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### **Tobacco Usage Among School Students: An Empirical Findings From Global School-Based Student Health Survey**

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#### **ABSTRACT**

This paper analysed data from the Global School-based Student Health Survey (GSHS) to assess prevalence of tobacco use among school students in the selected South-Asian countries such as India (8075), Indonesia (3110), Maldives (3157), Myanmar (2789), Sri Lanka (2602) and Thailand (2762). Across all five selected South-Asian countries, the median ever tobacco smoking prevalence among students aged 11–17 years was 10.4 percent. A significant proportion of students in Maldives, Indonesia and Thailand had the experience of smoking cigarettes (ranged 3.9 percent, India to 21.6 percent, Maldives). Moreover, it is observed that male students were at higher risk of smoking than female students. In all the study countries, majority of the current smokers were tried their first cigarette between the ages of 11-15 years. At the same time, it was surprised to note that a major proportion of students who currently smoker were desire to quit smoking. The proportion of student smokers who said they desired to quit ranged from a low of 57 percent in India to a high of 86 percent in Thailand. This study results also provide some evidence about the effect of parental smoking on adolescents' smoking behaviours. It is suggested that to prevent and reduce youth tobacco smoking, not merely the presence of preventive measures is important but greater attention needs to re-conceptualize measures to influence the behaviour of young people in this part of the developing world.

**KEY WORDS** Tobacco, Students, Cigarette, Second-hand smoking

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## **BACKGROUND:**

Tobacco use is the world's leading cause of preventable death and serious illness, killing an estimated 6 million people each year<sup>1</sup>, if the present consumption patterns continue, it is estimated that deaths from tobacco consumption will be 10 million people per year by 2020-31. Smoked tobacco products, such as cigarettes and cigars, are the most common form of tobacco consumed worldwide<sup>2</sup>. According to Global survey of students, approximately 11 percent of youth aged 13 to 15 around the world use tobacco products like cigarettes and cigars and the number of smokers continue to increase<sup>2</sup> and most tobacco smokers begin the habit in their teens<sup>3</sup>. Adolescents who initiate smoking and continue as adults are at high risk for developing serious health problems. Smoking harms brain development in adolescents and leads to sustained tobacco product use and addiction<sup>4</sup>. There is a widespread perception that drugs are easier to get now than ever before, even in school, and that more teens are trying drugs at younger and younger ages<sup>5</sup>. With this backdrop, in the current study an attempt was made to describe the prevalence of tobacco use among school students and assessed differences by age and sex in the selected South-Asian countries.

## **METHODS**

Data drawn from Global School-based Student Health Survey (GSHS) for this study. GSHS was conducted by World Health Organization in collaboration with United Nations' UNICEF, UNESCO and UNAIDS among students aged 11–17 years. Around the world, totally 55 countries have involved in GSHS during 2007-2009, however, this paper focused only on selected South-Asia countries' sample students such as India (8075), Indonesia (3110), Maldives (3175), Myanmar (2789) and Thailand (2762).

## **DEMOGRAPHIC CONDITIONS**

A considerable proportion of sample students' age was 13 or less than years in all the study countries except Maldives (9.8 percent). It ranges from 30.1 percent in Myanmar to 47.4 percent in Thailand. The proportion of sample students in the age category 15 and above 15 years was more than sixty percent in Maldives (65.0 percent) and above forty percent in Myanmar (47.4 percent). This sharing proportion was more or less equal in Indonesia (19.9 percent), and Thailand (21.1 percent). In India, the sharing of sample student in different age group was almost one-third in each category. Chi-square results show significant association between the age of the students and study countries ( $\chi^2=2405.474$ ,  $p < 0.000$ ).

While looking the male and female share of the sample students' population, the female exceeds the male in Indonesia and Maldives. On contrast, in India, the male share was slightly higher

than female share (55.7 and 44.3 percent respectively). Almost equal proportion of male and female students were enumerated in Myanmar and Thailand survey. Statistical analysis shows a significant association between the sex of the study population and study countries ( $\chi^2=179.469$ ,  $p < 0.000$ ).

