

Tobacco Control Laws of South Asian Countries: A Quantitative-Comparative Analysis of Compliance with FCTC and their Effects on Smoking Prevalence

Muhammad Shahzad¹, Anwar Shah², Frank Joseph Chaloupka³

Abstract

Smoking has been the topic of research for long time. Scholars have written on this issue from different dimensions like revenue generation, employment creation, environmental and health hazards. However, it exposes a person to more than 400 carcinogenic chemicals, causing many detrimental diseases like lung cancer, coronary artery disease, heart attack, stroke which kill more than 7 million people annually. Due to high smoking attributable mortality and morbidity; the World Health Organization (hereafter WHO) passed Framework Convention on Tobacco Control (hereafter FCTC). WHO-FCTC stipulates certain obligatory rules for the control of smoking prevalence and tobacco hazards to its member states. This paper aimed to examine the compliance of tobacco control laws with the FCTC guidelines and their effects on smoking prevalence in South Asian countries. The work hypothesized that higher compliance of tobacco control laws with the WHO-FCTC rules reduces smoking prevalence. The study employed positivist approach using descriptive statistics to determine the role of compliance with tobacco control laws in controlling of smoking prevalence rates. The study used data from different sources like the official Gazette books, reports of the World Health Organization (WHO), website (tobacco control laws) of the campaign for Tobacco-free Kids, Our World in Data (OWID), population pyramid.net and The World Bank. We compared and contrasted the national laws governing tobacco control in South Asia with the WHO-FCTC guidelines to test our hypothesis. We constructed an overall compliance index for the countries. We found non-compliance with the FCTC proposed tax share and heterogeneities in tax rates among the countries to reduce the smoking prevalence rates. Bangladesh has attained the highest index score of 0.748 followed by Sri Lanka with 0.650 index score whereas, Nepal and India have the least scores on compliance. The least scores of India and Nepal go against our hypothesis because the countries have achieved maximum reduction in tobacco control despite their low scores on the index

Keywords: Tobacco control laws, WHO-FCTC, South Asia

1 Ph.D Scholar, School of Economics, Quaid-i-Azam University, Islamabad, Pakistan and faculty member at Department of Economics, University of Swabi. Email: msdresearcher2011@gmail.com

2 Associate Professor, School of Economics, Quaid-i-Azam University, Islamabad, Pakistan.

3 Director, Institute for Health Research and Policy, University of Illinois at Chicago

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1. Introduction

Smoking exposes a person to more than 4000 chemical compounds, out of which more than 400 are reported to have toxic nature. The presence of nicotine in cigarettes makes them highly addictive which in turn causes many detrimental diseases like lung cancer, coronary artery disease, heart attack and stroke (United States Department of Health and Human Services, 2014). Smoking can damage almost any organ in human body, leading to leukemia and cancers of the kidney, pancreas, bladder, throat, mouth and uterus. It can damage the airways and air sacs of lungs to cause chronic bronchitis and breathing difficulties (Islam, Mainuddin, Bhuiyan, & Choudhry, 2016; O'Donnell, et al., 2016). It can also raise blood pressure and cholesterol levels, reduces bone density in women and increases the risk of infertility, preterm delivery, stillbirth and sudden infant death syndrome (Stanley, 2017). Likewise, active tobacco smoking has been associated with severity of COVID-19 patients. COVID-19 patients with active smoking history are 1.4 times more likely to have severe symptoms and 2.4 times more likely, to need mechanical ventilation and ICU services, or die as compared to non-smokers (Vardavas & Nikitara, 2020). As the adverse effects of smoking are revealed by a slow and gradual process and smokers have a very low discount rate for the marginal impact of smoking on the health. They value more the satisfaction of the addictive desire than the future health effects. Each time fulfilling the addictive desire, smokers' vulnerability to more addiction and adverse health effects is increased. Although smokers derive utility from smoking but association with increase in mortality risk with the ageing process is also well established. However, the adverse marginal impact is low and smokers fail to realize the health hazards of smoking (Adda & Lelenche, 2001). The low marginal health impact and far away future consequences has resulted to take the global tobacco prevalence figure to 1.22 billion smokers who smoke almost 18 billion cigarettes sticks daily (The Tobacco Atlas, 2016).

Although efforts for the control of tobacco prevalence were initiated as earlier as in 1890 to address the issue of the then female rising smoking prevalence rates but due to no established link with health, regulations lost momentum (Lessig, 1995). However, it regained its momentum with the report of the US surgeon general, which established causal relation of smoking and various detrimental diseases (Milov, 2019). The spur provided by the report of the US surgeon general attracted the interest of scholars and studies were undertaken to estimate the economic cost of smoking and counter the tactics of tobacco industry. Although developed countries had far higher prevalence of tobacco than developing countries but realized the associated health hazards early and responded with comprehensive tobacco control laws to decrease the smoking prevalence rates successfully (Gneiting & Schmitz, 2016). Unfortunately, in contrast to the achievements of advanced countries, the story of developing countries

is otherwise. The tobacco industry shifted their focus towards developing countries for the expansion of their business and profits. In the quest for profits and enlarging their business empires, the big tobacco spread its tentacles in developing countries and ultimately increased the tobacco addiction, incidence of smoking and smoking induced morbidity and mortality (Hooper & Aglue, 2009). Currently developing countries have 84% of the smoking population which may increase to 88% by 2025. It is well established that tobacco consumers have more chances of dying a premature death of several tobacco attributable diseases like cancer, heart diseases, respiratory problems and COVID-19, which may lead to income deprivation along with health care cost (Pinto & Uga, 2010; Vardavas & Nikitara, 2020).

Like other developing world, South Asian countries also face high economic cost due to tobacco attributable diseases. Lower Human Development Index (HDI) scores and high smoking prevalence have resulted in multitude of vicious circles of different health and social issues. More than 160,000 people in Pakistan and almost 161,200 smokers lost their lives in Bangladesh on annual basis due to smoking induced causes. Monetary value of economic cost reaches to 143 billion rupees in Pakistan while in Bangladesh the cost is as much as 50.9 billion takkas against 24.8 billion takkas of benefit in the form of wages and revenue (World Health Organization, 2007). Similarly, India, Sri Lanka, Nepal and Bhutan also face enormous health cost both in monetary and human lives forms. Tobacco attributable death toll has reached to 699,504, 9,932, 14,456 and 156 people on annual basis in India, Sri Lanka, Nepal and Bhutan respectively whereas, the economic cost is 22.4 billion USD, 99,965 million Sri Lanka Rupees, 22,942 million Nepalese rupees and 1,215 million ngultrums (The Tobacco Atlas, 2018).

