

Pain and Menthol Use are Related to Greater Nicotine Dependence among Black Cigarette Smokers at Wave 5 (2018–2019) of the Population Assessment of Tobacco and Health (PATH) Study

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Abstract

Background & Aim:

Burdens related to pain, smoking/nicotine dependence, and pain–smoking comorbidity disproportionately impact Black Americans, and menthol cigarette use is overrepresented among Black smokers. Menthol may increase nicotine exposure, potentially conferring enhanced acute analgesia and driving greater dependence. We are not aware of prior work that has examined associations between pain, menthol cigarette use, and nicotine dependence.

Methods:

The current study utilized data from Black cigarette smokers ($n = 1,370$) at Wave 5 (2018–2019) of the Population Assessment of Tobacco and Health Study. Nicotine dependence was assessed using the Wisconsin Inventory of Smoking Dependence Motives.

Results:

ANCOVA revealed that moderate/severe pain (vs. no/low pain) was associated with greater overall nicotine dependence ($p < .001$), and greater negative reinforcement, cognitive enhancement, and affiliative attachment smoking motives ($ps < .001$). Menthol smokers with moderate/severe pain also endorsed greater cigarette craving and tolerance, compared to non–menthol smokers with no/low pain ($ps < .05$).

Conclusion:

These findings support the notion that among Black smokers with moderate/severe pain (vs. no/low pain), menthol use may engender greater physical indices of nicotine dependence. Compared to no/low pain, the presence of moderate/severe pain was also associated with greater emotional attachment to smoking and greater proclivity to smoke for reducing negative affect and enhancing cognitive function.

Clinical Implications:

Clinical implications include the need to address the role of pain and menthol cigarette use in the assessment and treatment of nicotine dependence, particularly among Black smokers. These data may help to inform evolving tobacco control policies aimed at regulating or banning menthol tobacco additives.