



Implementation of Article 20 of the World Health Organization Framework Convention on Tobacco Control

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Background & objectives: Article 20 of the World Health Organization (WHO) Framework Convention on Tobacco Control (FCTC) deals with surveillance and research on all tobacco products including smokeless tobacco (SLT). Here we describe the availability of indicators related to SLT among 180 Parties to the convention (countries ratifying the WHO FCTC are referred as Parties to the Convention).

Methods: Data on SLT use among adults and adolescents and SLT-related economic and health indicators among Parties were obtained through rigorous literature search. Data analysis for high-burden parties was done using SPSS.

Results: Nearly 92 per cent (166) of the Parties reported SLT use prevalence among adults or adolescents at national or subnational level, of these nearly one-fifth of the Parties (20.5%) were high-burden Parties. Comparable SLT tax incidence rate was available for 19.4 per cent (n=35) Parties, and SLT attributable morbidity and mortality risks of major diseases were available for only five per cent (n=10) of Parties.

Interpretation & conclusions: SLT use is a global epidemic widespread among Parties to the Convention. There are a data gap and dearth of research on SLT-related issues. Parties need to monitor SLT use and related health and economic indicators regularly at periodic intervals.

Key words Economics - health - prevalence - smokeless tobacco - WHO FCTC

Member countries that have ratified World Health Organization Framework Convention on Tobacco Control (WHO FCTC) are called 'Parties to the Convention'. There are 181 Parties to the Convention including 180 countries and European Union¹. Article 20 of the WHO FCTC deals with research, surveillance and exchange of information on tobacco products including smokeless tobacco (SLT). In the context of SLT control, the Article mandates to carry out appropriate

scientific national research and the establishment of surveillance mechanisms. It also mandates undertaking of programmes that address the magnitude, patterns, determinants, related social, economic and health indicators and consequences of SLT consumption. This Article also includes information regarding how to facilitate the cooperative exchange of SLT control-related information and provision of support, with special focus on developing Parties².

Parties to the Convention report progress on individual Articles including Article 20. Last two global progress reports on implementation of WHO FCTC (2014 and 2016) reported on SLT use prevalence indicators³⁻⁵. According to the FCTC global implementation report 2016, about 47 per cent of the reporting Parties (n=132) provided data on the prevalence of SLT use among adults. Around 12 per cent of the reporting Parties were identified as having at least two comparable datasets across all reporting cycles for adult SLT use. Last global progress report of 2016 presented SLT use indicator among 132 of all Parties to the Convention⁴. This study was conducted to document progress of Article 20 on SLT use prevalence and its related indicators such as health and economic indicators among all Parties to the Convention.

Material & Methods

All 180 Parties to the Convention were included in the analysis. The European Union as a Party was excluded (as it represents a group of countries that are already included in 180 Parties).

Data sources:

- (i) Tobacco use prevalence among adults and adolescents was obtained from the health survey reports of individual countries, from Global Tobacco Surveillance System - Global Adult Tobacco Survey, Global Youth Tobacco Survey, Demographic Health Survey, WHO STEPwise NCD Risk Factors survey and Global School Health Survey reports or published data in indexed journals and secondary analysis from the original sources³⁻¹⁵. We included national and subnational data from all Parties, provided that they met indicator definition (Table I). National data of a country were included if the sample was designed to estimate their national prevalence either by combining their regional estimates or rough national estimates. Subnational estimates were defined if this sample was drawn from one such geographic region of the country.

Table I. Definitions of the indicators evaluated in this study

Prevalence
SLT use among adults: Current use of SLT among adults (aged 15+ yr) reported during 2003 and 2017
Recent data on SLT use among adults: Current use of SLT among adults aged 15+ yr reported during 2013-2017
High SLT burden Parties (Adults): Parties having SLT use prevalence $\geq 10\%$ either among male or female adults
SLT use among adolescents: Current use of SLT among adolescents aged 13-15 yr reported during 2003-2017
Recent data on SLT use among adolescents: Current use of SLT among adolescents aged 13-15 yr reported during 2013-2017
High SLT burden Parties (adolescents): Parties having SLT use prevalence $\geq 10\%$ either among male or female adolescents
Overall high burden countries were defined as those with a prevalence of SLT use more than 10% either among male or female adults or either among male or female adolescents
Overall SLT use prevalence: Parties having SLT use prevalence either among adults or adolescents either at national or subnational level
Health effects
Risk of oral cancer and other cancers among adult SLT users aged 30+ or 35+ yr reported during 2003-2017
Risk of cardiovascular diseases among adult SLT users aged 30+ yr reported during 2003-2017
Risk of adverse reproductive outcomes in female adult SLT users reported during 2003-2017
All-cause mortality among adult SLT users aged 30+ yr reported during 2003-2017
Cancer-related mortality among adult SLT users aged 30+ yr reported during 2003-2017
Mortality due to oral/oropharyngeal/upper aerodigestive tract cancers among adult SLT users aged 30+ yr reported during 2003-2017
Cardiovascular-related mortality among adult SLT users aged 30+ yr reported during 2003-2017
Economic effect
Data on SLT taxation: Parties having comparable price and tax incidence rates for SLT at one point of time during 2003-2017
Recent data on SLT taxation: Parties having comparable SLT price and tax incidence rates during 2013-2017
Parties having comparable SLT price and tax incidence rates for more than one point of time
Parties having SLT attributable health cost study during 2003-2017
SLT, smokeless tobacco
Source: Refs 5-39.