Considering the expansionary scenario of tobacco prevalence in developing countries, more than 190 member states of the World Health Organization (WHO) proposed a universal treaty, Framework Convention on Tobacco Control (FCTC) for the tobacco control at the 52nd session of World Health Assembly in 1999. After discussion for four years on different aspects of the treaty it was ratified during 56th session of the World Health Assembly in 2003. In order to make the tobacco control policies more effective, the WHO-FCTC provided detailed guidelines for tobacco control legislation, which may overcome the pitfalls of sporadic and isolated measures by a member country. Tax policy covered in article 6 requires tax rates to be 75 percent of the retail price of tobacco products while article 8 provides details of smoke free policy. Warning labels covered in article 11 require that at-least 50 percent of the front and back area of tobacco packs be bearing warning label about health consequences of tobacco use. Similarly, article 13 guides on banning direct and indirect tobacco advertising while article 14 helps in formulating cessation support programs

(Gravely et al., 2017). WHO-FCTC has helped the countries to converge in adopting tobacco control laws in response to global tobacco epidemic by creating international standards to control and regulate different policy aspects (Riquinho & Hennington, 2012). It is obligatory that member nations should align their tobacco control laws with articles of the treaty to effectively control the tobacco epidemic. Although South Asian countries have ratified the protocols of the treaty but have adopted different approaches to address the tobacco control issue. The difference in compliance, timing of tobacco control policy formulation and implementation causes variations in the strength of policies and decline in smoking prevalence. The current work is aimed to check the adherence of tobacco control laws with the WHO-FCTC guidelines, compare the strength of national laws for tobacco control, analyze and compare the changes in smoking prevalence in post FCTC scenario in South Asian countries. The study hypothesized that higher compliance/adherence with the guidelines of the WHO-FCTC is associated with decline in smoking prevalence. Rest of the paper is organized as theoretical background in section two. Data and methodology are given in section three, section four describes results. Discussion is presented in section five while section six concludes the work by putting forward some useful recommendations for legislators and policy makers for better compliance and effective control of tobacco prevalence in the region.

2. Theoretical Background

Economic models reflecting habitual behavior are based on two key assumptions. One takes tastes as of endogenous nature while other views tastes and preferences as given or exogenous and constant over the life cycle (Chaloupka, 1991). Endogenous tastes models indicate that current behavior is based on the past behavior whereas, model of the constant and given tastes utilize the framework of household production. Additionally, some models treat the addicts as myopic who take no account of future consequences of the consumption of addictive goods. Apart from myopic models another strands of models called rational models assume that addict acts rationally and fully aware of the future consequences of consuming addictive goods. We assume that laws and regulations change smoking behavior and apply correlation analysis to study the effect of increasing compliance scores and variations in smoking prevalence rates.

At any given time, the utility of individual is assumed to be a function of three factors

$$U_{(t)} = u (H_{(t)}, R_{(t)}, Z_{(t)}) \text{ such that } U_i > 0, U_{ii} < 0, i = H, R, Z \quad (1)$$

Where,

$H_{(t)}$ is health status of individual at time t

$R_{(t)}$ is physiological and psychological relaxation due to addictive goods consumption

$Z_{(t)}$ is vector of all other consumption goods

Production functions of health, relaxation and other goods are as follows

$$H_{(t)} = H[M(t), A(t)] \text{ such that } H_M > 0, H_{MM} < 0, H_A < 0, H_{AA} > 0 \quad (2)$$

$$R(t) = R[C(t), A(t)] \text{ such that } R_C > 0, R_{CC} < 0, R_A < 0, R_{AA} < 0 \text{ and } R_{CA} > 0 \quad (3)$$

$$Z(t) = Z[X(t)] \text{ with } Z_X > 0, Z_{XX} < 0 \quad (4)$$

A derived instantaneous utility function can be obtained as

$$U(t) = U[C(t), A(t), Y(t)] \quad (5)$$

where $c(t)$ is cigarettes, $A(t)$ is addictive stock and $Y(t)$ are inputs into $X(t)$

Consumers choose different goods in their utility functions depending on the prices, income and preferences. They aim to maximize their utility in the given constrained situation. There are some addictive goods which have harmful effects on the overall well-being of individuals and families. However, all consumers have not the same goods in their utility function. Some consume one set of goods while others derive their utility from other set of commodities. We can give the utility function of a typical consumer as follows

$$U = U[D, X_1, X_2, X_3, \dots, X_n; W\{S\}] \quad (6)$$

Where,

X_1 is smoking good

X_2, X_3, \dots, X_n are all other goods

$W\{S\}$ are qualitative factors encouraging or discouraging smoking

$D=1$ if individual is actual smoker, $D=0$ otherwise

We assume that all other goods are necessary for sustenance and always present in the consumption set of all individuals while smoking decisions are not taken by all. Those who choose smoking is reflected by D . The demand function for smoking is given as below,

$$X = D \frac{\partial c}{\partial p_1} \quad (7)$$

$$X = -D \frac{\frac{\partial v}{\partial p_1}}{\left(\frac{\partial v}{\partial m}\right)} \quad (8)$$

Where,

$c(p, u)$ is the cost and $v(p_1, m)$ is the indirect utility corresponding to utility function in equation (1), $p_1 = p/D$ where p is price of smoking good, m is total expenditure. If D is always equal to 1, everyone is smoker and $D=0$ means a standard corner solution.

Addictive commodities' consumption depends on consumption in past but here we assume inter-temporal separability, then current consumption decisions are based on the indirect utility function

$$v(p, m) = \text{Max} [U(D, X_1, X_2, X_3, \dots, X_n; W \{S\}) | p'x = m] \quad (9)$$

Where p' is vector of prices.

Consumer decides to participate in smoking if the utility at positive smoking level is more than zero smoking level.

$$D=1 \text{ if } \epsilon > 0 \quad (10)$$

= 0 otherwise

$$\epsilon = [v(\cdot) - v^*(\cdot)] + [W(S) - W^*(S)] \quad (11)$$

Participation equation has two components i.e difference of utility levels at zero & positive smoking and net qualitative factors. Difference in utility levels depends on the price level and individual income. If prices are high and income is low, there can be decrease in utility and less participation. However, it is the combined effect of both, difference in utility levels at zero and positive smoking and qualitative effects which decides the participation and smoking prevalence rates. However, once smoking is initiated, the addictive and harmful nature of smoking good causes the long-term utility to decline. With increasing the stock of smoking the desire for further smoking rises which causes stress and other health related issues. These factors have adverse effects on the overall well-being of individuals, families and societies. Institutional economists claim that human behavior is the result of institutions and institutional qualities.

Different studies using myopic and rational addiction models predict inverse relation of smoking goods with own price. Other institutional interventions like banning the sale to minors, open cigarettes, advertisement can delay the initiation

and stock of addiction by limiting access, affordability and making it an anomalous behavior. Other measures change the qualitative aspects to decrease the participation rate of new entrants and encourage with-drawl of current smokers. Taxation of smoking goods changes the relative prices to reduce the participation and encourage with-drawl by creating a disutility. Similarly, ban on advertisement can help in considering it to be an anomalous behavior and ban on smoking in public places will make smoking against the social taboos and decrease the qualitative effects associated with smoking. In the same way health warning can increase the psychological cost and negatively affecting the qualitative effects of smoking. Although, these policies play their individual role in effective way but synergistically applying them can reinforce the effects of one another to control smoking prevalence rates as well as per capita smoking consumption. Participation equation will be

$$\partial \epsilon / \partial \text{Int} = \frac{\partial}{\partial \text{Int}} [v(\cdot) - v^*(\cdot)] + [W(S) - W^*(S)] < 0 \text{ and hence } D = 0$$

Where

ϵ is participation and Int stands for institutional intervention

The comprehensive interventions will lead to less participation at given time.

