2018

TREND SURVEY ON TOBACCO

Annual Trend Survey on Tobacco Smoking in Sri Lanka

Alcohol and Drug Information Centre
No: 40/18, Park Road, Colombo 05
Sri Lanka

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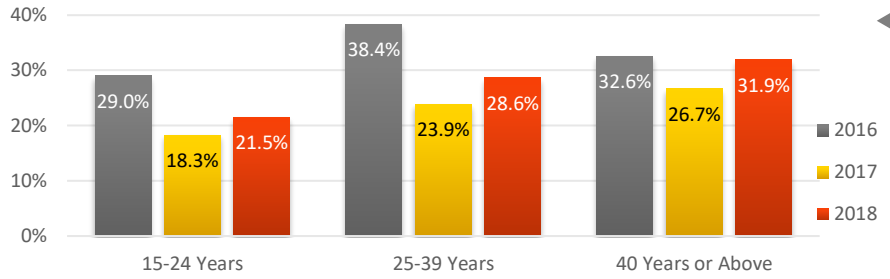

Rate of current smokers have increased in 2018 compared to 2017 but still lower than 2016

7 of 10 Smokers are Daily Smokers

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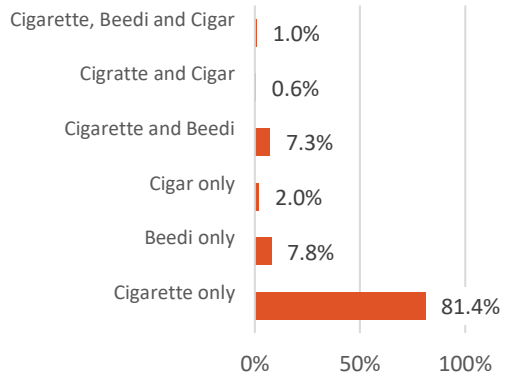
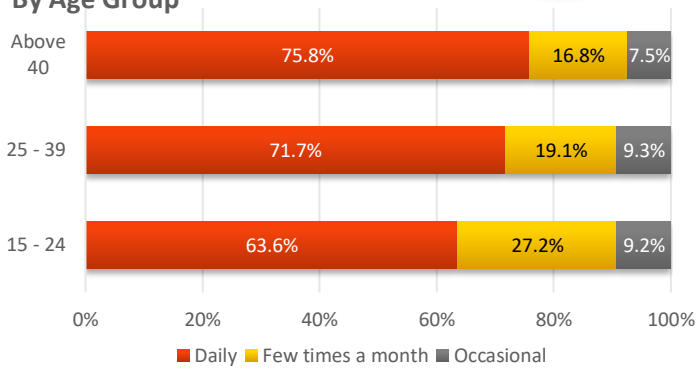
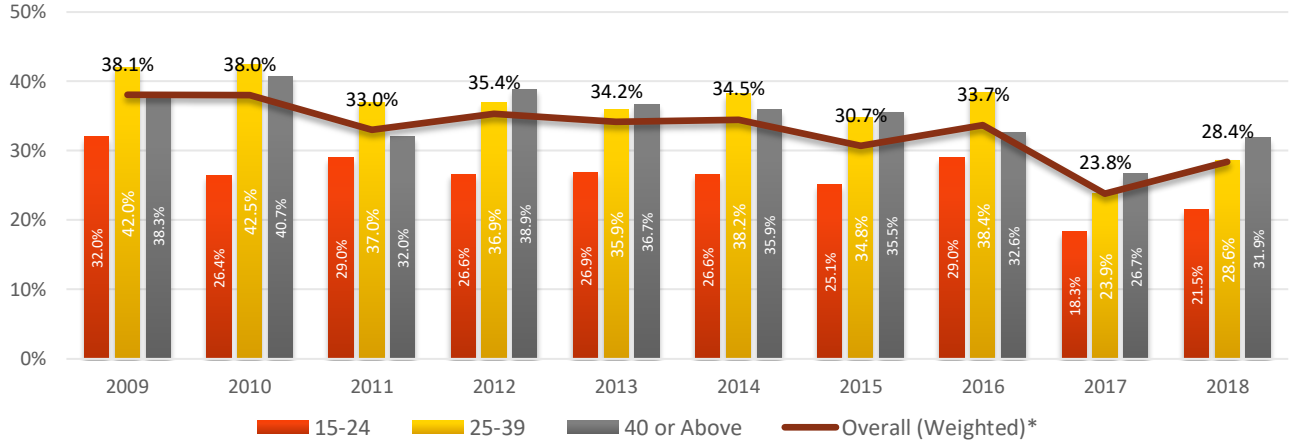


