

Smokeless tobacco products profile and pictorial warning labels in India: A review

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ABSTRACT

INTRODUCTION Smokeless tobacco (SLT) companies produce different SLT brands and types that are used extensively throughout India.

METHODS Within this cross-sectional pack-collection study, available information on details, composition, and profiles of various SLT products and the pictorial warning labels were collected from available retail paan shops in Ananthapur town, Andhra Pradesh, India.

RESULTS SLT products are defined by specified names according to regional levels and the products of SLT have their own product constituents. The smokeless tobacco products like madhu chhap, hans chhap, and miraj were identified. The gutkha brands are in the form of khaleja and

rebel, and are available in the Indian tobacco market. The brands of vimal, hira, rajnigandha, and RMD are panmasala products in the Ananthapur region. The health warning labels are present on the packets of most of the SLT products in the form of 'Tobacco kills/Tobacco causes mouth cancer/Chewing of tobacco is injurious to health/Chewing of panmasala may be injurious to health'.

CONCLUSIONS This limited pack-collection study identified a plethora of SLT products on the Indian market with an array of ingredients and warning labels – including graphic warning labels. These findings suggest that the monitoring of pictorial health warnings on tobacco product packaging as prevention efforts/measures is warranted.

INTRODUCTION

Tobacco consumption is a major contributing and risk factor and the 6th leading cause of death globally¹. Smokeless tobacco is consumed in an unburnt form and has been widely used orally or through nasal inhalation². Smokeless tobacco products have differences in their composition, preparation, and toxicity, but they all consisting of a nicotine alkaloid³. The chemical constituents or main ingredients present in the smokeless tobacco products are nicotine, tobacco-specific N-nitrosamines (TSNA), nitrosamine acids, polycyclic aromatic hydrocarbons (PAHs), aldehydes, and heavy metals⁴. Globally, the consumption of smokeless tobacco is largely concentrated in India and Bangladesh. These two countries have 80% of the 300 million smokeless-tobacco users worldwide^{5,6}. The tobacco industry invests half a billion dollars annually to promote the manufacture of SLT products, twice as much as earlier^{7,8}. Recently, the Food and Drug Administration (FDA) proposed a rule to reduce the

amount of tobacco-specific N-nitrosamines in SLT products in the United States due to their carcinogenic activity⁹.

Smokeless tobacco users who dip or chew 8–10 times a day might ingest a similar amount of nicotine as cigarette smokers who smoke 30–40 cigarettes per day^{10,11}. The consumption of smokeless tobacco is higher due to the greater social acceptance, curiosity, and culture, which are influencing factors for SLT initiation and prevalence. About 35–40% of tobacco consumption in India is in smokeless tobacco forms, most of which is *Nicotiana rustica*, while most smoking tobacco is *Nicotiana tabacum*¹². There are several types of chewing habits like the use of betel quid, khaini, mawa, panmasala plain without tobacco, and gutkha¹³. Promotion of SLT use has increased as non-users start to use SLT, which serves as an alternative to smoking and leads to dual-users of tobacco^{14,15} with the number of consumers increasing annually.

To combat the above epidemic, the Indian government has introduced warning labels for cigarettes or other tobacco

products¹⁶. Tobacco warning labels are a useful tobacco control tool, however research has shown that attention to warnings and exposure to current health warning labels is lowest among individuals with lower education and income^{17,18}. Health warnings on product packaging are a cost-effective, population-wide strategy to inform populations about the health risks associated with tobacco consumption¹⁹.

The aim of the present study is to examine the reported composition, characteristics and manufacturers of smokeless tobacco products in India.

METHODS

This was a cross-sectional pack-collection study. Available

information on details and product profiles of various SLT products and pictorial warnings labels were collected from retail shops in Ananthapur, India. The different SLT products include panmasala, gutkha, khaini and tobacco brands, purchased from nearby paan shops. The baba chewing tobacco is available in various types and this information was collected from owners of paan shops.

RESULTS

Tables 1–3 depict the current types of smokeless tobacco products available for sale in Ananthapur, India, including their reported ingredients, price, and manufacturer.