3. Data and Methodology

We selected South Asian countries for the study due to high prevalence rates of tobacco consumption. Due to large market, these countries are the prime target of tobacco industry. Along with high tobacco prevalence rates, these countries are the second main suppliers after China for tobacco products inputs. Due to low-cost labor, tobacco business has been lucrative for tobacco industry which poses great risk to public health. Although these countries have variation in their population size but regarding tobacco control aspects like tobacco epidemic, harms, obstacles and required actions for tobacco control, these countries reflect huge similarities (Mackay, Ritthiphakde, & Reddy, 2013). To answer our research questions and test our hypothesis we employed positivist approach and correlation analysis of compliance score and smoking prevalence rates. For this purpose, we collected the required data from various secondary sources like the official Gazette books of the South Asian countries, World Health Organization (WHO) report on global tobacco epidemic, 2015, WHO report on global tobacco epidemic, 2017, WHO global report on trends in tobacco smoking, 2000-2025), The website (tobacco control laws) of the campaign for Tobacco-Free Kids, Our World in Data (Roser & Ritchie, 2018), population pyramid. net and the World Bank. Unofficial translation of the tobacco control ordinances and regulatory orders, tobacco control policy fact sheets of the South Asian countries were downloaded from the site (www.tobaccocontrollaws) developed by "Campaign for

Tobacco-Free Kids”. We checked the summary fact-sheets of tobacco control laws in different countries and estimated their compliance score with the FCTC guidelines. The protocols of the FCTC were taken as standard criteria for comparison of the tobacco control laws as all these countries have ratified the WHO-FCTC treaty. Also, the protocols provided by the FCTC have played an important role in helping domestic courts in the interpretation of tobacco control laws (Muggli et al., 2014). To fulfill the objectives of the study, it was investigated whether the specific country has followed the criteria or not. We checked in the official Gazette books of respective country whether the law exists for a specific domain or not. Tobacco control laws passed in South Asian countries are given in annexure 1. After establishing the existence of a national law, we compared these laws with the guidelines of the FCTC for compliance. The existence of law and following the articles’ guidelines of the WHO-FCTC for the specific domain was termed as compliance of the law represented by “1” whereas, non-existence and non-compliance was represented by “0” for the specific domains like smoke-free; advertisement, promotion & sponsorship; and packaging & labeling laws for tobacco control. After identifying for the existence and compliance of tobacco control laws, we compared and ranked the countries in terms of compliance. We checked compliance of smoke-free laws by whether eight entities including “health care facilities, primary & secondary schools, universities, government facilities, private offices, public transport, restaurants and bars & pubs” are ensured to be smoke-free or not. Major entities including “domestic television & radio, domestic magazines and newspapers, outdoor advertising, point of sale advertising, retail product display, internet advertising, free distribution, promotional discounts, non-tobacco products or services with tobacco brand names, tobacco products with non-tobacco brand names, paid placement in media, financial sponsorship including Corporate Social Responsibility (CSR) and publicity of sponsorship” in the domain of advertisement, promotion and sponsorship policy. Law about packaging and labeling consists of seven entities including text warnings describing health impacts, warning in pictorial or graphical form, 50 % of principal display area (front and back), requirement for rotation of warnings, requirement of warnings to be in the principal language of the country, requirement for ban on the misleading packaging & labeling and health warning on smokeless tobacco products.

3.1. Construction of policy index

Different tobacco control policies have variations in their effects in reducing tobacco prevalence. Some countries performed extra-ordinary in one policy but lagged in others and it was difficult to rank countries on the basis of heterogeneity and differential effects of different policies. Therefore, we constructed a combined index to rank the countries. To rank the countries for compliance we constructed policy

specific and overall indices. We used weight-age of 61% for tax, 22% for marketing ban, 4% for health warning and 7% for smoke-free law on the basis of their importance in smoking reduction estimated by Levy, Benjakul, Ross, and Ritthiphakdee (2008). Tax compliance index was constructed by dividing the proportion of tax in retail price by the FCTC proposed tax rate of 70% and multiplied by 61%. Similarly, ban on advertisement, promotion and sponsorship compliance ratio was multiplied by 22% whereas, health warning & labeling and smoke free laws' compliance ratios were multiplied by 4% and 7% respectively. To get the overall index we added all the compliance indices.

3.1.1. Construction of tax index

Tax index is given by the equation

$$Taxindex_i = \frac{Taxprop_i}{Proposedtax} \times 0.61$$

$Taxindex_i$ stands for tax index in country i

$Taxprop_i$ stands for tax proportion in final retail price in country i

$Proposedtax$ stands for proposed tax rates in final retail price by the WHO-FCTC guidelines

3.1.2. Construction of marketing ban index

The index for marketing ban is given by the following equation

$$Marketingbanindex_i = Compratio_i \times 0.22$$

$Marketingbanindex_i$ stands for index score for ban on tobacco advertisement, promotion and sponsorship in each country

$Compratio_i$ stands for compliance ratio with the law on marketing ban in each country

3.1.3. Construction of packaging and labeling index

Labeling and health warning index is given by

$$labelingindex_i = Compratio_i \times 0.04$$

$Labelingindex_i$ stands for index score on labeling and health warning index in each country

$Compratio_i$ stands for compliance ratio with labeling and packaging law in country i

3.1.4. Construction of index for smoke free laws

Index for compliance with smoke free laws is given by equation

$$\text{smokefreeindex}_i = \text{Compratio}_i \times 0.07$$

smokefreeindex_i stands for index on smoke free laws in country i

Compratio_i stands for compliance ratio with smoke-free laws in country i

3.1.5. Construction of overall index for tobacco control laws

The overall compliance index was constructed by adding the policy specific indices and given by the following equation

$$\text{complianceindex}_i = \text{taxindex}_i + \text{marketingbanindex}_i + \text{labelingindex}_i + \text{smokefreeindex}_i$$

We carried out correlation analysis to check the degree of association between different tobacco control policies and decline in smoking prevalence. Before the correlation we calculated the compliance index for each policy and then aggregated them to one whole index. The correlation was carried for decline in smoking prevalence as defined in the above section, marketing ban index, packaging and labeling law index, smoke-free law index, price of cigarette packs in dollar and overall compliance index score.

3.2. Measuring the effect of tobacco control laws on smoking control

To know about the impact of tobacco control measures taken after the WHO-FCTC treaty in the South Asian countries we estimated the changes in smoking prevalence between 2005 and 2018. The change in smoking prevalence is determined by the following equation.

$$\Delta Sp_i = \frac{SP18 - SP05_i}{SP05_i} \times 100$$

ΔSp Represents change in the smoking prevalence between 2005 and 2018 for respective country

$SP18_i$ Represents smoking prevalence in 2018 for respective country

$SP05_i$ Represents smoking prevalence in 2005 for respective country

4. Results

This section reports the findings of this research regarding tobacco control laws, their compliance status with the WHO-FCTC guidelines and their impact on smoking

prevalence rates.

4.1. Comparative analysis

We present the comparison of compliance with the articles of WHO-FCTC of national laws governing tobacco control in South Asian countries.

