



Why smokeless tobacco control needs to be strengthened?

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Abstract

Tobacco menace is responsible for significant mortality and morbidity worldwide. Smokeless tobacco (SLT) is consumed in more than 140 countries, thus is emerging as a global problem. Several adverse health outcomes like oropharyngeal, oesophageal, and pancreatic cancers; oral potentially malignant lesions; diabetes mellitus; cardiovascular diseases; mental illness; osteopenia; low birth weight; preterm births; small for gestation age babies; and stillbirths are attributed to SLT usage. Smokeless tobacco products vary greatly in types, constituents, packaging, forms, addiction, and harm potential, and thus are challenging to study and control. Involvement of both formal and informal sector in SLT production and sales further add to the complexities. The problem of SLT is usually understated and less researched upon. This paper summarizes the existing knowledge and provides evidence to strengthen the case against the SLT, stressing on the need to enhance the SLT control across the globe.

Keywords

tobacco control, policy, smokeless, WHO FCTC, cancer prevention, head and neck cancer, ban

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Tobacco consumption is one of the serious public health threats across the globe and takes more than 8 million lives per year which is more than casualties attributable to HIV, tuberculosis, and malaria combined.¹ Prevention from tobacco exposure along with its cessation is of utmost priority for all the nations. Nearly a quarter of total tobacco consumption of the world is in the form of smokeless tobacco (SLT), making it an important focus area of tobacco control.^{1,2} Smokeless tobacco is also covered by the World Health Organization—Framework Convention on Tobacco Control (WHO-FCTC), the international treaty signed by 181 countries, but requires special efforts to formulate a global policy for its control.^{2,3}

Smokeless tobacco is consumed in various forms like chewing, snuffing, and application to teeth and gums. Smokeless tobacco is not as well highlighted as smoking but is emerging as an important public health problem worldwide, with more than 356 million people in 140 countries consuming it. Twenty-nine of these countries have a high burden of SLT consumption with more than 10% of their adult population consuming these products.^{1,3}

The problem is more focused in Southeast Asia where more than 82% of global SLT users live.¹⁻³ In India, the number of

SLT users surpasses that of smokers by a wide margin; 21.4% of adults consume SLT and three-fourth of these adults reside in rural areas.^{1,4} Additionally, SLT consumption is common in some countries of Central Asia and Africa. High SLT usage has also been reported in the Western part of the world, with Sweden in Europe and the United States, leading the lot.³

There are few common patterns seen across the nations with a high SLT burden, with more socioeconomically deprived and less educated males consuming SLT.^{3,5} Interestingly in Bangladesh and in a few states of India, the SLT consumption in females is very high and comparable to that of males.^{3,4}

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When compared to smoking, awareness about the harmful effects of SLT is minimal. Smokeless tobacco products are easily available in varied forms, package sizes, and costs, being usually cheaper than smoking products.^{1,6} Smokeless tobacco products are often produced in small cottage industries and sold in unregulated markets. Direct as well as surrogate advertising at point of sale, television, print, Internet, and social media are rampant.^{1,3,6}

Articles 9 and 10 of the WHO-FCTC describe the content regulation and disclosures of tobacco products. The implementation rate of Article 9 is only around 50% and that too mostly for smoking.¹ Smokeless tobacco products are reported to have chemical compounds of different classes such as organic tobacco-specific nitrosamines (TSNAs), polyaromatic hydrocarbons, inorganic metals, and salts. Tobacco-specific nitrosamines include potent carcinogens such as N-nitrosornornicotine, 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanone, and N-nitrosoanabasine, which are known to cause oral, oesophageal, and pancreatic cancers. The enormous variation in the concentration of toxicants in SLT products across the globe is attributed to various factors like the type of tobacco plant, alkaloid and nitrate content, cultivation methods, pesticides, harvesting techniques, processing methods, and storage conditions. The high concentration of tobacco alkaloids and nitrites from bacterial colonies on *Nicotiana rustica* tobacco leaves reacts to produce high levels of TSNAs.^{1,7} Further additives like areca nut often add to the carcinogenicity of these SLT products.¹