**Table 1: Percentage Distribution of the Sample Students by their Demographic characteristics across the selected South-Asian Countries**

Demographic characteristics	India	Indonesia	Maldives	Myanmar	Thailand
<b>Age*** 2405.474</b>					
≥13 years	33.0	39.8	9.8	30.1	47.4
14 years	32.9	40.3	25.2	22.5	31.5
≤15 years	34.1	19.9	65.0	47.4	21.1
<b>Sex*** 179.469</b>					
Male	55.7	47.7	45.3	49.8	49.4
Female	44.3	52.3	54.7	50.2	50.6
<b>Total</b>	<b>8075</b>	<b>3110</b>	<b>3157</b>	<b>2789</b>	<b>2762</b>

## PREVALENCE OF TOBACCO USE

Around the world, overwhelming majority of smokers begin tobacco use before they reach adulthood. Among those young people who smoke, nearly one-quarter smoked their first cigarette before they reached the age of ten<sup>6</sup> (WHO, 2006). With this background, in this section the students' tobacco use behaviour was analysed. Information on 'How old were you when you first tried a cigarette' was collected during the survey from the students to assess their behaviour towards smoking cigarette.

**Table 2: Percentage Distribution of the Sample Students by ever Tried cigarette across the selected South-Asian Countries by Sex**

Tried Cigarette	India	Indonesia	Maldives	Myanmar	Thailand
Never tried Cigarette	96.1	82.9	78.4	94.3	85.6
Ever Tried Cigarette	3.9	17.1	21.6	5.7	14.4
<b>Total</b>	<b>7840</b>	<b>2977</b>	<b>2978</b>	<b>2721</b>	<b>2555</b>
<i>Chi-square Value = 1014.399; d.f.=4; Level of Sig. = p &lt; 0.000</i>					

Across all five selected South-Asian countries, the median ever tobacco smoking prevalence among students aged 11–17 years was 10.4 percent (range = 3.9 percent, India to 21.6 percent, Maldives). Otherwise, overwhelming majority of the Indian students (96.1 percent) and Myanmar students (94.3 percent) had no experience with smoking. On contrast, around 22 percent of the students in Maldives were ever tried cigarette and this proportion was 17.1 for Indonesia and 14.4 percent for Thailand students. This proportion was very low for Indian students (3.9 percent) and

Myanmar students (5.7 percent). It can be concluded that among the study South-Asian countries, a significant proportion of students in Maldives, Indonesia and Thailand had the experience of smoking cigarettes. Chi-square results show significant association between the students' smoking behaviour and study countries ( $\chi^2=1014.399$ ;  $p<0.000$ ).

**Table 3: Percentage Distribution of the Sample Students by ever Tried cigarette across the selected South-Asian Countries by Sex**

Ever Tried Cigarette by Sex	India	Indonesia	Maldives	Myanmar	Thailand
<b>Ever tried Cigarette</b>					
Male	5.8	34.5	32.5	9.4	25.2
<b>Total</b>	<b>4313</b>	<b>1371</b>	<b>1327</b>	<b>1334</b>	<b>1203</b>
<i>Chi-square Value =1041.219; d.f.=4; Level of Sig. = p&lt;0.000</i>					
Female	1.2	2.1	12.7	2.1	4.7
<b>Total</b>	<b>3454</b>	<b>1595</b>	<b>1636</b>	<b>1385</b>	<b>1348</b>
<i>Chi-square Value =418.578; d.f.=4; Level of Sig. = p&lt;0.000</i>					

By sex, the median ever tobacco smoking prevalence was 16.6 percent among males and 4.0 percent among females. Among males, the prevalence of ever tried tobacco smoking by selected South-Asian countries ranged from 5.8 percent (India) to 34.5 percent (Indonesia). Among females, this proportion ranged from 1.2 percent (India) to 12.7 percent (Maldives). It can be summarized that irrespective the country, the proportion of students who had ever smoked cigarettes was higher for male than female students. It is exciting to observe from the table that around 13 percent of the female students in Maldives ever tried cigarettes. In all the remaining countries, the proportion of female smokers was very negligible except in Thailand (4.7 percent). The bi-variate analysis shows that there is statistically significant difference between the smoking behaviour of the male students and study countries ( $\chi^2=1041.219$ ;  $p<0.000$ ). A similar association was noticed among female students ( $\chi^2=418.578$ ;  $p<0.000$ ).