Figures 1 and 2 present the images of different smokeless

Table 1. Tobacco brands available in Andhra Pradesh, India

| No | Tobacco brands | Reported ingredients | Net weight (g) | Tobacco company | Price (Rs) |
|----|--------------------------|--|----------------|---|------------|
| 1 | Swagat gold | Unmanufactured raw tobacco Not a gutkha or panmasala | 25 | Qutab manufacturing company, Bakoli, Delhi | 20/- |
| 2 | Raja | Tobacco spit product Not a gutkha/ panmasala/ supari | 6 | Lokenath Prasad Gupta, Patparganj, Delhi | 5/- |
| 3 | Madhu chhap | Manufactured tobacco Not a gutkha/ panmasala | 9 | Maa sharda tobacco, Dasanpura, Hobli, Bangalore | 5/- |
| 4 | Hans chhap | Tobacco | 15 | Murali lal Harish chanderjaiswal, Preet vihar, Delhi | 5/- |
| 5 | Miraj | Tobacco | 10 | Miraj products, Nathdwara, Rajasthan | 5/- |
| 6 | Chaini/Khaini | Tobacco and lime stone paste | 0.36 | Harsh international industries, Haryana | 15/- |
| 7 | Jora or Blue bull | Tobacco | | | 4/- |
| 8 | Cool lip | Filter tabbaq | 3.6 | Tej ram dharam paul, Maur Mandi, Punjab | 9/- |
| 9 | Meenaji mawa | Tobacco | | Meena Jarda Udyog Pvt Ltd, Bhubaneswar | 5/- |
| 10 | Hindustan khaini | Tobacco, lime, added flavors, and spices Not a gutkha or panmasala | | Peeyush company, Mohanpur, India | 10/- |
| 11 | Badshaha | Manufactured tobacco Not a gutkha/ panmasala/ supari | | Damodar Jagannath Malpani fast track Pvt Ltd, Korahubli, Tumkur | 5/- |
| 12 | Zara snus | Tobacco, lime water, menthol, oil, spices and added flavors | 3.6 | India | 10/- |
| 13 | Gokul zarda patti (mawa) | Tobacco, betel nut, natural, synthetic flavours lime, aromatic spices, sounf and menthol | | Maa Bhairabi product, Behrampur, India | 4/- |
| 14 | SVS madras snuff | | | Sri Vijaya Lakshmi snuff products, Radha Krishna Nagar, Chennai | 4/- |
| 15 | Kamath | 100% unmanufactured tobacco | 8 | New kamath tobacco Pvt Ltd, PO Mira, Thane District | 4/- |
| 16 | Mangalam gold | Tobacco | 15 | HN packaging and marketing, Allawalpur Mohammdabad, Farrukhabad | 10/- |

Rs: Rupees. These tobacco products are regulated under COTPA ACT 2003.

Table 2. Gutkha brands available in Andhra Pradesh, India

| No | Gutkha brands | Effective ingredients | Tobacco company | Price (Rs) |
|----|----------------------|---|---|------------|
| 1 | Khaleja | Saffron blended | | 4/- |
| 2 | Rebel | Saffron blended | | 4/- |
| 3 | K909 gutkha | Betel nut, catechu, tobacco, menthol, permitted spices, and flavors | Gopalji ketaki khara masala, Berhampur | 3/- |
| 4 | Pan parag power | Saffron blended gutkha | Shiva shakti products, Kathmandu, Nepal | 4/- |
| 5 | Premium nazar gutkha | Betel nut, catechu, tobacco, lime, permitted spices, and flavors | Shrisiddeshwar fragrance Pvt Ltd, Sitapura, Jaipur, Rajasthan | 2/- |

These tobacco products did not show the COTPA ACT 2003 on the sachets.

