The importance and challenges in addressing smokeless tobacco

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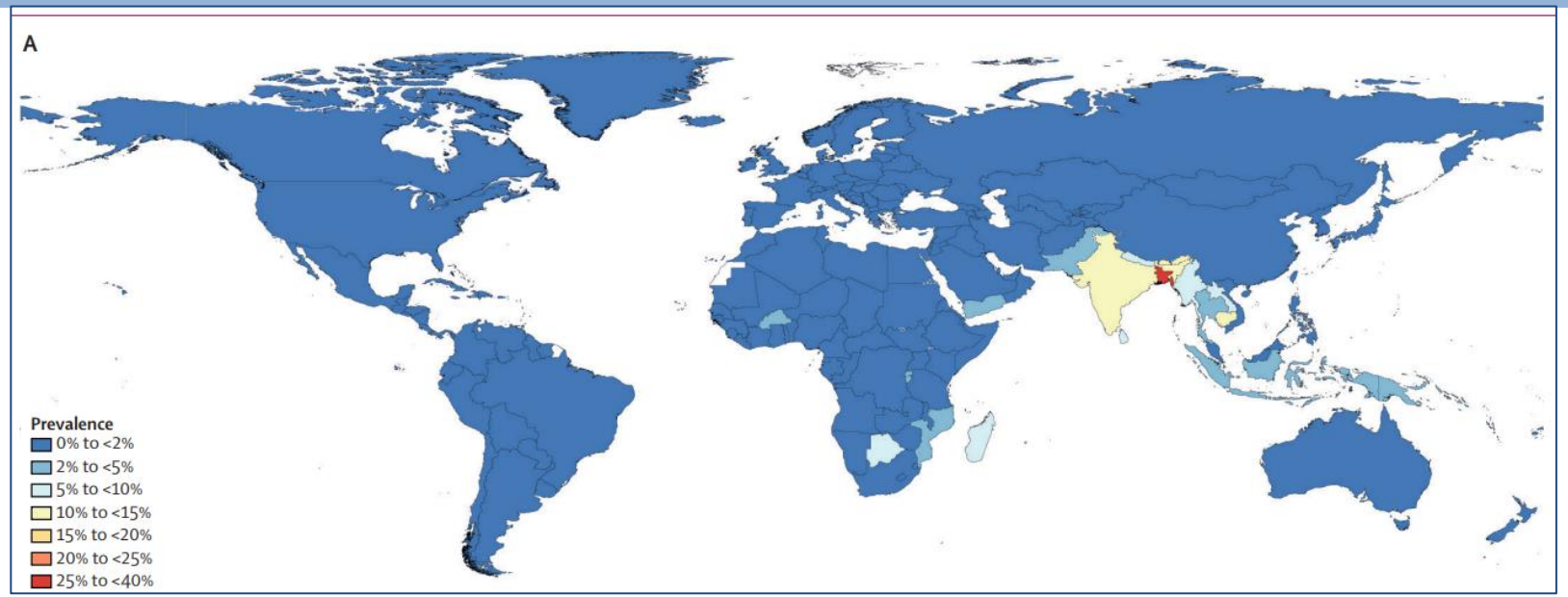
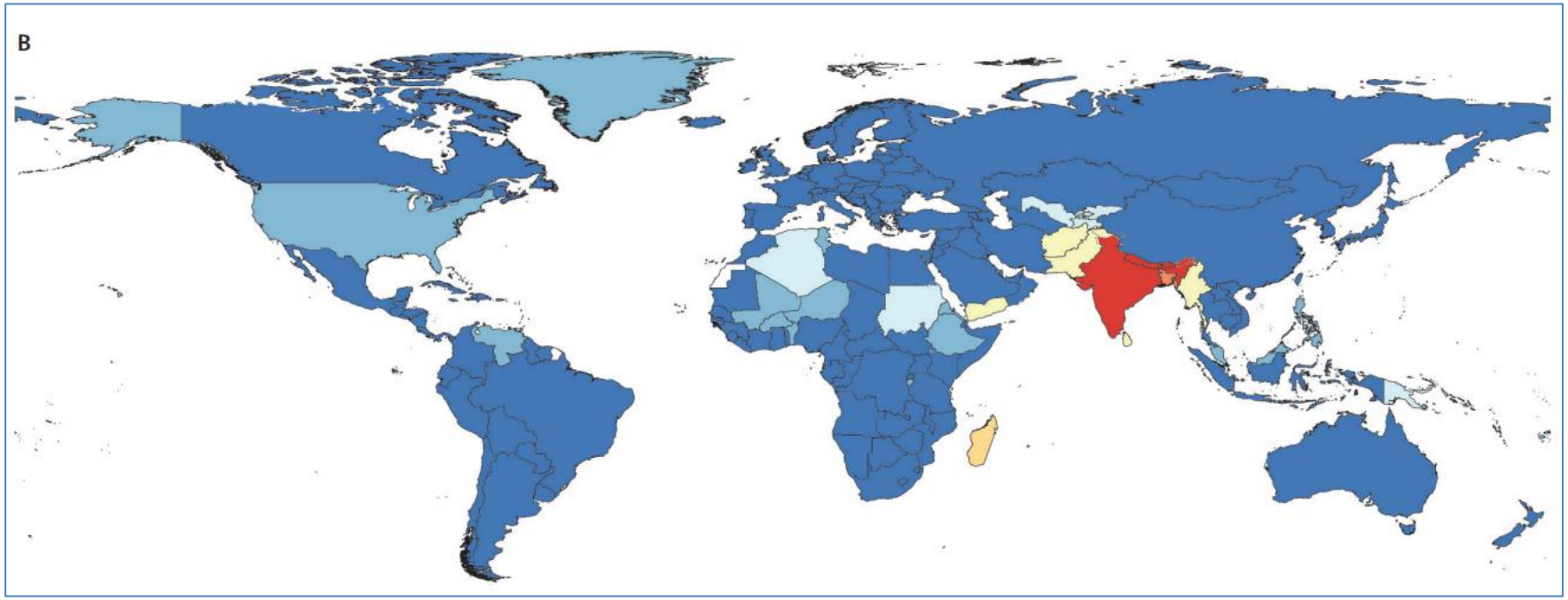
Smokeless Tobacco Use, 1990-2019: GBD Study 2019