- (ii) Data on health impacts of SLT use (morbidity and mortality) were obtained from published cohort and case-control studies¹⁶⁻³⁵.
- (iii) Data on economics of SLT control were obtained from two sources: (a) Comparable tax data on SLT products obtained from the WHO Global Tobacco Epidemic Reports of 2015 and 2017^{8,9}. Data reported by countries where methodology was not provided, were excluded from this study; (b) Costs incurred attributable to SLT use and incomes from SLT were collected from country reports commissioned by Governments or WHO³⁶⁻³⁹.

Results & Discussion

Parties having prevalence data at either national or subnational level among adults or adolescents: Nearly 92 per cent (n=165) of the Parties had SLT use information for adults or adolescents either at national or subnational levels.

Parties having SLT use data among adults: Prevalence of SLT use for adults at a national level was available for 74.4 per cent (n=134) of the Parties. In addition, there were subnational estimates for SLT use among adults in Chad, Guinea, Sudan and Federated States of Micronesia (2.2% of the Parties). Altogether, there were 76.6 per cent of the Parties (n=138) which had adult SLT use prevalence data either at national or subnational level (Table II). Nearly 33 per cent of Parties had recent SLT use prevalence data (Table II). Most of them were high resource countries [high-income countries (HIC) and upper-middle income countries (UMIC)]. Afghanistan, Bangladesh, Bhutan, Burkina Faso, Colombia, Comoros, Iceland, India, Kyrgyzstan, Lesotho, Madagascar, Malaysia, Marshall Islands, Mauritania, Mozambique, Myanmar, Nepal, Norway, Pakistan, Palau, Solomon Island, Sri Lanka, Sweden, Timor-Leste, Uzbekistan and Yemen were the high-burden Parties having the prevalence of SLT use ≥ 10 per cent (either male or female). These together accounted for 14.4 per cent (n=26) of the Parties (Tables II & III).

Indicator	Number of countries	Per cent of Parties
SLT use prevalence		
SLT use among adults	138	76.6
Recent SLT use among adults	60	33.3
High SLT burden Parties (adults)	26	14.4
SLT use among adolescent	133	73.9
Recent SLT use among adolescent	80	44.4
High SLT burden Parties (adolescents)	21	11.6
Overall high SLT burden Parties (adults and adolescents combined)	37	20.5
Overall SLT use	166	92
SLT-attributable major diseases risk factors		
Risk estimate of oral cancer	6	3.3
Risk estimate of other cancers	5	2.7
Risk estimate of cardiovascular diseases	6	3.3
Risk estimate of adverse reproductive outcomes	4	2.7
All-cause mortality estimate	3	1.6
Cancer-related mortality estimate	3	1.6
Mortality estimate due aerodigestive tract cancers	1	0.5
Cardiovascular-related mortality estimate	3	1.6
Economic indicators		
Comparable price and tax incidence rates for SLT at one point of time and those all are recent	35	19.4
Comparable price and tax incidence rates for SLT for more than one point of time	8	4.4
Health cost studies attributable to SLT use	2	1.1

Table III. High-burden parties having prevalence of smokeless tobacco use $\geq 10\%$ either in males or females

Adults
African Region - Burkina Faso, Comoros, Lesotho, Madagascar, Mozambique
American Region (AMR) - Colombia
Eastern Mediterranean Region (EMR) - Afghanistan, Mauritania, Pakistan, Yemen
European Region - Iceland, Kyrgyzstan, Norway, Sweden, Uzbekistan
South East Asian Region (SEAR) - Bangladesh, Bhutan, India, Myanmar, Nepal, Sri Lanka, Timor-Leste
Western Pacific Region (WPR) - Malaysia, Marshall Islands, Palau, Solomon Islands
Adolescents
AFR - Botswana, Congo, Lesotho, Namibia, Uganda
AMR - Dominica, Tonga
EUR - Croatia, Iceland, Norway
SEAR - Bhutan, India, Myanmar, Nepal
WPR - Malaysia, Marshall Islands, Micronesia (Federated States of), Mongolia, Palau, Papua New Guinea, Vanuatu
AFR, African Region; AMR, American Region; EMR, Eastern Mediterranean Region; EUR, European Region; SEAR, South East Asian Region; WPR, Western Pacific Region