**Table 4: Percentage Distribution of the Sample Students by their Age at first tried cigarette across the selected South-Asian Countries**

Age at first tried Cigarette	India	Indonesia	Maldives	Myanmar	Sri Lanka	Thailand
Never tried Cigarette	96.1	82.9	78.4	94.3	NA	85.6
Below 10 yrs.	1.4	3.3	6.6	0.8	NA	2.9
11-15 yrs.	2.3	13.8	12.7	3.9	NA	11.5
Above 15 yrs.	0.2	-	2.3	1.0	NA	0.6
<b>Total</b>	<b>7840</b>	<b>2977</b>	<b>2978</b>	<b>2721</b>		<b>2555</b>
<i>Chi-square Value =1255.233; d.f.=12; Level of Sig. = p&lt;0.000</i>						

‘How old were you when you first tried a cigarette’ this question was asked to the school students during the survey and their responses are given in the above table. It reveals from the table that among these cigarette smokers, majority of them tried their first cigarette between the ages of 11-15 years in all the study countries. It is interesting to note that around 7 percent of the Maldives students tried the first cigarette before they reach the age of 10 years. Overall, quite a small but significant proportion of students in Maldives, Indonesia and Thailand begin tobacco use before they reach adulthood.

**Table 5: Percentage Distribution of the Sample Students by their Age at ever tried cigarette across the selected South-Asian Countries by Age**

Ever Tried Cigarette/ Age	India	Indonesia	Maldives	Myanmar	Thailand
≤ 13 yrs.	2.1	11.3	16.0	2.2	9.6
14 yrs.	3.5	17.3	14.5	2.3	17.2
15 and above	5.9	28.9	24.7	9.8	21.3
<b>Total</b>	<b>7787</b>	<b>2977</b>	<b>2973</b>	<b>2721</b>	<b>2551</b>
<i>Chi-square Value =226.449; d.f.=4; Level of Sig. = p&lt;0.000</i>					

The proportion of students who have ever tried cigarette at age less than 13 as high as 16.0 percent in Maldives followed by Indonesia with 11.3 percent. The percentage of students who have tried first cigarette at age 15 and above was ranged from 5.9 percent in India to 28.9 percent in Indonesia. Data in the above table also reveals that while the proportion of students who had ever smoked increased with age of the students in all the study South Asian countries. The proportion of students in Indonesia who have ever smoked increased from 11.3 percent at age less than 13 years to 28.9 percent at age above 15 years. In Thailand, just around 10 percent of students had ever smoked in the age of less than 13 years old, with this peaking at 21.3 percent of 15 and above 15 years old. A similar trend of smoking patten was observed among all the study countries. Chi-square result shows that the association between the students’ age at first tried cigarette and the study countries is statistically significant ( $\chi^2=226.449, p <0.000$ ).

**Table 6: Percentage Distribution of the Sample Students who currently smokers by begins first cigarette before age 13 years across the selected South-Asian Countries**

Current smokers	India	Indonesia	Maldives	Myanmar	Thailand
<b>Current smokers who begins first cigarette before age 13</b>					
Yes	76.1	70.7	64.1	26.5	74.3
<b>Total</b>	<b>117</b>	<b>290</b>	<b>644</b>	<b>102</b>	<b>214</b>
<i>Chi-square Value =85.642; d.f.=4; Level of Sig. = p&lt;0.000</i>					

During the survey the students who smoked cigarettes on one or more of the past 30 days were asked to report their age at first cigarette tried, specifically the students who tried their first cigarette

at age 13 or younger was tabulated in table no.6. It reveals from the table that in India little more than three-fourth of the students who smoked cigarettes during the past 30 days, tried their first cigarette at age 13 or younger (76.1 percent). This proportion for Thailand students was 74.3 percent. Overall, it is observed from the table that the current cigarette smokers who tried their first cigarette at age 13 or younger was ranged 76 percent in Indian to 26.5 percent in Myanmar. Bi-variate analysis shows an association between the current smokers who began at age 13 younger and the study countries is statistically significant ( $\chi^2=85.642, p <0.000$ ).