Age-standardised prevalence of chewing tobacco use in females (A) and males (B) aged 15 years and older, in 2019



Tobacco Epidemic in India, Global Adult Tobacco Survey 2016-17

TOBACCO USE			
Tobacco smokers	**MEN (%)**	**WOMEN (%)**	**OVERALL (%)**
Current tobacco smokers	19.0	2.0	10.7
Smokeless tobacco users	**MEN (%)**	**WOMEN (%)**	**OVERALL (%)**
Current smokeless tobacco users	29.6	12.8	21.4
Tobacco users (smoked and/or smokeless)	**MEN (%)**	**WOMEN (%)**	**OVERALL (%)**
Current tobacco users	42.4	14.2	28.6

TOBACCO USE

- 19.0% of men, 2.0% of women and 10.7% (99.5 million) of all adults currently smoke tobacco.
- 29.6% of men, 12.8% of women and 21.4% (199.4 million) of all adults currently use smokeless tobacco.
- 42.4% of men, 14.2% of women and 28.6% (266.8 million) of all adults currently use tobacco (smoked and/or smokeless tobacco).

- **55.4% smokers and 49.6% SLT users are planning or thinking of quitting use.**
- **48.8% smokers and 31.7% SLT users were advised by health care provider to quit use**

Cancers and Tobacco Use in India

The hospital-based cancer registry (2012-19) indicates that nearly 33.3% of all cancer cases (n= 610084) were associated with tobacco use and therefore largely **preventable**

Number (n) and proportion (%) of specific sites of cancer associated with tobacco use