4.1.1. Compliance status for smoke free laws

Findings of the study revealed that South Asian countries have 100 % smoke-free status and compliance with the proposed guidelines for the categories of “government facilities, hospitals, residential health care facilities, non-residential health care facilities, childcare facilities, primary and secondary schools, universities/vocational facilities, shops, cultural facilities and indoor stadiums but Pakistan’ compliance is none for all these mentioned places except all public transport whereas, Bangladesh lags in compliance for cultural facilities and indoor stadiums and Bhutan for indoor stadiums. Although Pakistan, Nepal and Bhutan have laws that restaurants to be 100 % smoke-free but these laws are hardly observed and smoking prevails in every restaurant in small towns and specifically in informal sectors. The study found no compliance with the FCTC guidelines for all indoor public and work places whereas, for public transport the situation is mix one. On the overall basis, Nepal and Bhutan have the highest compliance ratios of 18/24 while Pakistan complies with 5/22 for smoke free laws among the South Asian countries. Details are presented in Table 1.

4.1.2. Compliance status for ban policy on tobacco advertisement

Advertisement is an important tool of competition in the highly concentrated industry where, firms tend to increase sales with advertising and other marketing techniques but not by price. This study found that legislation covered domestic media like television, radio, newspapers, magazines and other print media in south Asian countries. Although ban on domestic media is comprehensive and adheres with the FCTC guidelines but the case for international media is not. We found that countries like India lags in compliance with internet tobacco product sale, product display, toys and candy resemblance, unpaid depiction in media and misleading promotion. Only Nepal complies with the FCTC in the mode of sponsorship and publicity of financial support of tobacco industry. Regarding direct personal targeting, India and Nepal have high compliance ratios while in control of misleading promotion Nepal and Bhutan complies with the FCTC guidelines. The study further revealed that Nepal has the most comprehensive advertisement control policy in the region achieving maximum adherence score of 26 whereas; Pakistan has the least adherence score of 10. Results are presented in the Table 2.

Table 1: Smoke Free Laws Status across South Asian Countries

Places	Pakistan		Bangladesh		India		Sri Lanka		Nepal		Bhutan	
	Status	compliance	Status	compliance	status	compliance	Status	Compliance	Status	Compliance	Status	Compliance
All indoor work places	SR	0	SR	0	SR	0	SR	0	SR	0	SR	0
Indoor Public Places	SR	0	SR	0	SR	0	SR	0	SR	0	SR	0
All public transport	SF	1	SR	0	SF	1	SF	1	SF	1	SF	1
Govt. Facilities	SF	0	SF	1	SF	1	SF	1	SF	1	SF	1
Hospital	SF	0	SF	1	SF	1	SF	1	SF	1	SF	1
Health Facilities (Residential)	SF	0	SF	1	SF	1	SF	1	SF	1	SF	1
Health Facilities (NR)	SF	0	SF	1	SF	1	SF	1	SF	1	SF	1
Childcare facilities	SF	0	SF	1	SF	1	SF	1	SF	1	SF	1
Schools	SF	0	SF	1	SF	1	SF	1	SF	1	SF	1
Universities	SF	0	SF	1	SF	1	SF	1	SF	1	SF	1
Shops	SF	0	SF	1	SF	1	SF	1	SF	1	SF	1
Cultural Facilities	SF	0	SF	0	SF	1	SF	1	SF	1	SF	1
Indoor Stadiums	SF	0	SF	0	SF	1	SF	1	SF	1	SF	0
Restaurants	SF	0	SR	0	SR	0	SR	0	SF	1	SF	1
Bars/pubs	NA	NA	NA	NA	SR	0	SR	0	SF	1	SF	0
Casinos	NA	NA	NA	NA	NA	NA	SR	0	SR	0	NA	NA
Hotels/lodging	SF	0	SF	0	SR	0	SR	0	SR	0	SF	1

Hotels/Guest Rooms	NSR	0	UC	0	SR	0	NR	0	SF	1	SR	0
Prisons	Uc	0	SF	0	SF	1	SF	1	SR	0	SF	1
Train/buses	SF	1	SR	1	SF	1	SF	1	SF	1	SF	1
Taxis	SF	1	SF	1	SF	1	SF	1	SF	1	SF	1
Commercial aircraft	SF	1	SF	1	SF	1	SF	1	SF	1	SF	1
Commercial watercraft	SF	1	SR	1	SF	1	SF	1	SF	1	SF	1
Waiting rooms	SF	0	SF	1	SR	0	SR	0	SR	0	SF	1
Compliance Ratio	5/22		13/22		16/23		16/24		18/24		18/24	
SF stands for smoke free												
SR stands for smoking restrictions												
UC stands for uncertainty												

Source: authors own compilation from tobacco control laws of the respective countries

4.1.3. Compliance status for packaging and labeling policy

Attractive packaging and labeling play an important role in reducing the effect of advertisement ban in marketing of tobacco products and attracting consumer (Wakefield, Morley, Horan & Cummings, 2002). We found that all the South Asian countries have followed the WHO-FCTC guidelines about warning on unit packaging, outside packaging and the adoption of principal language (understanding the message). However, we found that none of these countries comply with the display of figure of emission and plain packaging guidelines. Findings show that Pakistan and Bangladesh lag in compliance with prohibited misleading packaging. Along with misleading packaging, Pakistan also lags in number of health warning regulation, where the law covers only three aspects in total of nine. Like smoke-free and marketing ban policies, Nepal has highest compliance for packaging and labeling policy also in South Asian region, with a total compliance of 7 among the countries where tobacco business is legal. Compliance scores are given in Table 3.

4.1.4. Compliance status for taxing and price policy

Article 6 of the WHO-FCTC covers the price and taxation measures. The most impactful way to reduce tobacco consumption is to tax tobacco products. The proposed excise tax rate is 70 % of the final retail price (Campaign for Tobacco-Free Kids). Unfortunately, none of the country in South Asian region has followed the taxation policy aligned with the WHO-FCTC guidelines. We found complex tax structure and loopholes for evasion of tax in South Asian countries. Findings of the study show that Bangladesh has the highest tax share in the final price of tobacco products. The share of excise tax is 62 % of the final retail price and total tax share reaches 75.6 percent followed by Sri Lanka with excise share of 51%. On the other hand, Nepal and India have the least shares of 15 and 26 percent for excise tax but in total tax share India leads Pakistan. Taxing tobacco products are meant to increase tobacco prices and Sri Lanka leads the region in terms of tobacco prices followed by India. In contrast, Pakistan has the lowest prices for cigarettes in the region. Results of the taxation and prices are presented in Table 4.