Table 3. Panmasala product brands available in Andhra Pradesh, India

| No | Panmasala brands | Effective ingredients | Net weight (g) | Tobacco company | Price (Rs) |
|----|------------------------|---|----------------|---|------------|
| 1 | Vimal | Betel nut, catechu, lime, saffron, spices, and flavors | | VSN Products, Tumkur, Karnataka | 5/- |
| | V-1 Scented | Tobacco | | VS Products, Karnataka | 2/- |
| 2 | RMD | Betel nut, catechu, lime, menthol, cardamom, and permitted flavors | | Dhariwal industries Pvt Ltd, Singasandra village, Hosur road, Bangalore | 7/- |
| | M scented | Tobacco | | Dhariwal industries Pvt Ltd, Singasandra village, Hosur road, Bangalore | 4/- |
| 3 | Rajnigandha | No tobacco and no nicotine added flavors | 1.7 | Dharampal Satyapal (Ltd), Bhamunimaiden, Guwahati (Assam) | 6/- |
| | Baba 120 | Premium chewing tobacco | 0.45 | Dharampal premchand (Ltd), sector- 60, Noida | 5/- |
| 4 | Hira | Blend of kesar and elachi flavors 0% tobacco and 0% nicotine | | Hira enterprises, Yernal road, Nipani | 1/- |
| | Royale-717 | Tobacco | | Hira enterprises, Yernal road, Nipani | 1/- |
| 5 | Shanti Strong | Betelnut, catechu, lime, cardamom seed, permitted spices, and added flavors | | S.M. Perfumers (P) Ltd, Bommasandra Indl area, Hosur road, Bangalore | 4/- |
| | SNT 1000 Zarda Scented | Tobacco | | S.M. Perfumers (P) Ltd, Bommasandra Indl area, Hosur road, Bangalore | 2/- |
| 6 | Star 555 | Betel nut, catechu, tobacco, lime, menthol, cardamom, and flavors | | Ghodawat industries Pvt Ltd, Hubali, Dharwad, (Karnataka) | 5/- |
| | Star111 | Tobacco | | Ghodawat Foods international industries Pvt Ltd, Hubali, Dharwad, (Karnataka) | 2/- |
| 7 | Parag 9000 panmasala | Betel nut, catechu, tobacco, lime, menthol, cardamom, natural, and artificial flavors | 1.8 | Panparag India Limited, Allur, Bengaluru | 3/- |
| | Parag 9000 tobacco | Tobacco | 2.5 | Panparag India Limited, Allur, Bengaluru | 1/- |
| 8 | Goa 1000 panmasala | Betel nuts, catechu, cardamom, lime, saffron, and flavors | | Global technology & trademarks Ltd, | 2/- |
| | Goa 1000 zarda | Blended chewing tobacco | | Geluvu food products, vishweshwarapura, tumkur road, Nelamangla, Bangalore | 1/- |
| 9 | Super gem panmasala | Betel nut, catechu, cardamom, lime, menthol, saffron and added flavors | | Thrishul arecanut granules, Siddu packaging Pvt Ltd | 4/- |
| | Super gem tobacco | Tobacco | | | 1/- |

Continued

Table 3. Continued

| No | Panmasala brands | Effective ingredients | Net weight (g) | Tobacco company | Price (Rs) |
|----|--------------------------------------|---|----------------|---|------------|
| 10 | Rajshree | Betel nut, catechu, cardamom, lime, menthol, natural and artificial flavors | | Kaypan Fragrance Pvt Ltd, Ghaziabad | 4/- |
| | Kp black label premium | Tobacco | 0.5 | Kaypan Fragrance Pvt Ltd, Ghaziabad | 1/- |
| 11 | Panparag | Betel nut, catechu, cardamom, lime, menthol, natural and artificial flavors | 3 | Ruchi flavors LLP, Dashrath Dist, Vadodara. | 4/- |
| | PP | 0% tobacco and 0% nicotine Chewing tobacco | | Ruchi flavors LLP, Dashrath Dist, Vadodara. | 2/- |
| 12 | RR 24 carat | Betel nut, catechu, cardamom, lime, menthol, natural and artificial flavors | | Unique tobacco products, Bandlaguda, Post Keshavgiri, Hyderabad | 4/- |
| | RR 24 gold | 0% tobacco and 0% nicotine Tobacco | | Everyday products, Bidar, Karnataka | 2/- |
| 13 | RR | No tobacco and no nicotine Betel nut, catechu, lime, cardamom seeds, and added flavors | 3 | Unique tobacco products, Bandlaguda, Post Keshavgiri, Hyderabad | 4/- |
| | RR gold | Tobacco | | Everyday products, Kothari industrial area, Bidar, Karnataka | 2/- |
| 14 | Sagar | No tobacco and no nicotine Betel nut catechu, lime, cardamom, menthol, natural and artificial flavors | | R.K. products, Hyderabad | 4/- |
| | SR-1 | Scented tobacco | | R.K. products, Bidar, Karnataka | 2/- |
| 15 | Panbahar- The heritage panmasala | No nicotine and no tobacco added flavors | 2.5 | Ashok & Co. Panbahar Ltd, Delhi | 5/- |
| 16 | Aashiqui supreme saffron blended | 0% tobacco and 0% nicotine Betel nut, catechu, cardamom, lime, menthol, permitted spices, rose and kewara flavor | | Mahalakshmi Devi flavors, Pvt Ltd, New Delhi | 5/- |
| 17 | Tansen blues- Flavoured panmasala | No tobacco and no nicotine Natural flavouring substances | 3 | Trimurthi Fragrances Pvt Ltd, Patparganj, Delhi | 4/- |
| | Premium zarda | Tobacco | | Trimurthi Fragrances Pvt Ltd, Patparganj, Delhi | 2/- |
| 18 | Raj niwas- Flavoured panmasala | No tobacco and no nicotine Betel nut, catechu, cardamom, lime, menthol, natural, and artificial flavours | | Vardh Paper Products Pvt Ltd, Swarn Park Indl Area, Mundka, Delhi | 4/- |
| | Maha pasand zafrani zarda | Tobacco | | Focus township private limited, Swarn Park Indl Area, Mundka, Delhi | 2/- |