Site of Cancer (ICD-10 codes)	Males		Females	
	n	%	n	%
Lip (C00)	1723	1.1	688	1.4
Tongue (C01-C02)	25721	16.6	7149	14.9
Mouth (C03-C06)	37972	24.4	12722	26.4
Oropharynx (C10)	5122	3.3	654	1.4
Hypopharynx (C12-C13)	12856	8.3	3092	6.4
Pharynx Unspecified (C14)	1019	0.7	243	0.5
Oesophagus (C15)	16853	10.9	10029	20.8
Larynx (C32)	14466	9.3	1507	3.1
Lung etc. (C33-C34)	34832	22.4	11026	22.9
Urinary Bladder (C67)	4741	3.1	1027	2.1
Total	**155305**	**100.0**	**48137**	**100.0**

Carcinogens in Smokeless Tobacco Products

Smokeless Tobacco products contain nicotine (addictive) along several carcinogens:

- Tobacco-specific nitrosamines (TSNA) (from tobacco alkaloids during curing, fermentation and ageing)
- N-nitrosamine acids (from amino acids present in tobacco leaves amenable to N-nitrosation)
- Volatile N-nitrosamines
- Polycyclic aromatic hydrocarbons
- Aldehydes (formaldehyde, acetaldehyde, acrolein, crotonaldehyde)
- Other carcinogenic compounds (mostly heavy metals: cadmium, uranium and polonium)

Carcinogen levels in Smokeless Tobacco products

Commercial SLT products in India have a high concentration of TSNA, particularly NNN and NNK (Stepanov et al 2015)

Mean levels of carcinogens in Indian smokeless tobacco (ST) products compared with a European product

Substance	Indian ST product concentration mean±SD	Swedish ST product (mean)
Total nicotine (mg/g wet wt)	10.0±1.8	8.34
Unprotonated nicotine (mg/g wet wt)	9.5±1.9	0.75
NNN (µg/g)	22.9±4.9	0.345
NNK (µg/g)	2.6±1.0	0.096
NNAL (µg/g)	3.1±1.5	0.013
NAT (µg/g)	6.8±2.5	0.248
NAB (µg/g)	8.4±2.9	0.021
Total TSNA	37.6±18.7	0.723

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NNN, N′-nitrosonornicotine; NNK, 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanone; NNAL, 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanol; NAT, N′-nitrosoanatabine; NAB, N′-nitrosoanabasine; TSNA, tobacco-specific N-nitrosamines; SD, standard deviation

Cardiovascular Mortality due to Tobacco use in India

- **Cardiovascular Diseases (CVDs) are responsible for nearly half of the deaths among tobacco users; percentage much higher among younger tobacco users**
- **Leading cause of Premature mortality**