**Table 7: Percentage Distribution of the Sample Students who smoked cigarettes on one or more days during the past 30 days across the selected South-Asian Countries and by Sex**

Smoked cigarettes on one or more days	India	Indonesia	Maldives	Myanmar	Thailand
<b>Smoked cigarettes one or more days in the past 30 days</b>					
Yes	1.6	9.9	10.7	3.9	8.3
<b>Total</b>	<b>7934</b>	<b>2991</b>	<b>3110</b>	<b>2743</b>	<b>2665</b>
<i>Chi-square Value =549.835; d.f.=4; Level of Sig. = p&lt;0.000</i>					
Male	2.4	20.4	16.8	7.0	14.8
<b>Total</b>	<b>4368</b>	<b>1371</b>	<b>1380</b>	<b>1358</b>	<b>1282</b>
<i>Chi-square Value =595.742; d.f.=4; Level of Sig. = p&lt;0.000</i>					
<b>Female</b>	0.5	0.9	5.5	0.8	2.2
<b>Total</b>	<b>3493</b>	<b>1608</b>	<b>1712</b>	<b>1383</b>	<b>1378</b>
<i>Chi-square Value =193.272; d.f.=4; Level of Sig. = p&lt;0.000</i>					

Information on students who smoked cigarettes on one or more days during the past 30 days collected during the survey among the selected South-Asian countries. Data reveals that in Thailand, out of the 2,665 students, about 8.3 percent of them smoked cigarettes on one or more days during the past 30 days. This proportion ranged from 1.6 percent for India to 10.7 percent for Maldives. It is noticed from the above table that around 10 percent of Maldives and Indonesia students reported they smoked cigarettes on one or more days during the past one month. Chi-square result shows that the association between the students' currently smoking behaviour and the study countries is statistically significant ( $\chi^2=549.835, p <0.000$ ).

Invariably in all the study South-Asian countries, male students were significantly more likely than female students to have smoked cigarettes on one or more days in the past 30 days. This proportion for Maldives country was 16.8 and 5.5 percent respectively and for Thailand it was correspondingly recorded as 14.8 and 2.2 percent. In Indonesia, male students (20.4 percent) were significantly more likely than female students (0.9 percent) to have smoked cigarettes on one or more days during the past 30 days. It is found from the bi-variate analysis that the association between the

students' currently smoking behaviour and the study countries is statistically significant among male ( $\chi^2=595.742, p <0.000$ ) and female students ( $\chi^2=193.272, p <0.000$ ).

Percentage of students who used any other form of tobacco, such as chewing tobacco leaves, pipe smoking, cigar smoking, chewing betel with tobacco, or cheroot smoking on one or more days during the past 30 days in the selected South-Asian countries are presented in table No.8. It is witnessed from the table that around 8 percent of the total sample students were used any other form of tobacco, such as cigars, on one or more days during the past 30 days in Maldives and Thailand. This proportion for Myanmar students was 5.2 percent. About 4 percent of the students in India and Indonesia used any other form of tobacco, on one or more days during the past 30 days. Chi-square results show significant association between the students who used any form of tobacco and study countries ( $\chi^2=92.853; p<0.000$ ).

**Table 8: Percentage Distribution of the Sample Students who used any other form of tobacco during the past 30 days across the selected South-Asian Countries by Sex**

Other form of Tobacco used	India	Indonesia	Maldives	Myanmar	Thailand
<b>Other tobacco used one or more days in the past 30 days</b>					
Yes	4.3	4.2	8.0	5.2	7.3
<b>Total</b>	<b>8072</b>	<b>3107</b>	<b>3120</b>	<b>2805</b>	<b>2762</b>
<i>Chi-square Value =92.853; d.f.=4; Level of Sig. = p&lt;0.000</i>					
Male	5.0	6.9	11.0	8.3	13.4
<b>Total</b>	<b>4454</b>	<b>1473</b>	<b>1394</b>	<b>1396</b>	<b>1363</b>
<i>Chi-square Value =131.091; d.f.=4; Level of Sig. = p&lt;0.000</i>					
<b>Female</b>	3.1	1.7	5.3	2.1	1.3
<b>Total</b>	<b>3539</b>	<b>1621</b>	<b>1706</b>	<b>1407</b>	<b>1393</b>
<i>Chi-square Value =59.953; d.f.=4; Level of Sig. = p&lt;0.000</i>					

In Maldives, male students (11.0 percent) were significantly more likely than female students (5.3 percent) to use any tobacco product other than cigarettes on one or more days in the past one month. Similarly, in Indonesia, male students (6.9 percent) were significantly more likely than female students (1.7 percent) to use any other form of tobacco on one or more days. A substantial gender difference was witnessed among the Thailand students with respect to students used any other form of tobacco on one or more times past one month (13.4 percent male and 1.3 percent female). It is found from the bi-variate analysis that there is statistically significant difference between the male students who used any form of tobacco and study countries ( $\chi^2=131.091; p<0.000$ ). A similar association noticed among female students ( $\chi^2=59.953; p<0.000$ ).