The SLT-related disease burden is substantially higher in Southeast Asia followed by Africa.^{3,6} Various adverse health outcomes including oropharyngeal, oesophageal, and pancreatic cancers; oral potentially malignant lesions; diabetes mellitus; cardiovascular diseases; mental illness; low birth weight; preterm births; small for gestation age babies; and stillbirths are attributed to SLT usage.¹⁻³ Smokeless tobacco use led to the loss of 1.7 million disability-adjusted life years and over 65 000 deaths per year, with 88% of this burden borne in South Asia alone.^{6,8,9}

Nicotine from SLT products is absorbed through the mucous membranes of the mouth or nose. The blood levels of nicotine in both SLT and smoking tobacco users are found to be similar, with blood nicotine levels in SLT users remaining high for even longer duration.^{1,5} Recently, the newly established National Tobacco Testing laboratories in India found few brands of nontobacco products like “pan masala,” which are regulated as food products have been found to contain prohibited chemicals like nicotine, increasing the addiction potential of such products.¹⁰ These laboratories are committed for further research as per articles 9 and 10 of WHO-FCTC and for the safe waste disposal of the tobacco-related wastes.¹⁰

The packaging and labeling of tobacco products are considered effective tobacco control measure and is adopted as a provision of WHO-FCTC in article 11.¹ Smokeless tobacco products are produced either commercially by the formal sector tobacco companies or by informal small cottage industry.^{1,6} Smokeless tobacco produced by the former is sold in attractive

packaging alongside surrogate advertisements of nontobacco containing products using the same name and logo. These are often promoted as smoking alternatives. To understand the complexities of the SLT supply chain of the informal sector and make the provisions for its regulation and control are 2 big challenges.¹ Studies suggest that there is a widespread lack of implementation of the regulations related to the pictorial warnings and packaging.¹

Owing to the misconception that the SLT is safer, it is more acceptable vis-à-vis smoking.^{5,9} Smokeless tobacco products are found to be similar to combustible tobacco products in addiction potential.¹ In the arena of research and policy as well, SLT has largely been neglected worldwide.¹ The large gap in the research evidence between smoking and SLT has translated to the policies which are oriented toward smoking tobacco control. The WHO-FCTC Knowledge Hub on SLT at Indian Council of Medical Research—National Institute of Cancer Prevention and Research India has helped in bringing together stakeholders to strengthen research-based evidence for effective SLT control.¹

Article 6 of the FCTC talks of the Tobacco taxation but is more oriented to cigarettes, leading to reduced compliance of SLT manufacturing entities to the regulations. Smokeless tobacco products often have misleading information and ineffective or absent pictorial health warnings on their packaging.¹

The SLT-targeted campaigns in print and electronic media, social media drives, educational programs, and other relevant interventions are lacking in most of the FCTC signatory countries. Adolescents from a large number of countries are facing an SLT burden. Prohibition on sale to minors is not followed in many countries with measures like warning boards at the point of sale; prohibition of directly accessible SLT product displays, of vending machines and of tobacco products in the form of toys, and candies not effectively implemented.¹⁻³

With SLT use, being the global problem with inherent challenges like the diversity of products and consumption, the complex pattern of the supply chain, serious health hazards, and attributable disease burden, a comprehensive investigative and remedial approach with the implementation of WHO-FCTC provisions is required.^{2,3} Countries with a high burden of SLT need to prioritize control measures.

Electronic nicotine delivery systems (ENDS), or “e-cigarettes,” or “vaping” is an emerging public health problem, which includes delivery of nicotine (but not tobacco), through aerosols in the lungs. This commentary includes the information and views on SLT products only; hence, the ENDS are not discussed. The new and unregulated SLT products shall be included in the legal definition for effective regulation. A uniform, incremental taxation regime should be implemented for all types of tobacco products without any exemptions. Standardized and validated testing of the contents of SLT as well as the nontobacco products of the same brands should be prioritized. Myths regarding SLT products should be dispelled by implementing large and clear pictorial warnings, educational, and mass media drives. Stringent ban on tobacco-related advertising, promotion, and sponsorship for SLT with strict

implementation of legislation related to the sale of tobacco to/by minors should be considered. Training health professionals to provide prevention methods and cessation interventions should be prioritized. All the regional and global stakeholders shall undertake these efforts and measure the success of these interventions to create a reliable research base to combat the SLT menace across the globe.

Authors' Note

Ethical approval is not applicable in this commentary, as no animal or human subject was involved.

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