Tobacco[1] kills more than

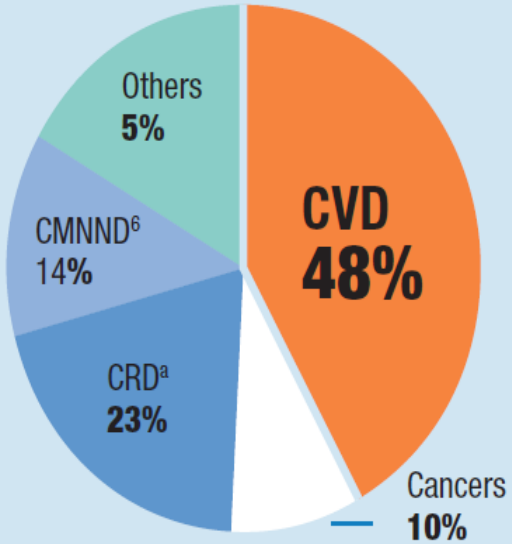
1 million

people each year

9.5%

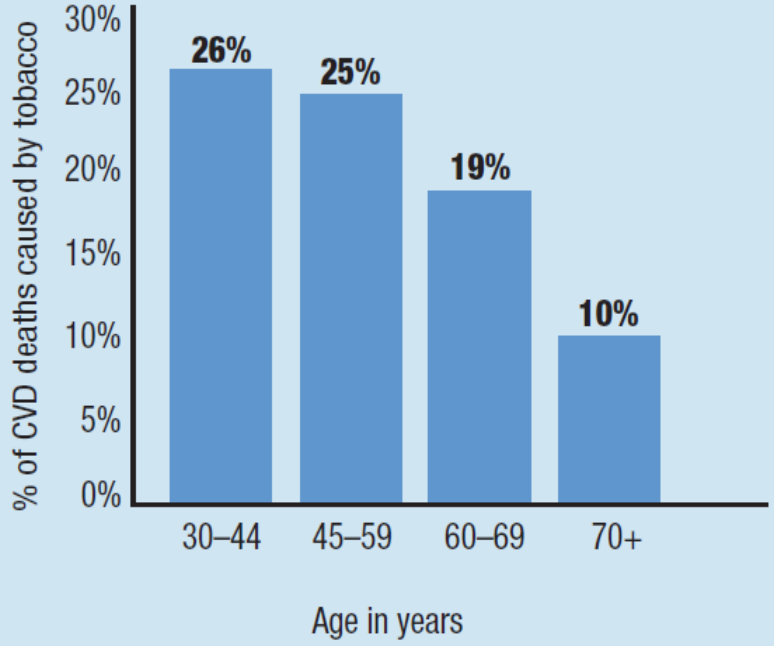
of all deaths

The most common way tobacco kills is from cardiovascular diseases (CVDs)[2]