**Table 9: Percentage Distribution of the Sample Students who tried to stop cigarette during the past 12 months across the selected South-Asian Countries**

Tried to stop cigarette	India	Indonesia	Maldives	Myanmar	Thailand
<b>Tried to stop cigarette during the past 12 months</b>					
Yes	57.5	84.5	60.1	84.0	86.3
<b>Total</b>	<b>275</b>	<b>388</b>	<b>336</b>	<b>125</b>	<b>263</b>
<i>Chi-square Value =120.854; d.f.=4; Level of Sig. = p&lt;0.000</i>					

During the survey, an attempt also made to know how many of the students were tried to stop the cigarette. The question ‘During the past 12 months, have you ever tried to stop smoking cigarettes?’ was raised among the current cigarette smokers. The responses disclose that a major proportion of Thailand, Indonesia and Myanmar students who smoked cigarettes during the past 12 months were tried to stop smoking cigarette (86.3, 84.5 and 84.0 percent respectively). Comparatively, a lower proportion of Indian students who smoked cigarettes during the past 12 months were tried to stop smoking cigarette (57.5 percent) among the study South-Asian countries. Overall, among the 5 countries in which the desire to quit was assessed among current tobacco smokers, the proportion of students who desired to quit ranged from 57.5 percent (India) to 84.5 percent (Indonesia).

It can be concluded from the above analysis that a small but significant proportion of students used any form tobacco in all the study South-Asian countries, moreover, it is observed that male students were at higher risk of smoking than female students in all the study countries. At the same time, it was surprised to note that a major proportion of students who currently smoker were desire to quit smoking. The proportion of student smokers who said they desired to quit ranged from a low of 57 percent in India to a high of 86 percent in Thailand.

### **EXPOSE TO SECOND-HAND SMOKING**

Second-hand smoke (SHS) is the combination of smoke from the burning end of a cigarette and the smoke breathed out by smokers<sup>7</sup> (US Department of Health and Human Services, 2006). Non-smokers who are exposed to secondhand smoke are inhaling many of the same cancer-causing substances and poisons as smokers. Even brief second-hand smoke exposure can damage cells in ways that set the cancer process in motion. Since the 1964 Surgeon General’s Report, 2.5 million adults who were nonsmokers died because they breathed second-hand smoke<sup>8</sup> (Centers for Disease Control and Prevention, Hookahs, 2015).

Young children are most affected by SHS and most of their exposure to SHS comes from adults (parents or others) smoking at home. Studies show that children whose parents smoke, Get



sick more often, have more lung infections (like bronchitis and pneumonia), Get more ear infections and are more likely to cough, wheeze, and have shortness of breath. Second-hand smoke can also trigger asthma attacks, make asthma symptoms worse, and even cause new cases of asthma in kids<sup>9</sup> (Centers for Disease Control and Prevention. Second-hand Smoke Facts, 2015).

In line with these facts, an attempt was made to assess the students’ exposure to second-hand smoke in the study South-Asian countries. During the survey, the students were asked to report whether they exposed to second hand smoking – people smoked in their presence one or more days during the past seven days.

Across all 5 study countries, students who reported that people smoked in their presence on one or more days during the past seven days ranged from 35.7 percent in India to 84.3 percent in Indonesia. Percentage of students who reported people smoking in their presence on one or more days during the past 7 days in the study countries are presented in the below table. More than eighty percent of the students in Indonesia reported that people smoke in their presence on one or more days during the past seven days. The next highest percentage reported by Myanmar students (67.2 percent), followed by Maldives students with 58.5 percent. The experience of people smoking with their presence was less among Indian students (35.7 percent). In Thailand, 40.2 percent of students reported that people smoke in their presence on one or more days during the past seven days. Chi-square results show significant association between the students who experienced people smoking in their presence and study countries ( $\chi^2=2612.537$ ;  $p<0.000$ ).

