smoking: results from 2003, 2006 and 2007 Tobacco Use Supplement of the Current Population Survey. *J Public Health (Oxf).* 2010;32(2):210-218.
14. Chowkwanyun M, Reed AL, Jr. Racial Health Disparities and Covid-19 - Caution and Context. *The New England journal of medicine.* 2020.
15. Mulder I, Tijhuis M, Smit HA, Kromhout D. Smoking cessation and quality of life: the effect of amount of smoking and time since quitting. *Preventive medicine.* 2001;33(6):653-660.

Author Bio

Joelle T. Fathi, DNP, RN, ARNP, ANP-BC, CTTS, NCTTP, is an adult nurse practitioner who has over 20 years of experience working in both primary and acute care settings. She holds national certifications as a tobacco treatment specialist and has been dedicated to helping people with tobacco use disorder, quit tobacco, for more than two decades. She serves as the Vice-Chair to the Tobacco Treatment Task Group for the American Cancer Society, Atlanta, GA. She also serves on the Tobacco Treatment Guidelines Committee for the American Thoracic Society and the Tobacco Control and Smoking Cessation Committee for the International Association for the Study of Lung Cancer. She has multiple publications and presentations focused on educating patients, nurses, and other health care professionals about how to take charge of tobacco.