4.1.5. Compliance status for weighted compliance index

Ranking countries for compliance with tobacco control laws shows that for taxation findings reveal that Bangladesh has the highest score of 0.540 in the maximum possible of 0.61 followed by Sri Lanka with 0.444 while Nepal and India have the lowest compliance with tobacco excise taxation. Regarding policy of marketing ban (advertisement, promotion and sponsorship) study found that Nepal followed by Bangladesh has the highest compliance score of 0.204 and 0.149 in maximum

Table 3: Comparison of Health Warning on Packaging in South Asia

Mode of Advertisement	Pakistan		Bangladesh		India		Sri Lanka		Nepal		Bhutan	
	Status	Compliance	Status	Compliance	Status	Compliance	Status	Compliance	Status	Compliance	Status	Compliance
Warning requirement on unit packaging	1	1	1	1	1	1	1	1	1	1	1*	1*
Warning on outside packaging	1	1	1	1	1	1	1	1	1	1	1*	1*
Warning in principal language	1	1	1	1	1	1	1	1	1	1	1*	1*
Warning not be on concealed part when opening	0	0	0	0	1	1	0	0	1	1	1*	1*
Requirement that tax stamp may not conceal warning	0	0	1	1	1	1	1	0	1	1	1*	1*
Requirement to display qualitative constituents and emissions messages	0	0	0	0	0	0	0	0	1	1	1*	1*
Prohibition on display of figures of emission	0	0	0	0	0	0	0	0	0	0	1*	1*
Plain packaging	0	0	0	0	0	0	0	0	0	0	1*	1*
Prohibition on misleading packaging	0	0	0*	0	1	1	1	1	1	1	1*	1*
Total existence and compliance	3	3	4	4	6	6	4	4	7	7	9	9
Total	9	9	9	9	9	9	9	9	9	9	9	9
0 represents non-existence and non-compliance, 1 represents existence and compliance												
0* stands for some restriction, 1* not applicable as there is no sale and purchase of cigarettes at domestic level												

Source: Authors own compilation from fact sheets of tobacco control laws

Table 4: Tobacco Taxation and Prices across South Asian Countries

Country Name	Excise tax (%age of retail price)	Total tax (%age of retail price)	Price (domestic currency)	Price (USD)
Pakistan	46	60.7	67 PKR	0.64
Bangladesh	62	75.6	1000 BDT	1.28
India	26	66.1	158 INR	2.36
Nepal	15	46.6	180 NPR	1.68
Sri Lanka	51	73.5	1000 LKR	6.86

Source: WHO, 2015, 2017

possible of 0.22 whereas, Pakistan lags in compliance score. Similar is the case for other two policies i.e., smoke-free and packaging & labeling laws. On the overall basis, Bangladesh leads the South Asian countries followed by Sri Lanka having index scores of 0.748 and 0.650 respectively whereas, Nepal despite of leading compliance in three policies, lags in overall index score. Summary of the policy specific and overall compliance index scores are presented in Table 5.

4.2. Smoking decline in post-FCTC scenario

Table 5: Compliance Index Scores

Country	Policy Index score				
	Taxation	Marketing ban	Smoke free	Labeling & Packaging	Overall
Pakistan	0.401	0.078	0.012	0.013	0.504
Bangladesh	0.540	0.149	0.041	0.018	0.748
India	0.226	0.134	0.049	0.027	0.456
Sri Lanka	0.444	0.141	0.047	0.018	0.650
Nepal	0.131	0.204	0.052	0.031	0.388

Source: Authors own calculation based on weights of sim-smoke model

Providing boost to health awareness we see declining trends in smoking prevalence rates in post FCTC scenario across the globe. Similarly, we found a continuous declining trend in the overall smoking prevalence in all the South Asian countries. Among these countries India, followed by Nepal achieved the highest decline in smoking prevalence despite their lower overall compliance index scores. Nepal had the highest smoking prevalence rates in 2005 followed by Bangladesh and Pakistan whereas, Sri Lanka had the lowest rate in the region but the heterogeneous effects of

different control policies resulted in mixed achievements to change smoking prevalence rates till 2018. The highest decline was achieved by India followed by Nepal and Bangladesh with percentage declines of 34.68, 26.39 and 18.79 percent respectively whereas, the lowest decline in the smoking prevalence was found in Sri Lanka with 9.86 percent. We present changes in smoking prevalence rates over time in Table 6.

4.3. Correlation of tobacco control policies and smoking prevalence

Table 6: Smoking Prevalence and Changes in Smoking Prevalence Over time

Country Name	Smoking rates Year wise			%age Change in smoking rates Between 2005-2015
	2005	2010	2018	
Pakistan	22.7	21.3	19.8	-12.78
Bangladesh	28.2	25.3	22.9	-18.79
India	17.3	14.3	11.3	-34.68
Sri Lanka	15.2	14	13.7	-9.86
Nepal	32.2	27.1	23.7	-26.39

Source: WHO, 2015, 2018

Correlation analysis of different tobacco control policies and decline rate in smoking prevalence show that all the policies are almost high and positively correlated with decline in smoking prevalence. Association of different tobacco control policies and decline in smoking prevalence can be seen in column 2 of table 7. All these results validate the theory but the overall compliance index has negative and moderate association with the decline in smoking prevalence. The highest association was observed for packaging and labeling laws followed by smoke-free law and prices in dollars. Correlation of different policy interventions and decline in smoking prevalence is shown in table 7.

Table 7: Correlation of Tobacco Control Policies and Decline in Smoking Prevalence

Variables	Decline	Marketing ban	Smoke free laws	Packaging and labeling	Price	Compliance index
Decline	1.00					
Marketing ban	0.605	1.00				

Smoke-free law	0.693	0.844	1.00			
Packaging & Labeling	0.927	0.807	0.779	1.00		
Price	0.644	0.8601	0.5952	0.8700	1.00	
Compliance index	-0.565	-0.192	-0.063	-0.625	-0.6382	1.00

4.3. Correlation of price and compliance

Taxing of tobacco occupy significant place in tobacco control but tax is not an end in itself. It is meant to increase the price of tobacco products. The correlation of cigarettes prices with compliance score of tobacco control laws indicates that unlike developed world, compliance index score is negatively associated with prices of cigarettes in case of South Asian countries. Correlation of price and compliance index score is shown in the Table 8, where the one enclosed in parenthesis is the case for South Asian countries.

Table 8: Comparative Analysis of Correlation between Price and Compliance Index

Variables	Price	Compliance index score
Price	1.00	
Compliance index score	0.087 (-0.638)	1.00

4. Discussion

An international treaty in the form of Frame Work Convention on Tobacco Control (WHO-FCTC) has been in force for the last 15 years. The purpose of the treaty governing certain laws and regulations was to create deterrence for the people against the use of harmful tobacco which is gateway to various other illicit drugs (Egbe, Egbuchuku, Myer-Wietz & Petersen, 2017). However, South Asian countries despite ratification of the WHO-FCTC, still have high smoking prevalence rates. Although these countries have enacted certain laws and regulations for the containment of tobacco epidemic but still many of them are off the mark in achieving the assigned target of 30 percent relative reduction in smoking prevalence. Although, findings of the study support the theory on individual policy basis like smoke-free laws, marketing ban, packaging & labeling law and price of cigarettes. It was hypothesized that smoking prevalence would decline with increasing scores for compliance index but in case of South Asia, countries having low share of excise tax in final retail price like India and Nepal achieved significant reduction in smoking prevalence rates. For individual policies, index score and decline in smoking prevalence rates have close

