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Cigarette De-addiction Device Using Water Generated Steam

Abstract

The continued global prevalence of tobacco use and nicotine dependence underscores the urgent need for innovative harm-reduction strategies (World Health Organization [WHO], 2023). This paper proposes the development of a de-addiction cigarette that employs water-generated steam to replicate the sensory aspects of smoking without nicotine or toxic combustion products. The prototype integrates a heating element, water reservoir, and vapor delivery mechanism to simulate the behavioral and psychological components of cigarette use, thereby addressing key barriers to cessation that extend beyond chemical dependence (Cummings & Proctor, 2014). Unlike conventional tobacco products and electronic nicotine delivery systems (ENDS), the steam-based design is free from nicotine and chemical additives, offering a potentially safer and non-addictive alternative (National Academies of Sciences, Engineering, and Medicine [NASEM], 2018). To enhance user acceptability, the device may incorporate non-toxic flavoring agents or herbal extracts while maintaining a non-hazardous profile (Grana, Benowitz, & Glantz, 2014). Furthermore, its adoption could yield environmental benefits by eliminating cigarette butt waste and reducing airborne pollutants (Novotny & Slaughter, 2014). This paper examines feasibility, design considerations, and public health implications, arguing that a steam-based cigarette could serve as a novel harm-reduction tool with potential applications in smoking cessation programs and long-term relapse prevention.

Keywords: Smoking cessation, Harm reduction, Nicotine-free alternative, Behavioral dependence, Public health innovation, Environmental sustainability

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