Distribution of tobacco deaths by cause

CVDs in younger people are more likely to be caused by tobacco use



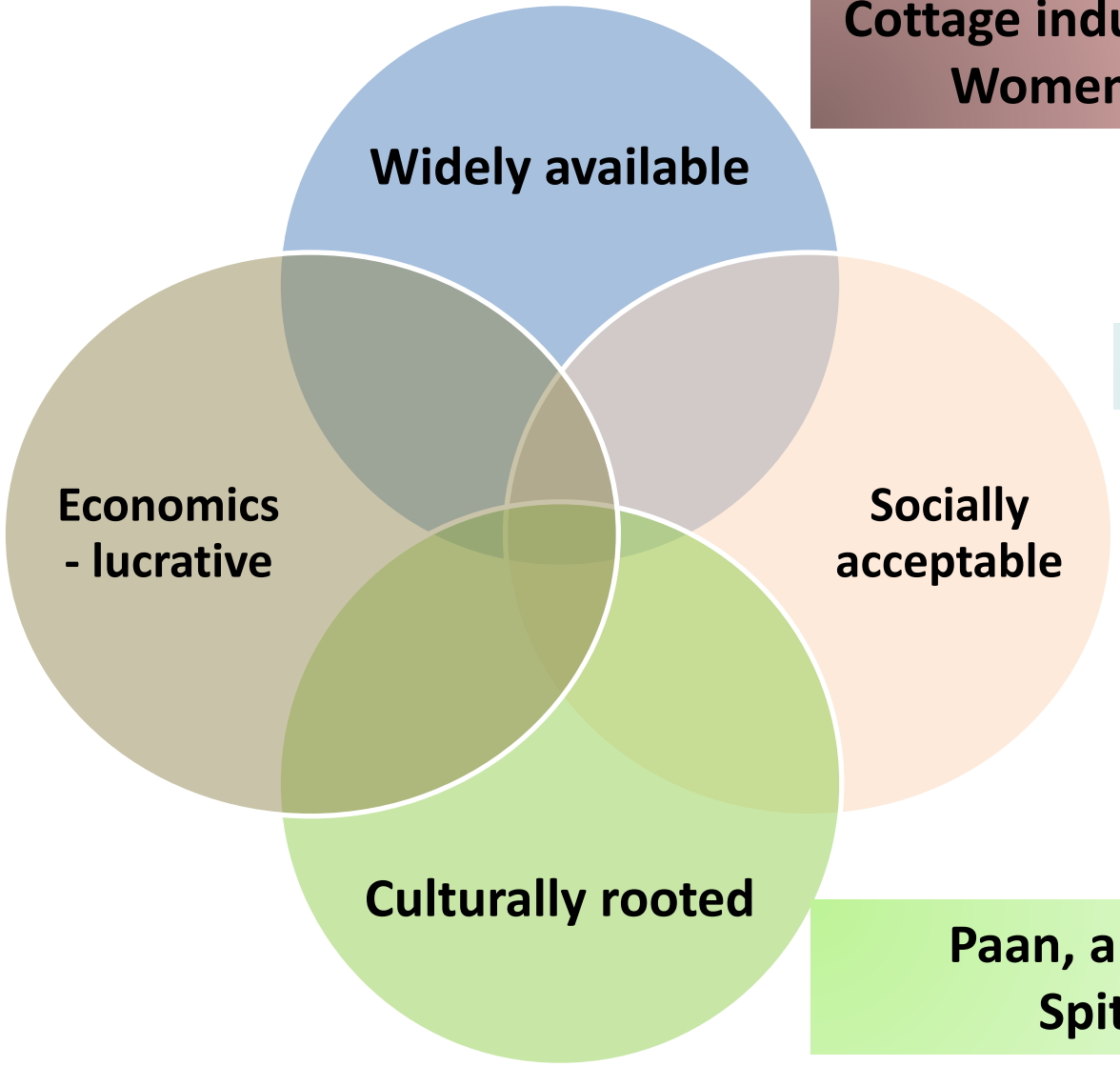
WHO India Factsheet 2018

Nicotine absorption from chewing tobacco

Plasma nicotine levels after administration of SLT are sustained for prolonged periods, and the **overall amount of nicotine absorbed is twice as high** as that of a single cigarette as SLT remains in contact with oral mucosa for prolonged periods (Benowitz et al 1988)

Metabolites of tobacco, cotinine and 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanol (NNAL) have been demonstrated to be **significantly ($P<0.001$) higher** in blood and urine of SLT users than in smokers (Hecht et al 2007)

Multisectoral Challenges



Cottage industry-Child &
Women Labour

Celebrity endorsement

Myths-beneficial effects

Early age at initiation
Gender issues

Paan, areca nut
Spitting

Legal loopholes:

Surrogate advertisement, Brand stretching

- A-listers of Bollywood advertise for Pan masala of the same brand which makes smokeless tobacco
- Brand stretching is prohibited under Section 5 of COTPA and Article 13 of the WHO FCTC. Unfortunately, certain non-tobacco products like areca nut, a class 1 carcinogen, are used along with SLT products or as a gateway or surrogate product.
- Advertisement during sports events televised globally

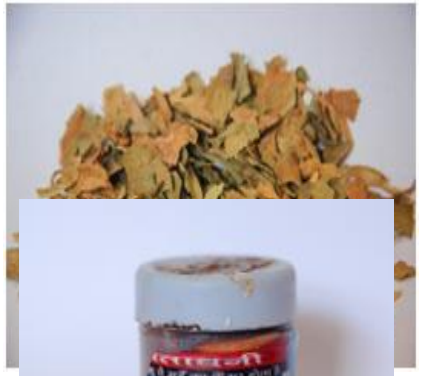
Different kinds of SLT products: Standardized packaging

- No standard packaging
- Poor display of Pictorial health warnings
- Use of plastic packaging
- Unlicensed manufacturers – home based production; cottage industry
- No tracking and tracing mechanism