Frequencies of Tobacco Smoking By Age Group



- **8 of 10 Smokers use only Cigarettes**
- **Current smokers below 21 years is 14.5%**
- **2 in 3 ever smokers have initiated smoking below 21 years (71.2%).**
- **9.5 of 10 smoking initiation of youth within last year was through cigarettes.**
- **7 of 10 youth ever smokers reported their initial experience of smoking was unpleasant.**
- **7 of 10 adult smokers (above 40) continue to smoke due to inability to stop the habit.**

Trend of Smoking in Last 10 Years by Age Groups (2009 - 2018)



* Overall estimations were weighted based on age group distribution according to actual population in Census (2012)

Note: Current smokers are respondents whom have smoked within past 30 days when interviewed.

Executive Summary

Alcohol and Drug Information Centre (ADIC) conducts an annual trend survey on alcohol use and tobacco smoking in Sri Lanka which is also known as "SPOT Survey" since 1998. This report presents the findings of the trend survey conducted on tobacco smoking in July, 2018.

ADIC trend surveys uses a multi staged sample design to include a representative male population above 15 years in Sri Lanka. At first-stage sampling, a randomized batch selection process is followed to select a district each from all nine (9) administrative provinces to make a representative sample of Sri Lanka. This was repeated three times to create three batches of districts for a three year span starting from 2017. Districts selected for 2018 survey were the second batch. Colombo and Jaffna were included automatically due to importance of these two districts, making it 11 districts altogether. In the next stage of sampling, three strata's were created based on age as 15-24 years, 25-39 years and above 40 years to get a representative sample of males above 15 years. Survey used an interviewer based questionnaire in local languages and conducted at common public gathering places like bus stands, railway stations and markets which were selected with local knowledge to get a better representation of the local community.

In total, 2767 males above 15 years took part in 2018 survey. From the respondents, 28.4% (n=785, 22.7%-25.9%) were identified as current smokers (whom have smoked within past 30 days). This is an increase from previous year weighted rate of 23.8% but lesser than 2016 rate 33.7%. Tobacco smoking have increased across all three age groups and it has been highest within males above 40 years (31.9%; n=346, 27.8%-35.9%). Among the occupational categories, 'Skilled agricultural and fishery workers', 'Craft and related workers' categories have reported highest rate of current smokers (42.9% and 41.6%). It was also observed that close to a three fourth of current smokers (72.2%; n=563, 69.1%-75.3%) were smoking on daily basis.

Result of this year continues to show that, vast majority of smokers are "Cigarette" smokers (89.5%) and 81.4% were smoking only cigarettes. Next highest used product type was 'Beedi' (15.3%). However, in Jaffna 'Beedi' was consumed by a majority of smokers (50.7%). Beedi was comparatively used more by current smokers above 40 age group (20.5%) and lesser by two younger age groups. Among youth current smokers (15-24 years), cigarettes use was 95.6% and beedi was only 9.2%.

More than two third of the current smokers (71.2%, n=928) have initiated use before 21 years. Majority of initiation have occurred within ages 16-20 (57.9%). More than nine out of ten (94.9%) smoking initiation among youth during last year have occurred with cigarettes, and 71.5% (n=241) of them have reported their experience as 'Unpleasant'.

A considerable proportion of ever users (41.4%) have quit from smoking at the time of survey. However, a majority of ever users (58.6%) has not been able to quit smoking. Most of the users who had quit, have done it before age 40. Only 17.4% of total quits were 40 or above. This possibly indicates inability to quit from smoking for more aged smokers.