association and these findings match with theory and literature (Wasserman, Manning, Newhouse, & Winkler, 1991) and (Keeler, Hu, Barnett & Manning, 1993). Although WHO-FCTC' proposed tax share is 75 percent of the final retail prices to effectively tackle the smoking issue but we found lack of compliance with the proposed tax rule for South Asian countries in their tobacco tax policies. Findings show large variations in tax rates as well as prices for tobacco products. The tax increase is meant to raise the final retail prices for tobacco products but the complex tax structure of tiered and ad-valorem system diminishes the effects of taxation as smokers switched to lower tiers. In the region Pakistan, Bangladesh and Sri Lanka have highest share of excise tax in final retail prices but the prices are lowest in Pakistan and Bangladesh in international dollars. Pakistan has very complex tax system and different laws in its land as the proximities with Afghanistan border former Federally Administered Tribal Areas (FATA), Azad Jammu & Kashmir (AJK) territory and main-land where law enforcement has high variations, further aggravates the tobacco prevalence scenario and tobacco control performance. The poor performance despite the high proportion of excise tax in the lowest prices for cigarettes in the region are in conformity with the findings of other studies (Huq, Nargis, Lkhagvasuren, Hussain & Fong, 2018) which associate the success of tobacco control with the tax structure to control tier switching. Though taxation has been one of the most important and favorite intervention for the governments to control tobacco prevalence as well as raise revenue for different functions of the government. However, tobacco industry has been using different strategies to scare the governments of revenue losses due to the issue of illicit trade of smuggling and get introduced the tiered-tax system. The WHO-FCTC is aware of these tactics of tobacco industry and illicit trade issue has been addressed with article 15 of the framework convention on tobacco control. Illicit trade and smuggling issues have been exploited by the tobacco industry to not only undermine and oppose tobacco tax rise but also hamper packaging, advertisement, and size reduction policies (Stoklosa, 2016). Findings of the study revealed that countries having higher prices for tobacco have lower prevalence rates and the marginal decrease can be lowered for lower prevalence countries and vice versa. It clearly reflects that using the tax for increasing the prices will control the admission rates and more reduction in smoking prevalence rates in future. The tiered system along with the dynamics of the economies in the form of enhanced purchasing power on the part of consumers weakens the effectiveness of taxation. Therefore, the WHO-FCTC calls for other interventions to change the behavior of smokers. These policies have shown strong association with decline in smoking prevalence rates. The rule of law plays important role in achieving results of a policy. Regulatory enforcement shows the commitment of a country to a cause where South Asian countries lag the developed world. Comparatively, the regulatory index score is high for India as compared to Bangladesh and Pakistan who have higher compliance with the FCTC for tobacco control legislation

(Agrast, Botero & Ponce, 2009). Indian civil society efforts for tobacco control have compelled the government to expand the services of cessation centers for effective tobacco control and act on the article 14 of the WHO-FCTC (Kaur & Jain, 2011). Although tobacco industry has been busy in hampering the enforcement of tobacco control policy however, tackling the rising tobacco attributable diseases' burden can be achieved through good governance, political will, commitment and investing in innovating the health promoting lifestyle (Amul & Pang, 2017).

6. Conclusion and Recommendations

The study concludes that the South Asian countries have variations in achievement and compliance with the FCTC protocols for tobacco control. Public transport, hospitals, schools and universities, cultural facilities have been declared smoke-free but Pakistan and Bangladesh lags in adherence to the FCTC standards. Compliance index for smoke-free laws revealed that Nepal has the maximum score (0.052) whereas, Pakistan could achieve only (0.012). Price and compliance are inversely associated in South Asian countries and stands in contrast to the theoretical association between the two variables. Comparing laws about advertisement, promotion and sponsorship (marketing ban) uncertainty is observed regarding definition of key terms across South Asian countries. Domestic television, radio, newspaper, magazines and other print media are well covered as per the FCTC guidelines but international media is missing in the local legislation. Like smoke-free laws, Nepal leads the South Asian countries in terms of compliance index also for advertisement and promotion ban. However, like Pakistan the punishment for violation of advertisement laws are not aligned with the protocols of the FCTC. Banning attractive and appealing cigarette packs and information about adverse effect of tobacco can help in smoking reduction but packaging and labeling laws have lower adherence. On the overall basis Bangladesh has achieved the maximum compliance index score whereas, Nepal lags in overall compliance despite its lead in three policies. In terms of smoking prevalence reduction only India achieved the target of 30 percent relative reduction in smoking prevalence followed by Nepal and Bangladesh with 27 and 17 percent relative reduction.

The study recommends abolition of tiered-tax system of cigarette and policy formulation for the effects of tax on price increase. The study further recommends that price increase be adjusted for inflation and rise in income. A base price for cigarettes may ensure the brand switching and cessation demand. Subsidized cessation treatment be provided especially to youth. Some part of the tobacco tax revenues be earmarked for tobacco cessation. People should be educated against the health hazards of tobacco and guidance be given at school level about protecting children of the adverse effects of second-hand smoke at home.

The study also recommends that packaging and labeling aspects be addressed on priority basis for the containment of tobacco prevalence. Smoking scenes in old movies on cable networks should be checked. Foreign media tobacco smoking scenes should be censored in all the countries. Tobacco industry's Corporate Social Responsibility (CSR) should be completely banned. Tobacco products be included in toxic substances list and it should be sold only by licensed vendors. Finally, a well-defined law will not work if it has poor enforcement therefore, tobacco control regulations be implemented in true spirit.

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Annexure 1 Chronology of tobacco control laws in South Asian Countries

Country	Tobacco Control Law	Description and Purpose of the Law	Promulgation Date
Pakistan	1) LXXIII of 1979	The cigarettes (printing of warning) ordinance, covers printing of health warning on cigarettes packets	31st Dec, 1979
	2) LXXIV of 2002	The prohibition of smoking in enclosed places and protection of non-smokers health ordinance, to provide prohibition of smoking and other tobacco uses in places of public work as declared by Federal government from time to time and public service vehicles as per motor vehicle ordinance of 1965, ban on sale to below 18 years minors, ban on sale in the immediate vicinity of 50 meters around educational institutions, protection of non smokers health and different level of penalties for violation of different sections of ordinance	15th Oct, 2002
	3) S.R.O. 653(1)/2003	Declared that public places like hospitals, dispensaries and the other health care establishments, educational institutions, offices, conference rooms, all domestic flights, restaurants, buses, wagons, trains, indoor stadiums, gymnasiums, clubs, lounges of airports, waiting rooms at railway stations, waiting rooms at bus stations and addalso be places of the public work or use to be no smoking and no tobacco use places	3rd July, 2003
	4) S.R.O. 654(1)/ 2003	Authorizes and declares persons like parliamentarian, nazims, officers not below BPS 20, police officers not below the rank of sub inspector, managers of institutions, heads of educational and health care centers, drivers and conductors to act on the ordinance sections in places under their respective jurisdiction.	3rd July, 2003
	5) S.R.O. 1001(1)/2003	Provides specification regarding health warning on tobacco packets "smoking causes cancer and heart diseases, Ministry of health"	25th Oct, 2003