Naswar

Laal Dant Manjan

Creamy Snuff



Kiwam

Sada pata

Dohra

Gutkha

Paan or betel quid with tobacco

Zarda

Khaini

Gul

Mishri

Mawa

Kharra

Gudakhu

Tapkeer

Smokeless Tobacco & Food articles

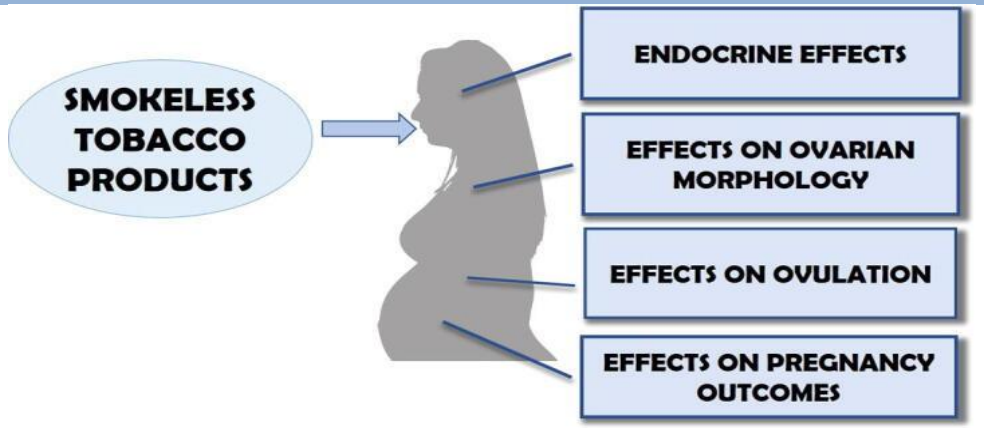
- As per the FSSAI regulation, tobacco and nicotine cannot be used as an ingredient in any food items in India. The FSSAI should issue guidelines to prevent the use of additives, scents, sweeteners or flavorings in tobacco or nicotine products in the country (Dutt & Bari, 2017).
- Section 5 of COTPA, the registration of any tobacco brand for non-tobacco products should be prohibited by the trademark authorities requiring prohibition on manufacture and sale of a non-tobacco product having any similarity or imitation with any existing tobacco brand (Mehrtash et al., 2017).

Tobacco and Environmental Hazard

- The WHO report "Tobacco: Poisoning our planet" has identified tobacco products waste (TPW) as the most littered item on the earth (4.5 trillion cigarette filters/year, leaching out over 7000 toxic chemicals. (WHO, 2022)
- **While the environmental hazards of cigarettes are well-documented, the menace of SLT and *Bidi* waste lack evidence.** The SE Asia region consists of 80% of the global SLT users there is a dire need to not only **quantify** the wastes eluted but also to **regulate** them.
- In India, the prevalence of smokeless tobacco use exceeds the use of smoked tobacco and *bidi* consumption (GATS II, 2016-17), **tons of plastic SLT pouches litter the environment every year.** (Prasad et al, The Guardian, 2022)

SLT: Women and Child Health

- **In India, 12.5 percent of women consume SLT (GATS; 2016-2017).**
- **Nearly 7.4% pregnant women and 5.0 % lactating women consume any form of SLT in India (NFHS -4; 2015-16).**



- Relief from health related issues like gum pain, constipation, nausea, morning sickness and urges especially during pregnancy or experimenting with easily available products at home are a few factors associated with initiation of SLT particularly among women. (Begum *et al,*. 2015)
- Among the various SLT product types, women in India consume betel quid with tobacco (4.5%), oral tobacco (4.3%), and *khaini* (4.2%), followed by *gutka* (2.7%) predominantly (GATS; 2016-2017).
- Social stigma around women consuming tobacco owing to gender bias, restricts women from seeking timely and appropriate positive health behavior counselling.

Children and Women Labor in tobacco industry

- China, India and Brazil are the largest producers of tobacco in the world accounting for over 60% of global production (WHO, 2019)
- Cultivation of tobacco, bidi factories engage the labor of children, women and other vulnerable groups throughout the world (BBC News, 2012)

Smokeless Tobacco & Public Spitting

- Public spitting – most common among SLT users - has been considered a public inconvenience and a nuisance; defaces public vehicles, buildings and other public property
- Public spiting likely to transmit the COVID-19 and other viruses (TB, flues etc.) through the droplets of saliva while spitting
- 21 States have released the notifications to ban SLT use during COVID-19.

ELSEVIER
Clinical Epidemiology and Global Health
Volume 11, July–September 2021, 100794

COVID-19 as an opportunity for smokeless tobacco control and prohibiting spitting in public places

No. Z.21020/19/2020-TC
Government of India
Ministry of Health & Family Welfare
(Tobacco Control Division)

Nirman Bhawan, New Delhi
Dated the 10th April, 2020

To,

The Chief Secretaries of all States/UTs

Subject: COVID 19 and spitting of Smokeless Tobacco in Public - regarding.