This inability to quit is further evident by the finding that seven of ten current smokers of age 40 or above have stated they were smoking as a habit (72.8%).

Survey also observed 47.4% of respondents (n=1309) have never smoked in their life. Top most reasons for abstaining were stated as 'unpleasantness' (36.6%), 'negative consequences' (29.6%) and 'not having the need' (18.1%). This highlights the necessity of preventive education on tobacco control to focus on demand reduction as much as (probably even more) over educating on negative consequences.

Results also shows current smoking among male respondents below 21 years (legal age limit to purchase tobacco products), 14.5% (n=68, 11.3%-17.7%) were current smokers. This is a concerning factor and may indicate a gap in current policies and law enforcement with respect to tobacco smoking below the legal age limit. Since survey have observed common form of initiation (92.0%) and use (95.5%) in this group is with cigarettes, more stringent controlling should be in place to reduce the availability and demand of cigarettes. Proposed (and delayed) policies to ban sales of cigarettes within 100m radius from schools and banning single stick (loose sticks) sales should address this alarming issue to a greater extent.

This survey conducted in 11 districts found that 9 of 10 smokers were cigarette consumers. Further, 81.4% (78.6%-84.1%) of smokers were exclusively using cigarettes Users of beedi users were 5.8 times lesser than cigarette users (considering both mix and exclusive use). These findings invalidates repeated claims by tobacco industry and pro-industry advocates that beedi consumption is more than cigarette consumption.

Increase of smoking rate is a reversal of smoking reduction observed in 2017 following a considerable price increase occurred in 2016. But, not increasing prices for another 20 months have made cigarettes more affordable by mid-2018. Since negative consequences of smoking far outweigh its revenue to the government, any sign of an increase in smoking should not be underestimated. Therefore the increase of smoking rate in 2018 (compared to 2017) found through this survey, calls for immediate action by policy makers and more effective and evidence based tax policy on cigarettes.

Introduction

Non-Communicable Diseases (NCDs) contribute to 70% of deaths in Sri Lanka and Tobacco Smoking is recognized as one of the leading causes (WHO, 2015). Tobacco control advocates estimates annual deaths from tobacco smoking to be above 20,000 (NATA) which is over 50 deaths per day. The economic cost associated due to deaths and disabilities caused by tobacco smoking has been estimated to be more than the revenue received by the Sri Lankan government from these products (WHO, 2017).

Although tobacco smoking is a large scale public health epidemic in Sri Lanka, evidence based and consistent policy making is lacking to encounter it effectively. Incremental price increases were absent for nearly 20 months at the time of this survey. Additional control measures were delayed (introducing plain packaging, banning sales within a 100m radius limit from schools) and retracted (banning of sales of single sticks) on some occasions due to lack of support in cabinet.

Regular surveillance of consumption trends and patterns is necessary to evaluate the effectiveness of prevailing controlling strategies. Annual Trend Surveys on Tobacco and Alcohol use conducted by ADIC is a very useful tool for policy makers and tobacco control advocates on this regard. This is the only scientific study conducted in Sri Lanka at this scale with this regularity and consistency since 1998. Trend Survey on Tobacco Smoking for 2017 showed a considerable reduction mostly due to stringent policy controls made in 2016. However, the same intensity at policy level was lacking afterwards and this survey conducted in July, 2018 would reflect the possible impact of this. ADIC Trend surveys has focused the male population in Sri Lanka since smoking among females has always been low (< 1%).

Objectives of "Trend Survey on Tobacco" for year 2018 were;

- Determine trends and patterns of smoking among males above 15 years in Sri Lanka.
- Determine prevailing beliefs and attitudes on smoking and cessation among males above 15 years in Sri Lanka.

Methodology

Study Design

ADIC trend survey on tobacco smoking used a multi-stage sample design to include a representative male population in Sri Lanka above 15 years.

Inclusion Criteria

Only males above 15 years of age were included since smoking among females has been only 0.1% in Sri Lanka (WHO, 2015).

Exclusion Criteria

Individuals who were not residents in the selected districts for the study were excluded.