	6) Notification No.F.13-5/2003/ HE	Ministry of health guidelines for tobacco products advertisement to be between 12.00 midnight and 6 AM, no tobacco advertisement in cinemas, theaters, guidelines for protecting children from tobacco advertisement, guidelines for tobacco promotion through samples etc.	25th Oct, 2003
	7) S.R.O. 22(1)/ 2004	Making of cigarettes (printing of warning) rules, 2003 , dimension of the health warning, size of warning to cover 30% of packet area, warning to be both in English and urdu equivalent and repealed (printing of health warning rule,1982)	13th Jan, 2004
	8) S.R.O. 53(KE)/2009	Bans tobacco products promotion whether directly or indirectly like free good, cash rebates, free samples, discounts for the purpose of advertisement to tobacco consumers	1st July, 2009
	9) S.R.O. 86(KE)/2009	Provides cigarettes printing and warning rules , 2009 , warning to be rotated after one year, imported cigarette must bear health warning on out packaging, health warning should occupy 40% of the box area	23rd Oct, 2009
	10) S.R.O. 1068 (1)/2006	Delegation of power to provincial governments for the prohibition of smoking in public places	9th Oct, 2006
	11) S.R.O. 01 (KE)/2010	Amendment to sections of LXIII, 1979	21st Dec, 2009
	12) S.R.O. 863(1)/2010	Covers the prohibition of sale to minors and packet should contain the message that" sale of cigarette to under 18 years is prohibited", packet should be of 20 sticks size, retailer should display the message printed on board that sale to under 18 years is prohibited, and in case of doubt about consumer age his age evidence be checked	2nd Sep, 2010
	13) S.R.O. 277(1)/2011	Amendment to LXIV, 2002 to include assistant sub inspectors, EDO health department, EDO education department to enact the tobacco control laws in their respective jurisdiction	29th Mar,2011
	14) Notification No. F02-16/2007 /FCTC	Provided extension in continuation of the then existing pictorial health warning from May, 31 to December 31,2011of tobacco control cell regarding pictorial health warning	28th may,2011

	15) S.R.O. 1086 (1)/2013	Banned tobacco products advertisement in any media including TV, radio, print, other products branding, banners etc	31st Dec, 2013
	17) S.R.O. (KE)/2017	Amendment to the printing and warning rules of 2009 about size of health warning and their ensuing dates	9th Dec, 2017
India	1)COPTA-2003	covers the prohibition of advertisement and regulation of trade &commerce , production, supply and distribution of tobacco products	18th May, 2003
	2) G.S.R. 561(E)	prohibits the sale of cigarettes around educational institutions in radius of 100 meter from outer fence of the institution and violation may cause fine of 200 rupees	1st Sep. 2004
	3) G.S.R. 345(E)	Is amendment to tobacco products Rules of 2004 and covers the aspects of indirect advertisement and board size at the entrance should not measure more than 60 by 45 cm and it should bear the warning that “tobacco kills or tobacco causes cancer ” of shop where tobacco are sold	31st May, 2005
	4) G.S.R. 182 (E)	Covers the packaging and labeling aspects of tobacco products and warning should cover 40% of the principal display area of the pack and the specified health warning should be on each and every retail pack	15th Mar, 2008
	5) G.S.R. 417 (E)	Covers the prohibition of smoking in public places and provides definition of different public places and authorization of persons to impose and collect fines in their jurisdictions against violation of law	30th May, 2008
	6) S.O. 2814(E)	Provides guidelines for the language of warning	28th Nov, 2008
	7) G.S.R. 138 (E)	Provides rule for cable television network to abstain from tobacco brands bearing logos advertisement	27th Feb, 2009
	8) G.S.R. 305(E)	Covers the definition of packaging and size of health warning to be at-least 40% of the principal display area	3rd May, 2009
	10) G.S.R. 40 (E)	Covers the ban on sale of cigarettes around 100 meter radius of educational institutions	19th Jan , 2010

	11) G.S.R. 985 (E)	Provides specifications about health warning and the warning to be rotated after every two years , for smoking form of tobacco health warning should indicate that “smoking kills and causes cancer” and for smokeless tobacco health warning should indicate that “tobacco kills and causes cancer”	20th Dec, 2010
	12) G.S.R. 570 (E)	Covers health warning for smoking and smokeless tobacco like “smoking kills and causes cancer” and “tobacco kills and causes cancer”, pictorial depiction of tobacco attributable illness’ effects on health and language of warning to be English and regional as provided in the soft copy in CD	26th July, 2011
	13) G.S.R. 619 (E)	Restricts the sale and purchase of tobacco products by a person below 18 years of age, bans the cigarette sale through vending machine and in case of doubt about age of buyer it is responsibility of seller to ask for evidence of age of buyer	11th Aug, 2011
	14) G.S.R. 680 (E)	Designating authorities like sub inspector, food inspector, sarpanch, financial manager, medical officer of health institutions, inspectors of educational institutions, assistant superintendent of traffic, registrar/deputy registrar courts, conductors and ticket examiner in railway for control of smoking in public places under their jurisdictions	15th Sep, 2011
	15) G.S.R. 786(E)	Making it mandatory for cinemas and telebroadcaster to screen the scenes of tobacco use and broadcast anti tobacco message for 30 seconds	27th Oct, 2011
	16) G.S.R. 708 (E)	Anti tobacco health warning be displayed at the bottom of TV screen during the scenes of tobacco use in old movies	21st Sep, 2012
	17) G.S.R. 724 (E)	Health warning specification for smoking and smokeless tobacco products as “smoking kills and causes cancer” and “tobacco kills and causes cancer” along with pictorial depiction of warnings for smoking and smokeless tobacco and that warning should cover at-least 40% of the principal display area along with guidelines for colors specification	27th Sep, 2012

	18) G.S.R. 727 (E)	Provides direction for health warning to be 85% of which 60% be pictorial and 25 % textual, bans any message on tobacco pack which promote tobacco or detracts from the health warning, health warning be given in two languages, one on one side , second on other side and pack of tobacco products should provide all the relevant particulars like manufacturing date, address, origin and quantity	15th Oct, 2014
	19) G.S.R. 292(E)	Provides rules for packaging and labeling and image of health warning on tobacco packaging	24th Mar, 2017
	20) G.S.R. 500(E)	Bans the service in smoking area of hotel, restaurants, display of board at entrance bearing health warning in English and Indian language and restricts entry of below 18 years of age in smoking zone	26th Mar, 2018
	22) G.S.R. 283 (E)	Provides directions for rotation of different health warning	26th Mar, 2018
	23) G.S.R. 331(E)	Provides for direction to use message to quit tobacco and give quit line number 1800-11-2356	3rd April, 2018
Bangladesh	1)Smoking and using tobacco products (control) Act, 2005	Definition of tobacco, tobacco products, public places, smoking, smoking zone, public vehicles, Provisions for controlling production, use, sale and purchase of smoking products and advertisement	2005
	2) Smoking and using tobacco products (control) Rules, 2006	Provides direction for health warnings, ban on smoking zone in certain public places like school, mother care centers, one room building where training are provided, sheds for sports, public vehicles of one compartment, description of smoking zone where allowed and smoke must not be emitted to no smoking zone, warning for smoking offence, authorization of officers for enforcement of the law	2006
	3) Smoking and using tobacco products (control) (amendment) Act, 2013	Provides definition of tobacco & tobacco products as any product made of tobacco, tobacco leaf, its extracts which can be chewed, sucked or inhaled , addition to the list of public work places like lift, shopping centers fairs, queue for waiting transport vehicles, theater halls, public toilet and all places declared by government from time to time, and gives the level of punishment for contravening the public place smoking law	2013

