ORIGINAL ARTICLE

Comparison of Tobacco Consumption among Adults in SAARC Countries (Pakistan, India and Bangladesh)

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Abstract

Objectives: To compare the findings of Global adult tobacco surveys (GATS) conducted in SAARC Countries.

Methods: The national representative data from Pakistan, India, and Bangladesh was used as GATS was done in these three countries of SAARC. The key variables were selected where information was consistently taken like current smokers, smokeless tobacco users, exposure to second-hand smoke, advise by health care provider to quit, monthly expenditure and noticing of health warning label and other information related to daily tobacco users (smoke, smokeless) mean age of initiation and mean number of cigarettes consumed per day were also collected. Chi-square test was applied and p-value was considered significant at <0.05

Results: Overall tobacco consumption was significantly high (43.3%) in Bangladesh (Pakistan 19.1% and India 34.6%). Similarly, current smokers were significantly more in Bangladesh 23% (India 14% and Pakistan 12%) and smokeless tobacco was significantly more in Bangladesh 27.2% (India 25.9% and Pakistan 7.7%). Exposure to second-hand smoke at work was 69.1% in Pakistan (63% in Bangladesh and 29.9% in India). Monthly expenditure on cigarettes was also high in Pakistan 7.51 USD (India 6.26 USD and Bangladesh 4.57USD). Mean age of initiation was 18.8 years in Bangladesh, (17.8 India and 18.7 Pakistan). Mean number of cigarettes consumed was significantly high in Pakistan i.e. 13.6 (6.2 in India and 5.1 Bangladesh).

Conclusion: All the three South Asian countries have a high prevalence of tobacco consumption. Tobacco use was high in Bangladesh but smokeless tobacco among males was high in India and mean number of cigarettes daily was high in Pakistan.

Keywords: Tobacco, Pakistan, India, Bangladesh, smokeless tobacco, smoking, SAARC. (JPMA 68: S-2 (Suppl. 2); 2018)

Policy Message

There is a need to create awareness among masses about hazards of both smoke and smokeless tobacco. There should be complete ban on smoking at public spaces which should be implemented. Warning messages should also be on the smokeless tobacco products. Taxes on tobacco products should be increased.

Introduction

Tobacco consumption leads to significant public health burden. More than 60% of the world population lives in Asia and belong to low socioeconomic groups with fragmented health infrastructure and weak tobacco control programs, therefore the burden of tobacco is very high.[1] The SAARC Countries include Pakistan, India, Bangladesh, Bhutan, Maldives, Sri Lanka, Nepal and Afghanistan. These countries constitute about 1.5 billion population of the world and have huge tobacco burden.[2] Low level of awareness about tobacco hazards, absence or weak implementation of tobacco control laws and marketing by tobacco companies have lead to increased prevalence of tobacco smoking in these countries.[3,4] It has been reported that about 80% of the world's smokers are in middle and low-income countries. This shift of epidemic of tobacco from developed to developing countries will lead to increase in the level of disease and premature deaths in the countries.[5]

Pakistan is among the list of those countries who consumed and produce tobacco in huge quantity.[6] Different forms of tobacco are consumed including smoke and smokeless tobacco including cigarettes, pipes, huqqa, shisha, paan, gutkha and naswar.[7] It has been reported that cigarettes smoked annually per capita were increased from 292 to 406 from 1994 to 2007. In the financial year of 2014, 64 billion cigarettes were smoked as reported by State Bank of Pakistan.[8,9] The National Health Survey of Pakistan has reported 36% males and 9% females as tobacco users.[10] Recent Global Youth Tobacco Survey conducted in 2013 reported 10.4% prevalence of tobacco products among school going children in the country.[11] A national study conducted by Pakistan Health Research Council on shisha smoking among college university and madrasa students have shown about 20% prevalence of shisha smoking.[12] The findings of Global Adult tobacco survey has revealed that there were 23.9

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million tobacco users in the country.[13]