Parties having SLT use data among adolescents:

Nearly 67.7 per cent (n=122) of the Parties reported SLT use among adolescents at national level. Angola, Brazil, Burkina Faso, Central African Republic, Democratic Republic of the Congo, Gambia, Liberia, Nigeria, Sierra Leone, United Republic of Tanzania and Zambia provided subnational data (6%) (Table II). Nearly 44.4 per cent (n=80) of the Parties had recent data (after 2013) on adolescent SLT prevalence (Table II), mostly from HIC and UMIC). Bhutan, Botswana, Congo, Croatia, Dominica, Iceland, India, Lesotho, Malaysia, Marshall Islands, Micronesia (Federated States), Mongolia, Myanmar, Namibia, Nepal, Norway, Palau, Papua New Guinea, Tonga, Uganda and Vanuatu were high-burden Parties having prevalence ≥ 10 per cent (either male or female adolescents) and accounted for 11.6 per cent of the Parties (Tables II & III).

Overall SLT use prevalence: Overall, 92 per cent of the Parties (n=166) had SLT use prevalence among adults or adolescents either at national or subnational level (Table II). Thirty seven Parties (20.5%) were high-burden Parties where the prevalence of SLT use was 10 per cent or higher among adolescents or adults (Tables II & III).

Smokeless tobacco-related health indicators: Only 10 Parties (Bangladesh, India, Iran, Norway, Pakistan, Sweden, Sudan, Saudi Arabia, South Africa and Yemen) had data on risks known for major diseases attributable to SLT use (Table II). Major diseases included were oral cancers, other cancers, cardiovascular diseases

and adverse reproductive outcomes. Oral cancer risk among adult SLT users was available for six Parties only (Sweden, India, Pakistan, Bangladesh, Sudan and Saudi Arabia). Risk estimate of other cancers among adult SLT users was available for five Parties only (Sweden, India, Pakistan, Bangladesh and Yemen). Risk estimate of cardiovascular diseases among SLT users was available for six Parties only (Sweden, Norway, India, Bangladesh, Pakistan and Iran). Risk estimate of adverse reproductive outcomes among female adult SLT users was available for four Parties only (Sweden, India, Bangladesh and South Africa). All-cause mortality among adult SLT users was available for three Parties only (Sweden, India and Bangladesh). Cancer mortality among SLT users was available for three Parties only (Sweden, India and Bangladesh). Mortality estimate due to oral/oropharyngeal/upper aerodigestive tract cancers among SLT users was available for one Party only (India). Cardiovascular mortality estimate among adult SLT users was available for three Parties only (Sweden, India and Iran).

Economic indicators related to SLT use: Thirty five Parties had comparable price and tax incidence rates for SLT at one point of time and all are recent (Table II). Eight Parties have comparable price and tax incidence rates for SLT for more than one point of time. India conducted health cost studies attributable to SLT for two rounds and Bangladesh for one round during 2004-2006.

Parties to the Convention are obligated to carry out surveillance and research on SLT use and related

indicators. This study showed that SLT use was widely prevalent among 92 per cent of Parties. Prior studies have also indicated that SLT use is a global epidemic⁵⁻⁹. There is now ample evidence from studies^{5-7,39}, including the present one, that SLT burden is mainly concentrated in developing world. Data gap on evidence collection on SLT-related indicators can partly be attributed to inadequate resources and capacities for surveillance and research in low-income countries as well as low- and middle-income countries⁵. There was lack of data for SLT use in eight per cent of the Parties. There could be different reasons for this data gap such as ignorance and lack of commitment for SLT control among many parties. Many data sources were not in public domain and many reports were in regional languages. Another notable finding was non-availability of recent data from many Parties.

Robust research, surveillance systems and monitoring programmes are critical to the success of addressing the global SLT epidemic. Our study had certain limitations. The data analysed in this study pertained only to the available data in English language literature and thus could be underrepresented. Comparability of data was also a major issue.

In conclusion, Parties (especially in SEAR and in low- and low-middle-income countries) should establish sustainable resources for periodic monitoring of the magnitude, patterns, determinants and related social, economic and health consequences of SLT use. Parties should contact and communicate with international partners to strengthen resources and build capacity for monitoring and research on specific tobacco control issues in their respective countries.

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Conflicts of Interest: None.

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