Figure 1. Images of various smokeless tobacco products



Figure 2. Graphic warning labels on tobacco products, India

Table 4. Pictorial health warning labels on smokeless tobacco products

| No | Product name | Warning label |
|----|----------------------|---|
| 1 | Premium nazar gutkha | Tobacco kills |
| 2 | Khaini | Tobacco causes mouth cancer |
| 3 | Hindustan khaini | Chewing of tobacco is injurious to health and tobacco kills |
| 4 | Panmasala | Chewing of panmasala is/may be injurious to health |
| 5 | Zara snus | Tobacco is injurious to health, tobacco causes cancer |
| 6 | SVS madras snuff | Tobacco causes mouth cancer |

tobacco products available (including khaleja and rebel brands of gutkha, chaini brand of khaini, rajnigandha, hira, RMD, and panparag panmasala brands, baba 120 chewing tobacco, miraj, badshaha, hans chhap, zara snus, hindhusthan, manglam gold tobacco, swagat tobacco brands) in the Indian tobacco market.

Most of the sampled smokeless tobacco products have the common pictorial health warning labels: 'Chewing of panmasala is injurious to health; Tobacco causes mouth cancer; Tobacco kills; Chewing of tobacco is injurious to health; and Tobacco is injurious to health' (Table 4).

DISCUSSION

Our observational study identified numerous sub-brands, ingredients, and warning labels across multiple types of smokeless tobacco products in India, providing a glimpse of a smokeless tobacco market.

The reported smokeless tobacco constituents might contribute to the development of adverse health effects among consumers. Gutkha, panmasala, khaini and tobacco products are the multiple forms of smokeless tobacco that are locally made and consumed throughout India. The common factors of sex, age, ethnic origin, and socioeconomic status showed variation in the pattern of consumption of SLT²⁰. The smokeless tobacco industry is actively engaged in the production of larger number of SLT products, which are addictive nicotine containing products²¹. Nicotine itself and tobacco-specific N-nitrosamines are actively involved in the formation of reactive oxygen species (ROS) in the mouth^{22,23}.

Increasing product labelling as a means of increasing public awareness holds significant policy implications, including sustained investment in evidence-based mass media campaigns as part of a comprehensive tobacco control strategy²⁴. This should be taken further in light of the evidence that the enactment of smoke-free legislation has been associated with an increased consumption of smokeless tobacco among adolescent males²⁵.

The taxes on SLT products remain low compared to smoking cigarette products in Bangladesh and the amendment

made in Tobacco Control Law in 2013 requires graphic health warnings to cover 50% of SLT packaging, a ban on advertisement of SLT products, and restriction of sales to minors²⁶. The increased use of smokeless tobacco products is directly proportional to cessation of smoking. The increasing prices of SLT products, which have doubled, may indirectly discourage people from using SLT products²⁷. A similar increase in tobacco consumption is occurring globally, with a concomitant increase in tobacco-related deaths and diseases²⁸.

Limitations

This pilot study has a number of limitations due to its specific geographical representation and cross-sectional pack study design. Further research is needed with a broader study area to be able to obtain generalisable results.

CONCLUSIONS

Smokeless tobacco represents an addictive product in need of specific regulation. The Indian government has enforced tobacco control laws like COTPA ACT 2003 and introduced pictorial health warning labels on packets of SLT products, which are important to protecting public health. As identified by their list of reported ingredients, use of smokeless tobacco products pose a significant health risk, hence the continuation and further strengthening of health warning labels on smokeless tobacco products should be encouraged.

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CONFLICTS OF INTEREST

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