India is among the fewer countries in the world having dual burden of both smoke and smokeless tobacco users. According to a National Survey of India conducted in 1998, the prevalence of tobacco use was 37% and also has a high prevalence of tobacco use among adolescents.[14,15]

The Bangladesh comes under top ten countries with high prevalence of smoking i.e. 44.7% in men.[16] The Global Adult Tobacco Survey conducted in 2009 reported prevalence of smoked tobacco (Bidi and cigarettes as 23% and smokeless tobacco as 27.2%).[16] Another study has reported that smoking is responsible for 25% of all the deaths among males of 25-69 years of age resulting in average loss of 7 years of life per smoker.[17]

The objective of this study was to compare the findings of GATS conducted in SAARC countries and to discuss the risk factors responsible for this huge burden. The GATS survey was only conducted in Pakistan, India, and Bangladesh.

Methods

In this paper, we retrieved information from the GATS country reports of Pakistan, India, and Bangladesh which are based on national representative data. In all three countries, the surveys were conducted using three stage cluster design to produce national estimates. The surveys were designed and conducted by Centre for Disease Control and World Health Organization. The detailed methodology and procedures for data collection were provided in country reports.[13,16,18]

The GATS Pakistan was conducted in all four provinces i.e. Punjab, Sindh, Khyber Pukhtunkhwa and Baluchistan in 2014 using standard GATS methodology. The GATS questionnaire was used which was translated[19] into Urdu and adapted to local settings. The survey was conducted using three stages sampling in which adults having age 15 years and above were enrolled. A total of 7831 individuals were enrolled and the overall response rate was 81%. The detailed methodology is described in the country report.[13,20]

In India, the GATS survey was conducted in 2009-10 using the standard GATS methodology. In this survey, 69296 adults were selected from 29 states and 2 territories. In urban areas, three stage sampling was used while in rural areas, two stage sampling was used. The questionnaire was translated into 19 Indian local languages. The response rate was 81% in India. The detailed description can be seen in the report.[18]

In Bangladesh, the survey was done in 2009 using standard GATS methodology where a total of 9629 interviews were completed. The survey was conducted using three stage cluster sampling approach in all six administrative divisions of the country. The response rate was 93.6% in Bangladesh. the detailed methodology can be seen in the report.[16]

In all three surveys, the weights were calculated by using design weight (calculated from random selection), response rate (household and individual) and post stratification adjustment.

Data Variables

From a large set of variables, (responses to the core questions of GATS as well as other country specific questions), we selected the relevant variables where information was consistently collected throughout the three countries. The response variables were current smokers, smokeless tobacco users, advised to quit by health care provider, second-hand smoke exposure, monthly expenditure incurred by current smokers of manufactured cigarette (US Dollars) and noticing of health warning on cigarette package and their comparison with genders. The other variables like daily smokers, former daily smokers, mean age of initiation, mean number of cigarettes consumed per day, daily smokeless tobacco user and exposure to second hand smoke at public place/home were analyzed.

Statistical Analysis

The weighted percentages or proportion for the selected variables were taken directly from GATS country reports and entered in the Excel sheet (MS). The excel data was imported to SPSS for statistical analysis. Chi-square tests were used to assess the differences in characteristics of tobacco consumption categories and variables among countries. The p-value less than 0.05 was considered as significant.

Keeping in view the high burden of tobacco use and socioeconomic conditions, the findings of GATS Bangladesh were compared with India and Pakistan.

Results

Table-1 shows the comparison of key findings including overall tobacco use, current smokers, and smokeless tobacco users and others from Pakistan, India, and Bangladesh. Overall tobacco use was significantly high in Bangladesh (43.3%) as compared to India (34.6%) and Pakistan (19.1%). Similarly, current smokers were significantly more in Bangladesh (23%) than India (14%) and Pakistan (12%). The use of smokeless tobacco was also significantly more in Bangladesh (27.2%) than India

Table-1: Key findings of tobacco in SAARC countries.

