The Prevalence, Predictors, and Associated Health Outcomes of High Nicotine Dependence using Three Measures among US Smokers.

Schnoll RA, Goren A, Annunziata K, Suaya JA.

Abstract

AIMS:

Using the Fagerström Test of Nicotine Dependence (FTND), the Heaviness of Smoking Index (HSI), and the time-to-first-cigarette (TTFC), this study estimated prevalence, evaluated optimal scale cut-offs, identified predictors, and assessed potential impact on health, productivity, and healthcare use of high nicotine dependence among US smokers.

DESIGN, SETTING, AND PARTICIPANTS:

This cross-sectional study used 2011 National Health and Wellness Survey data (n = 50,000).

MEASUREMENTS:

Nicotine dependence, demographic data, measures of health, productivity, and healthcare use, and health attitudes were assessed.

FINDINGS:

The prevalence of high nicotine dependence ranged from 23% (TTFC < 5 minutes) to 63.6% (TTFC < 30 minutes). Based on diagnostic accuracy, the cut-offs for high nicotine dependence using HSI and TTFC varied according to FTND cut-off: if FTND > 4, then HSI > 3 and TTFC < 30 minutes represented optimal cut-offs; if FTND > 5, HSI > 4 and TTFC < 5 minutes represented optimal cut-offs. Across all measures, high nicotine dependence was significantly related to being male, single, age 45-64, and Caucasian; lower education; lack of health insurance; under/unemployment; comorbid respiratory or cardiovascular disease, diabetes, or psychiatric illness; and lower rates of exercise and concern for weight control. Controlling for demographic variables and comorbid physical and psychiatric illness, high nicotine dependence, measured by FTND, HSI, or TTFC, was significantly associated with reduced mental and physical quality of life, reduced workplace productivity and more health care use.

CONCLUSIONS:

High nicotine dependence is associated with lower quality of life, lower work productivity, and higher health care use. The Heaviness of Smoking Index and the time-to-first-cigarette can provide useful screening measures of nicotine dependence in clinical and research settings.