Sir/Madam,

I am directed to refer to the subject mentioned above and to say that Indian Council of Medical Research (ICMR), Department of Health Research, Govt. of India has issued an appeal to the General Public namely "Not to consume and spit Smokeless Tobacco in Public".

2. As per the appeal "*Chewing Smokeless Tobacco products, Paan masala and areca nut (supari) increases the production of saliva followed by a very strong urge to spit. Spitting in public places could enhance the spread of the COVID19 virus*". In view of the increasing danger of COVID-19 pandemic, ICMR has appealed the general public to refrain from consuming the smokeless tobacco products and spitting in public places during the COVID epidemic.

3. The State/UT Governments have necessary authority under the Epidemic Diseases Act,1897, the Disaster Management Act, 2005 and also under various provisions of Indian Penal Code 1860 and Code of Criminal Procedure (CrPc) to deal with Covid-19.

4. In this background, it is requested that necessary preventive measures may be taken under the appropriate law to prohibit the use and spitting of chewing smokeless tobacco products in public.

Smokeless Tobacco Cessation

- Interventions for SLT cessation – pharmaceutical and /or behavioral
- Interventions for cessation of products containing both SLT and areca nut

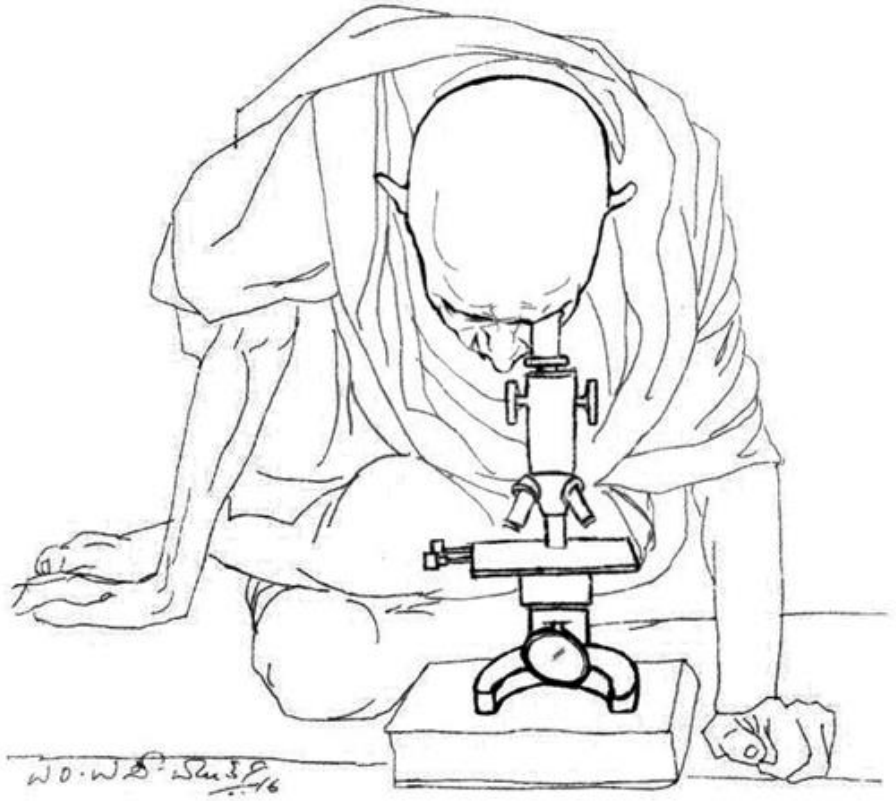
Conclusion

- South East Asia region has the highest prevalence of Smokeless Tobacco use and production
- Special attention is needed to regulate SLT products in compliance to the WHO FCTC guidelines

Thank You

"It is health that is real wealth and not pieces of gold and silver" –

MK Gandhi



Weakness of the mind alone is the real weakness