Sample Size

In keeping consistent with previous surveys, 275 participants (inclusive of 10% error rate) were planned from each district. In total, 3025 were planned from 11 districts for the survey.

Sampling Method

At first-stage sampling, a randomized batch selection process is followed to select a district each from all nine (9) administrative provinces to make a representative sample of Sri Lanka. This was repeated three times to create three batches of districts for a three year span starting from 2017. Districts selected for 2018 survey were the second batch. Colombo and Jaffna are included automatically due to importance of these two districts, making it 11 districts altogether. In the next stage of sampling, three strata were created as 15-24 years, 25-39 years and above 40 years to get a representative sample of males above 15 years. First two age groups were over sampled to increase the probability of inclusion of users, since usage has been low in those categories historically. However, the results for overall population were weighted according to actual population distribution of Census prior to the analysis.

Sample allocation among the three stratified age groups were as in Table 1.

TABLE 1: PLANNED ALLOCATION OF SURVEY PARTICIPANTS

Age group	Sample allocation	Per district	Per age group
15 – 24 Years	35%	96	1056
24 – 39 Years	45%	124	1364
Above 40 Years	20%	55	605
Total		275	3025

Data collection

Data was collected through an interviewer administered questionnaire (see appendix 1). Questionnaire was prepared in Sinhala and translated to Tamil. Interviews were conducted in either Sinhala or Tamil medium depending on data collection area and respondent.

The survey was conducted within July, 2018 in all 11 districts. Data collection has been carried out by trained data collectors from Faculty of Medicine, University of Kelaniya, Women Development Federation (WDF), Hambanthota and Technical Colleges in Matale and Batticaloa districts.

Data Analysis

Responses were validated and weighted by actual age group distribution according to census (DCS, 2012) prior to the analysis. Descriptive and analytical statistics were used to describe trends and associations of smoking patterns and attitudes of smoking.

Validity & Limitations

Survey was conducted at 11 different districts covering all 9 provinces in Sri Lanka. Sample sizes were pre-determined and stratified based on age to get a representative male sample above 15 years. Survey instruments used in ADIC trend Surveys were developed and reviewed by an expert panel in alcohol and tobacco control and had been refined over many years. Instruments were translated to local languages - Sinhala and Tamil and validated for cultural context. Definition on smokers were based on WHO norms.

Data collectors were trained and supervised during data collection at each location to ensure validity and accuracy of data collected. Survey locations were selected from the common public gathering places such as bus and train stations and super markets and conducted on working days to improve representativeness of the general public.

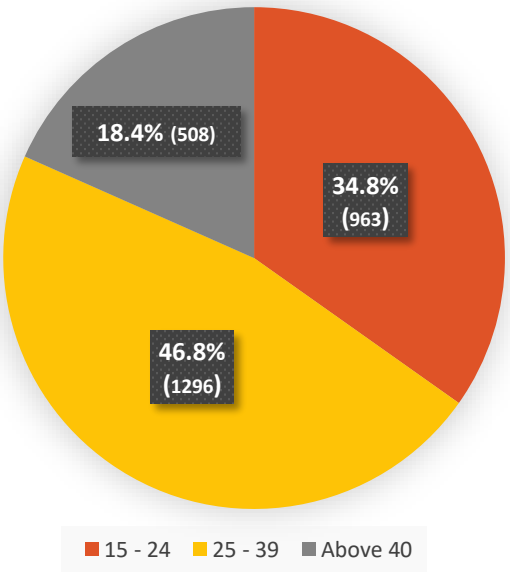
Findings of this study were derived from a sample of 2,767 males over 15 years which is of a considerable size. Overall estimations were weighted according to the national population distribution among the age groups. Demographic characteristics on occupation and educational level have shown that various occupational groups and educational levels were captured but with a higher representation from "sales and services" occupation group. This is due to the locations where data collection took place. Additional demographic variables were not captured hence it is not possible to evaluate the representation based on ethnicity, income and marital status.

Results

Survey has received 2767 valid responses from males above 15 years (91.5% response rate) in total and summarized in Table 2 by districts.

