

Nicotine Addiction: Challenges and Recommendations



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The following is an excerpt from a longer piece. For the full text, please visit https://scholar.colorado.edu/concern/undergraduate_honors_theses/w95051844 or scan the QR code.

Abstract

This review is a synthesis of current knowledge based on tobacco and nicotine research. Special emphasis is placed on adolescents, who are highly sensitive to addiction, as targets of nicotine companies. Types of nicotine use are described briefly, as well as the broad impact of cigarettes and E-cigarettes on American society. Then, the history of tobacco companies, their advertising campaigns specifically geared towards youth, and their increasingly addictive and problematic products are summarized. Next, biological impacts of smoking nicotine products on the lungs, the brain, and the microbiome and immune system are described with attention to common nicotine-associated pathways and mechanisms. A brief summary is given of the complex effects of pure nicotine (rather than smoking). Moreover, treatments that aid in smoking cessation are described, along with their limitations and barriers that prevent nicotine addicts from quitting. This insight is used to formulate recommendations for future research, specifically into smoking by adolescents as well as into empathetic and holistic approaches that can also inform public attitudes and policy making as well as early prevention. Concerning preventive approaches, I recommend an approach to education of youth that focuses on building emotion-regulation skills for improved coping mechanisms and life skills as opposed to scare tactics to discourage drug use. In summary, a comprehensive approach, integrating multiple perspectives and factors, has the potential to have positive impacts on the life and health of individuals, their communities, and society at large.

Lay Summary

In recent decades, the Nicotine industry has transformed, and new types of nicotine have hit the market. Once again nicotine use in the youth is on the rise, and in many ways research has not been able to keep up. Most nicotine research is done on the traditional cigarette; however, the E-cigarette is becoming the youth's drug use method of choice. Further, quitting nicotine continues to have low success rates. Synthesis is essential to connecting researcher perspectives and advising future research endeavors. I have written this paper as a synthesis on nicotine, exploring the biological factors driving addiction, the health implications of long-term smoking, the impact of tobacco corporations on teen smoking, and strategies currently available to those who wish to quit nicotine. I aim for my research findings to inform on the power of an empathetic approach to addiction. My research discusses the importance of educating the public on nicotine use, in order to build a more knowledgeable and supportive community. I describe in this piece the methods used by the nicotine industry to entice young new smokers, creating life-long addiction habits in particularly vulnerable populations. I aim to encourage policymakers to prevent Tobacco companies from taking advantage of our youth. As personalized medicine changes the medical field, more opportunities to support addicts through advancements in genomics, medicine, and therapy will become available. My research outlines the biological and social effects of nicotine addiction in order to build a holistic view on nicotine and its users.