**Table 10: Percentage Distribution of the Sample Students who experienced people smoking in their presence across the selected South-Asian Countries**

People smoking in their presence	India	Indonesia	Maldives	Myanmar	Thailand
<b>Students who reported people smoking in their presence</b>					
Yes	35.7	84.3	58.5	67.2	40.2
<b>Total</b>	<b>8000</b>	<b>3095</b>	<b>3109</b>	<b>2789</b>	<b>2759</b>
<i>Chi-square Value =2612.537; d.f.=4; Level of Sig. = p&lt;0.000</i>					
Male	39.4	86.4	61.4	71.5	42.3
<b>Total</b>	<b>4417</b>	<b>1471</b>	<b>1395</b>	<b>1386</b>	<b>1361</b>
<i>Chi-square Value =1277.340; d.f.=4; Level of Sig. = p&lt;0.000</i>					
<b>Female</b>	30.8	82.4	56.1	63.0	38.1
<b>Total</b>	<b>3508</b>	<b>1611</b>	<b>1696</b>	<b>1401</b>	<b>1392</b>
<i>Chi-square Value =1391.686; d.f.=4; Level of Sig. = p&lt;0.000</i>					

By sex, the proportion of students who reported that people smoked in their presence on one or more days during the past seven days was ranged between 39 percent (India) to 86 percent (Maldives). Furthermore, male students were more likely than female students to report that people

smoked in their presence on one or more days in all the study countries except Indonesia. In Indonesia, male students (86.4 percent) are equally likely as female students (82.4 percent) to report that people smoked in their presence on one or more days. Thailand male students (42.3 percent) were less likely significantly different from female students (38.1 percent) to report that people smoke in their presence on one or more days during the past seven days. Maldives male students (61.4 percent) were significantly more likely than female students (56.1 percent) to report that people smoked in their presence on one or more days. A similar pattern of difference was noticed among Myanmar students (71.5 and 63.0 percent respectively). In India though the percentage of people smoked in their presence was less, the male and female difference was high (39.4 and 30.8 percent respectively). It is found from the bi-variate analysis that there is statistically significant difference between the male students who experienced people smoking in their presence and study countries ( $\chi^2=1277.340$ ;  $p<0.000$ ). A similar association noticed among female students ( $\chi^2=1391.686$ ;  $p<0.000$ ).

It may be concluded from the analysis that the risk of second-hand smoke is much higher among in Indonesia and Myanmar students than the rest of the South-Asian countries' students. Overall, male students are more likely face the risk of second-hand smoke than female students in all the 5 South-Asian countries.

## **PARENTS OR GUARDIAN TOBACCO USE**

A large proportion of children worldwide are exposed to tobacco smoke, often in the home<sup>10</sup> (Mbulo et al. 2016; Oberg et al. 2011). Another study by Myers, Shiloh, and Rosen<sup>11</sup> (2018) estimated that around 40 percent of children worldwide are exposed to tobacco smoke, largely by their parents. While adult smokers have some choice regarding whether or not to smoke, children who live, play and study in areas frequented by smokers are forcibly exposed to the harms of second-hand smoke<sup>12</sup> (Rosen, 2014). In addition to the health risks of second-hand smoke children of smoking parents are more likely to become smokers themselves<sup>13, 14</sup> (Leonardi-Bee, Jere and Britton, 2011; Department of Health and Human Services, 2012). With this background, here an attempt was made to understand the parent's tobacco use among their children's smoking behaviour.