	4) Tobacco products usage (control) rules, 2015	Adds to the number of personnel for enforcing tobacco control laws in public places, ban on smoking room at designated public places and description of smoking places at open space offices, multi room transport vehicles, allocation of one-fifth of the screen to health warning “smoking/consuming tobacco causes death” when there is scene of tobacco use, owner of public place should not place ashtray, and should post anti smoking sign to refrain others from smoking room, display a warning notice	19th Mar, 2015
	5) Memo No. Swap com/NTCC/law and Rules implementation/2015/111	Bans the sale of tobacco products without 50 percent graphical health warning on packaging, pictorial depiction with text “smoking cause throat and lung cancer”, “smoking causes respiratory problems”, “smoking causes stroke”, “smoking causes heart diseases”, “second hand smoke causes harm to fetus” and “smoking cause harm to fetus”	4th July, 2017
Sri Lanka	1) Tobacco Tax, Act, No.8 of 1999	Provides details for taxation of tobacco products and the rate will be decided by a designated minister on the basis of class of article, tax will be paid by manufacturer	3rd April, 1999
	2) Tobacco Tax (amendment) Act, No. 09 of 2004	Bans the importation of bedi cigarettes without having license and authorize the inspection personnel to stop and inspect all vehicles transporting tobacco leaf and other products	8th Oct, 2004
	3) National authority on tobacco and alcohol act, No. 27 of 2006	To establish national authority on tobacco and alcohol control for identification of policies to control tobacco harms through production, marketing and consumption of tobacco products and alcohol products	29th Aug, 2006
	4) Tobacco products (labeling and packaging) regulations, No. 01 of 2012	Curtails the misleading and deceptive packaging about the health hazards of tobacco, the use of word like low tar, mild, light, banning the sale of cigarette packs without having specified health warning, health warning to be on both sides of pack and should cover at least 80% of the Pack area	25th July, 2012
	5) Amendments to packaging and labeling rules of 2013	Asks for health warning to be not less than 80% of the packet, description of the content of nicotine and tar on carton of cigarettes, description of production and expiry dates and affixing of stickers as per regulations on imported cigarettes packs	15th Feb, 2013

	6) Amendments to packaging and labeling rules of 2014	Asks for health warning to be not less than 80% of the packet, description of production year, month and date and affixing of stickers as per regulations on imported cigarettes packs	27th May, 2014
	7) National authority on tobacco and alcohol (amendment) act, No. 3 of 2015	prohibition of manufacture, import and sale of tobacco product without health warnings, specified health warning to be on top both front and back side of the pack, and label description of tar and nicotine contents of tobacco products, violation may cause fine up to 50000 rupees and imprisonment up to 1 year.	3rd Mar, 2015
	8) Regulations on prohibited tobacco products of 2016	Bans the manufacture, import and sale of smokeless tobacco products, flavored, sweetened cigarettes and electronics cigarettes that contain tobacco	31st Aug, 2016
Nepal	1) Tobacco products (control and regulatory) bill, 2010	aims to control and regulate tobacco production , import, import sale, distribution and consumption of smoking and tobacco products, provide definition of tobacco products, smoking, description of places to deemed as public like educational institutions, child welfare homes, transportation waiting rooms, work place, public toilets, government offices, religious places, cinema hall etc	2010
	2) Tobacco products (control and regularization) regulation-2068 [2011]	Contains provisions for description of smoking rooms in hotel industry like it be far from main entrance, automatic door to keep it close all the times, only one smoker place at one time, direct exit of smoke, manager/ owner of a public place is to append a notice about the health hazard of tobacco at the main entrance of size 30 by 20 cm at minimum and 20 cm in length and 15 cm in width at the inner door, also substances like carbon dioxide, nitrosamine, tar, benzopyrene etc presence be mentioned and packet size must not be less than 20 sticks, restriction on under age sale	7th May, 2011

		3) Directive for printing and labeling of warning message on packaging of tobacco products-2068 [2011]	Directs that warning should cover 75% of the packing display area, directions for different types of health warning like smoking kills, smoking causes lung cancer, the nicotine, tar contained in smoking caused heart disease and lung cancer, stop smoking, smoking and tobacco consumption may lead to low birth weight, stillbirth or disability of your child for bidi and "tobacco product is injurious to health", "consuming tobacco product kills" for tobacco products like gurtkha, surti, Khaini, snuff, warning size should increase with proportion of packaging size, warning message and graphics be clearly depicted and the warning should be in devnagaripreeti font and certain colors combination	4th Nov, 2011
		4) Tobacco products control and regulatory directive, 2014	Defines various terms and responsibilities of inspectors to oversee the implementation of smoke free laws, packaging and labeling laws whether these are followed during packaging, to inform manufacturers about advertisement, sponsorship & promotion ban and to see whether license compliance is observed or not for selling tobacco products, covers the aspects on underage sale, sale around educational and health care institutions, control of advertisement, promotion and sponsorship	2014
		5) Directive on printing warning message and picture on packaging of tobacco products, 2014	Warning message "tobacco products injurious to health" in Nepali language along with graphical color picture showing tobacco health hazards, warning size to be at-least 90 percent of pack area where picture should not be less than 70 percent and message text be not less than 20% for bidi and cigarettes and 50% picture and 40% text warning on other tobacco products like chewing tobacco, gutkaetc	2014
Bhutan		1) Notification No. DT/GEN-2/2004/879	Bans sale of tobacco products from 17th Dec, 2004 and non adherence may cause a penalty of 10000Ngultrums.	8th Nov, 2004
		2) Notification No. Dt/GEN-2/2005/166	Bans smoking in commercial, recreation, institutions, public gathering and public transport	18th Feb, 2005
		3) Tobacco Control Act, 2010	Bans smoking in commercial, recreation, institutions, public gathering and public transport. It also bans tobacco cultivation, import, manufacturing, sale and distribution of tobacco and tobacco products. Completely bans any sort of tobacco advertisement.	6th June, 2010

	4) Notification No. TCB/Noti/2010-11/4998	Ban tobacco production cultivation and violation may cause imprisonment up to five years, ban on smoking in public places & private educational institutions and violation may cause fine up to Nu.500, specifying quota of tobacco products per month basis and violation may cause the felony of smuggling i.e imprisonment of 3 to 5 years, if the source is not identified and 100% sale tax and 100% custom duty	8th Dec, 2010
	5) Notification No. BNCA/Noti/11-12/7345	Asks the person-in-charge of a public place to either declare the premise as smoke free or provides a smoking place and non compliance may lead to fine of Nu. 10000	20th Jan, 2012
	6) Tobacco control (Amendment) act of Bhutan,2012	Aims to remove ambiguities regarding offences and penalties under tobacco control act,2010	9th Feb, 2012
	7) Tobacco control rules and regulations, 2013	Prohibits smoking in all types of conveyance, directs the person-in-charge of the public place to refrain the smokers from smoking or bring into the notice of authority, increased the quota of importation for personal use to 300 and 400 sticks of cigarettes and bidies respectively	1st Jan, 2013