

Urgent Need to Regulate Herbal and Nicotine-Based Tobacco Products in India

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Dear Editor,

India is home to over 260 million tobacco users, making it the second-largest consumer base globally (1). In response to this public health burden, the country has implemented several key regulatory measures, including the Cigarettes and Other Tobacco Products Act (COTPA), the National Tobacco Control Programme (NTCP), and ban on electronic nicotine delivery systems (ENDS). Despite ongoing regulatory and educational efforts, the tobacco product landscape in India continues to evolve, with increasing concern over the growing popularity of herbal and nicotine-based alternatives such as herbal cigarettes, nicotine pouches, heated tobacco products (HTPs), and electronic nicotine delivery systems (ENDS). Although products like ENDS are explicitly prohibited under the Prohibition of Electronic Cigarettes Act (PECA), 2019, they are frequently marketed—often deceptively—as safer, natural, or even therapeutic alternatives, posing significant challenges to public health communication and regulatory enforcement.

To better understand public perceptions of these products, we undertook a two-phase study combining quantitative and qualitative approaches in January 2025. In first phase, a cross-sectional online survey was conducted to quantify these perceptions using a pre validated and piloted questionnaire, comprised five sections: demographic information, knowledge of herbal and nicotine-based products, attitudes towards them, practices, and their exposure.

In second phase, we organized a national webinar titled “Herbal and Nicotine-Based Tobacco Products: Understanding Health Risks and Regulatory Challenges in India” in February 2025. This platform brought together students, healthcare professionals, academicians, researchers, NGO workers, and policy implementers to discuss and deliberate on the perceived risks and regulatory concerns associated with newer products. The discussions during the webinar revealed significant misconceptions among the public and highlighted gaps in awareness and enforcement.

Table 1: Public Perceptions and Awareness on Herbal and Nicotine-Based Tobacco Products (n = 90)

Topic Assessed	Key Findings
Beliefs about harm from herbal products	34.5% believed herbal products are less harmful; 41.4% said equally harmful; 17.2% were unsure.
Awareness of newer tobacco products	84.5% had heard of products like e-cigarettes, HTPs, and nicotine pouches.
Understanding of health risks	68.9% said these products pose health risks; 8.6% believed they are risk-free; 22.4% were unsure.
Perception about quitting with low-nicotine products	70.7% believed switching to low-nicotine products doesn't help in quitting.
Trust in product labeling	81.6% did not trust the ingredient labels on herbal or nicotine-based products.
Support for including in awareness programs	89.6% supported adding these products to NTCP campaigns.
View on banning misleading health claims	90.8% supported banning deceptive or therapeutic claims on such products.
Access to banned/restricted products	63.2% said products like e-cigarettes are easily accessible even after ban.
Concern about youth use	78.2% believed these products are appealing to and used by youth.
Need for product safety testing	94.3% supported scientific testing for nicotine or carcinogen content in herbal products.
Role of healthcare professionals	93.1% said doctors and health workers should help correct public misconceptions.

Note: each statistically significant ($p < 0.001$)

Table 1 summarizes public perceptions and awareness related to herbal and nicotine-based tobacco products based on responses. Our survey highlights critical gaps in public perception and regulatory awareness regarding herbal and nicotine-based tobacco products in India. A

substantial proportion of participants (34.5%) believed that herbal products are less harmful than conventional cigarettes. This reflects a common misconception, likely driven by marketing claims that position these products as “natural” or “therapeutic.” However, evidence

suggests that herbal cigarettes, although tobacco-free, emit harmful substances such as tar, carbon monoxide, and carcinogens when burned (2). While 41.4% of respondents correctly identified herbal products as equally harmful, 17.2% remained uncertain—pointing to a need for improved public education.(3)

Awareness of nicotine-based alternatives such as e-cigarettes, nicotine pouches, and heated tobacco products (HTPs) was high, with 84.5% of respondents reporting familiarity. However, awareness did not translate into accurate risk perception, with 68.9% acknowledged health risks associated with these products, and 8.6% believed they carried no health risk. These misperceptions are consistent with findings that ENDS and HTPs are not risk-free and may act as initiation pathways, particularly among non-smokers and youth.