S.No	Characteristics (Overall)	Pakistan	India	Bangladesh	P-value
1	Tobacco Use	19.1%	34.6%	43.3%	< 0.05
2	Current smokers	12.4%	14.0%	23.0%	< 0.05
3	Smokeless tobacco users	7.7%	25.9%	27.2%	< 0.05
4	Advised to quit by health care provider	51.8%	46.3%	52.9%	< 0.05
5	Second-hand smoke exposure	69.1%	29.9%	63.0%	< 0.05
6	Monthly expenditure incurred by current smokers of manufactured cigarette (US Dollars)	7.32%	6.22%	4.57%	
7	Noticed health warning on cigarette package	77.5%	70.8%	51.6%	< 0.05
8	Thought of quitting because of the warning label	29.7%	38.0%	74.4%	< 0.05

Table-2: Comparison of key tobacco indicators in Male and female.

S.No	Characteristics (Overall)	Pakistan	India	Bangladesh	P-value
1	**Tobacco Use**				
	Male	31.8%	47.9%	58.0%	< 0.05
	Female	5.8%	20.3%	28.7%	< 0.05
2	**Current smokers**				
	Male	22.2%	24.3%	44.7%	< 0.05
	Female	2.1%	2.9%	1.5%	< 0.05
3	**Monthly expenditure incurred by current smokers of manufactured cigarette (US Dollars)**				
	Male	7.51%	6.26%	4.57%	N.S
	Female	3.68%	2.77%	1.55%	N.S
4	**Advised to quit by health care provider**				
	Male	52.8%	47.3%	61.6%	< 0.05
	Female	36.3%	38.9%	52.7%	< 0.05
5	**Noticed health warning on cigarette package**				
	Male	79.7%	74.9%	75.3%	N.S
	Female	52.6%	16.6%	28.1%	< 0.05
6	**Thought of quitting because of the warning label**				
	Male	31.0%	40.2%	74.5%	< 0.05
	Female	15.8%	9.5%	51.1%	< 0.05
7	**Current user of smokeless tobacco**				
	Male	11.4%	32.9%	26.4%	< 0.05
	Female	3.7%	18.4%	27.9%	< 0.05
8	**Adults exposed to second-hand smoke at work**				
	Male	72.5%	32.2%	67.8%	< 0.05
	Female	37.3%	19.4%	30.4%	< 0.05

(25.9%) and Pakistan (7.7%). Exposure to second-hand smoke was significantly high in Pakistan (69%) as compared to Bangladesh (63%) and India (29.9%). The advice to quit tobacco was almost similar in Bangladesh (52.9%), Pakistan (51.8%) and India (46%). More participants (77%) had noticed health warnings on cigarette in Pakistan whereas this was 70% in India and 51% in Bangladesh but thought of quitting after reading warning label was high 74% in Bangladesh followed by 38% in India and 29% in Pakistan.

Table-2 shows the comparison between male and females with respect to tobacco variables. In current smokers, females of India were more (2.9%) followed by Pakistan (2.1%) and Bangladesh (1.5%). Monthly expenditure on cigarettes was more in males of Pakistan (7.51 USD) as compared to India (6.26 USD) and least in Bangladesh (4.57 USD). The use of smokeless tobacco was significantly high among male gender (32.9%) in India while it was high (27.9%) among females of Bangladesh.

Table 3 provides the information of daily smokers, mean age of initiation, mean number of cigarettes consumed and exposure to second-hand smoke. The daily smokers were high in Bangladesh 20.9% followed by Pakistan 11.5% and India 10.7% however former daily smokers were more in India 12.6% as compared to 4.7% in Bangladesh and 1.1% in Pakistan. Exposure to second-

Table-3: Comparison of findings.