**Table 12: Percentage Distribution of the Sample Students by their parents/guardian use any form of tobacco across the selected South-Asian Countries**

Parents/guardian used any form of tobacco	India	Indonesia	Maldives	Myanmar	Thailand
<b>Parents/Guardian used any form of tobacco</b>					
Yes	18.7	66.3	36.0	37.4	32.9
<b>Total</b>	<b>8063</b>	<b>3109</b>	<b>3084</b>	<b>2804</b>	<b>2759</b>
<i>Chi-square Value =2322.342; d.f.=4; Level of Sig. = p&lt;0.000</i>					
Male	20.0	63.0	34.1	39.2	32.5
<b>Total</b>	<b>4450</b>	<b>1474</b>	<b>1376</b>	<b>1395</b>	<b>1362</b>
<i>Chi-square Value =969.177; d.f.=4; Level of Sig. = p&lt;0.000</i>					
Female	16.7	69.3	37.5	35.7	33.2
<b>Total</b>	<b>3535</b>	<b>1622</b>	<b>1689</b>	<b>1407</b>	<b>1391</b>
<i>Chi-square Value =1373.359; d.f.=4; Level of Sig. = p&lt;0.000</i>					

Around two-third of the Indonesia students reported that their Parents or Guardian uses any form of tobacco (66.3 percent). More or less an equal proportion of students' Parents or Guardians in Maldives and Myanmar were used any form of tobacco substances (36.0 and 37.4 percent respectively). The lowest proportion was recorded in India (18.7 percent) among the study countries. In Thailand, 32.9 percent of the students had a parent or guardian who used any form of tobacco. Bivariate analysis shows that the association between the students' parents/guardians who used any form of tobacco and the study countries is statistically significant ( $\chi^2=2322.342, p <0.000$ ).

While looking gender differences, Indonesia and Maldives male students were less likely to have a parent or guardian who used any form of tobacco than female students (69.3 and 63.0 percent; 34.1 and 37.5 percent respectively). In contrast, in India male students were more likely to have a parent or guardian who used any form of tobacco than female students (20.0 and 16.7 percent respectively). It is also noticed from the table that Thailand male students (32.5 percent) were not significantly different from female students (33.2 percent) to have a parent or guardian who used any form of tobacco. It is found from the Chi-square analysis that the association between the male students' parents/guardians who used any form of tobacco and the study countries is statistically significant among male ( $\chi^2=969.177, p <0.000$ ) and female students ( $\chi^2=1373.359, p <0.000$ ).

**Table 12: Percentage Distribution of the Sample Students by who ever tried Cigarette with their Parents/Guardian who use any form of tobacco across the selected South-Asian Countries**

Either/Both Parents or Guardian use Tobacco	Students Ever Tried Cigarettes				
	India	Indonesia	Maldives	Myanmar	Thailand
Parents Used tobacco*** 197.499	8.8	18.5	26.4	8.3	19.4
Parents Never used tobacco*** 676.133	2.6	14.3	18.1	4.2	12.1
	Students smoke one or more Cigarettes in the past 30 days				
Parents Used tobacco*** 115.405	3.5	11.0	13.5	5.2	11.3
Parents Never used tobacco*** 323.740	1.1	7.7	8.3	3.1	6.8

Across all the study South-Asian countries, a well-established positive association was witnessed between the parental and children smoking behaviour. It is evident from the data that the parents/guardians who have used any form tobacco were more prone to influence their children's smoking habits. Among Maldives students, the proportion of ever tried smoking was higher when the parents/guardians were smokers (26.4 percent) than the parents/guardian never smoke (18.1 percent). In India, the proportion of students' ever tried cigarette was much higher among the student's whose parent or guardian were use any form of tobacco (8.8 percent) than the non-smoker parent or guardian (2.6 percent). It can be concluded from the above analysis that the likelihood of students' smoking was associated with paternal smoking among the study countries. A similar pattern of parental influences was noticed among children's smoking behaviour (students smoke one or more Cigarettes in the past 30 days).

## **CONCLUSION**

The results of the study found the prevalence of tobacco smoking is high among students in many countries in South-Asian region although smoking among school students is not approved in many of the study countries and that most of them had started smoking cigarettes as early as before they reach 13 years. Smoking prevalence was seven times higher among Maldives study sample population when compared to Indian sample student population. At the same time, it was surprised to note that a major proportion of students who currently smoker were desire to quit smoking. The proportion of student smokers who said they desired to quit ranged from a low of 57 percent in India to a high of 86 percent in Thailand. This study results also provide some evidence about the effect of parental smoking on adolescents' smoking behaviors. It is suggested that to prevent and reduce youth tobacco smoking, not merely the presence of preventive measures is important but greater attention needs to re-conceptualize measures to influence the behaviour of young people in this part of the developing world.

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