The belief that switching to low-nicotine products facilitates cessation was also scrutinized. A significant majority (70.7%) believed such switching does not support quitting, suggesting skepticism toward harm-reduction narratives often promoted by the tobacco industry. This insight aligns with emerging global evidence that product switching, without behavioral interventions, rarely results in long-term cessation.

Product labeling and transparency emerged as additional areas of concern. Only 18.4% of respondents expressed trust in the ingredient labels on herbal or nicotine-based tobacco products, while 81.6% voiced skepticism. This distrust likely stems from the lack of regulation and the proliferation of vague or misleading claims on product packaging, underscoring the need for mandatory ingredient disclosure and health warnings.

Importantly, the survey revealed strong public support for regulatory reform. Nearly 90% of participants advocated for integrating these products into National Tobacco Control Programme (NTCP) awareness campaigns, and 90.8% supported a ban on misleading or therapeutic health claims—both statistically significant indicators ($p < 0.001$) of public readiness for tighter policy control. Additionally, 94.3% called for scientific testing of herbal tobacco products to validate their chemical contents, while 93.1% endorsed the active role of health professionals in correcting misconceptions.

Despite regulatory measures such as the Prohibition of Electronic Cigarettes Act (PECA), 2019, 63.2% of respondents reported easy access to restricted or banned products such as e-cigarettes. This finding aligns with recent research documenting the continued digital marketing and availability of ENDS via informal and online platforms in India (4). The enforcement gap was further highlighted during the webinar, where legal experts emphasized that PECA should be supplemented with other regulatory frameworks such as the Drugs and Cosmetics Act, Poison Act, and FSSAI to strengthen the tobacco control.

The perceived vulnerability of youth was another significant concern. A majority of respondents (78.2%) believed that these products appeal to and are increasingly used by young people, reflecting the role of social media, influencer marketing, and flavor variety in attracting new users. This aligns with recent findings showing that over 60% of Indian youth are susceptible to e-cigarette use (5).

In response to these findings, experts at the national webinar recommended several key interventions. First, they emphasized the integration of herbal and novel nicotine-based products into NTCP awareness campaigns to counter prevailing myths. Public education efforts must explicitly address the health risks of these products and dispel notions of safety associated with “herbal” labels. Second, experts called for mandatory ingredient disclosure and a ban on misleading health claims, particularly on digital platforms where enforcement is currently weak.

To address the online promotion and sale of banned products, the establishment of a digital surveillance and regulatory mechanism was proposed. Such a system would monitor and penalize violations involving online marketing and influencer endorsements. Furthermore, experts recommended engaging the scientific community to conduct independent testing of these products for nicotine, carcinogen, and particulate matter content—an essential step toward evidence-based regulation.

Lastly, the role of healthcare professionals was underscored as vital in shaping public perceptions. Doctors, counselors, and frontline health workers must be equipped with accurate information and training to communicate the risks of emerging tobacco products effectively. In addition, aligning national efforts with global best practices through collaboration with WHO and other international bodies was encouraged to ensure harmonized, future-ready tobacco control strategies.

In conclusion, our findings and expert insights collectively reinforce the urgent need for comprehensive, multi-sectoral regulatory and educational responses to address the growing threat posed by herbal and nicotine-based tobacco products. If left unchecked, these products risk undermining India’s progress in tobacco control and fueling a new wave of addiction—particularly among its youth. We urge policymakers, public health practitioners, and enforcement agencies to act swiftly and decisively in response.

DECLARATION OF GENERATIVE AI AND AI ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

The authors haven’t used any generative AI/AI assisted technologies in the writing process.

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