S.No	Characteristics (Overall)	Pakistan	India	Bangladesh	P-value
1	**Daily Smokers**				
	Overall	11.5	10.7	20.9	< 0.05
	Male	20.6	18.3	40.7	< 0.05
	Female	2.0	2.4	1.3	< 0.05
2.	**Former daily smokers**				
	Overall	1.1	12.6	4.7	< 0.05
	Male	1.8	12.1	8.4	< 0.05
	Female	0.3	16.2	1.0	< 0.05
3.	**Daily smokeless tobacco user**				
	Overall	7.1	21.4	23.7	< 0.05
	Male	10.5	27.4	20.7	< 0.05
	Female	3.5	14.9	26.6	< 0.05
4.	**Exposed to second- hand smoke at any public place**				
	Overall	73.8	29.0	45.0	< 0.05
	Male	85.6	39.5	72.1	< 0.05
	Female	56.2	17.8	18.7	< 0.05
5.	**Adults exposed to second-hand smoke at home**				
	Overall	48.3	52.3	-	< 0.05
	Male	50.8	52.2	-	N.S
	Female	45.7	52.5	-	< 0.05

hand smoke at any public place was significantly higher (73.8%) in Pakistan as compared to Bangladesh (45%) and India (29%) however exposure to second-hand smoke at home was high in India (52.3% as compared to Pakistan 48.3%). Mean age of initiation was almost similar i.e. 18.8 years in Bangladesh, 17.8 years in India and 18.7 years in Pakistan. Mean number of cigarettes consumed per day was significantly high in Pakistan i.e. 13.6 followed by 6.2 in India and 5.1 in Bangladesh.

Discussion

Comparison of tobacco consumption and other variable have shown that tobacco consumption was high (43%) in Bangladesh as compared to neighbouring SAARC countries i.e. 34% in India, 19.1% Pakistan. Although there is no GATS data available from other SAARC, however local studies from Bhutan and Nepal showed 17% and 30% tobacco consumption respectively indicating high prevalence of tobacco consumption in Bangladesh. This high prevalence might be due to low education among both genders, low socioeconomic status and more population in rural areas.[21]

The use of smoked tobacco was also higher (23%) in Bangladesh as compared to 20.7% in Nepal 18.5% in Srilanka, 14% in India and 12.4% in Pakistan. It has been reported that a large amount of household income has been spent on tobacco smoking.[22] There is a need to conduct mass awareness campaigns in high smoking prevalent countries to aware them about hazards and harmful effects of smoking. Besides this, there should be an increase in taxes to discourage the purchase of cigarettes.

Use of smokeless tobacco was high in Bangladesh and India especially among Bangladeshi women. The reasons might be because the use of smoke tobacco in south Asian countries is socially unacceptable for women but the use of smokeless is somewhat culturally acceptable to some extent as reported.[23] Further, there are misconceptions reported that use of smokeless tobacco is not as harmful to the body as smoked tobacco and its use is good for gums and teeth.[23,24]

The mean number of cigarettes consumed per day was more in Pakistan as compared to other countries. This might be due to easy access to cigarette and availability of loose cigarettes at the shops. To discourage this, the Govt of Pakistan has passed a legislation to ban the sale of loose cigarette at the shops which might help in reducing daily consumption.[25]

It was seen that advice by health care provider to quit smoking was more in Bangladesh as compared to Pakistan and India. The health care providers are very important for spreading the message of health awareness among the general public as people gave more importance to message conveyed by the health care providers.

The mean age of initiation of tobacco use was almost

similar in all the three countries. This might be due to a similar cultural back ground. There is a need to create awareness among youth to avoid the use of tobacco.

Exposure to second-hand smoke at work was higher in Pakistan and Bangladesh as compared to India. Although in Pakistan and Bangladesh, there is a ban of smoking at public places still a large number of people were exposed indicating poor implementation. There is a need to implement the laws formulated for this.

It was seen that majority of the people in Pakistan and India had noticed warning messages on cigarette packs as compared to Bangladesh while thought of quitting smoking after reading warning label was high in Bangladesh. This shows that the warning label being used Bangladesh is more clear.

Monthly expenditure on tobacco was more in Pakistan as compared to India and Bangladesh. The reasons for this finding are not clear.

Strengths and Limitations

The current paper provides comparison of the key GATS findings from the three major SAARC countries which might be useful for development of tobacco strategy for the country and the region however the paper is based on findings retrieved from the GATS reports of three countries, therefore this might not be truly representative of the SAARC region.

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