TABLE 2: SURVEY RESPONSES FOR EACH DISTRICT

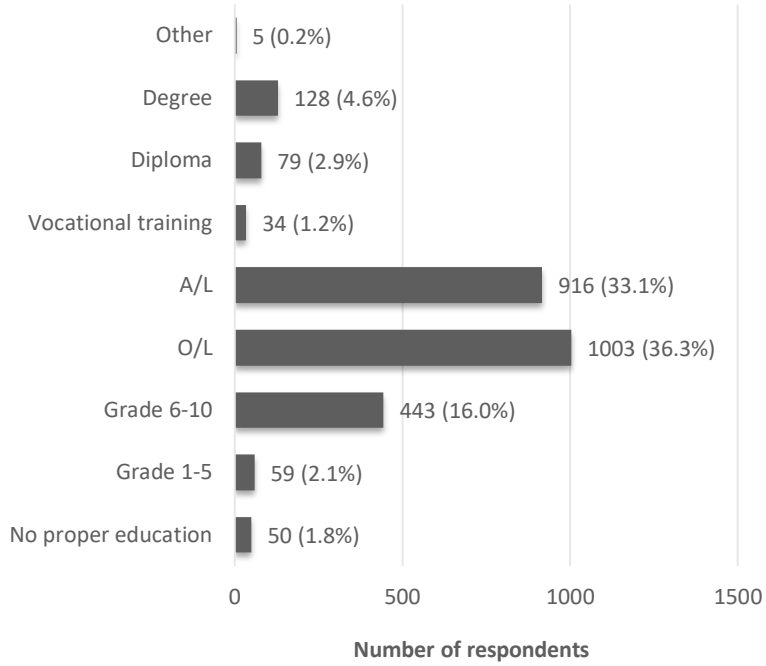
District	Province	15 - 24 Years n (%)	25 - 39 Years n (%)	Above 40 Years n (%)	Total Responses	Response Rate
Colombo	Western	100 (36.5)	121(44.2)	53(19.3)	274	99.6%
Matale	Central	77(32.1)	124(51.7)	39(16.3)	240	87.3%
Batticaloa	Eastern	90(33.5)	129(48.0)	50(18.6)	269	97.8%
Pollonnaruwa	North-Central	97(35.7)	125(46.0)	50(18.4)	272	98.9%
Jaffna	Northern	88(37.0)	109(45.8)	41(17.2)	238	86.5%
Mannar	Northern	75(33.8)	106(47.7)	41(18.5)	222	80.7%
Rathnapura	Sabaragamuwa	82(33.1)	117(47.2)	49(19.8)	248	90.2%
Hambanthota	Southern	76(33.5)	111(48.9)	40(17.6)	227	82.5%
Monaragala	Uva	86(34.1)	122(48.4)	44(17.5)	252	91.6%
Kaluthara	Western	98(36.2)	123(45.4)	50(18.5)	271	98.5%
Puttalam	North-Western	94(37.0)	109(42.9)	51(20.1)	254	92.4%
Total		**963(34.8)**	**1296(46.8)**	**508(18.4)**	**2767**	**91.5%**



As shown in Figure 1, 963 (34.8%) participants were within 15-24 years and 1296 (46.8%) participants were within 25-39 years. Remaining 508 (18.4%) were above 40 years.

FIGURE 1: SURVEY RESPONSES BY AGE GROUPS

Demographic Information



Approximately a 70% of the respondents have completed either upto GCE Advanced Level examination (33.1%) or the GCE Ordinary Level exam (36.3%). Sample also included 4.6% of degree holders and 2.9% of diploma holders. Another 1.2% have completed vocational training.

FIGURE 2: HIGHEST EDUCATION LEVELS OF RESPONDENTS

Job classification were based on Sri Lanka Standard Classification of Occupations (SLSCO). Additionally, Students, Retired, Unemployed, and Police & Armed Forces were also identified. Distribution of respondents among these categories were as in Figure 3. Most respondents (31.1%) were from 'service workers and shop and market sales workers' category.

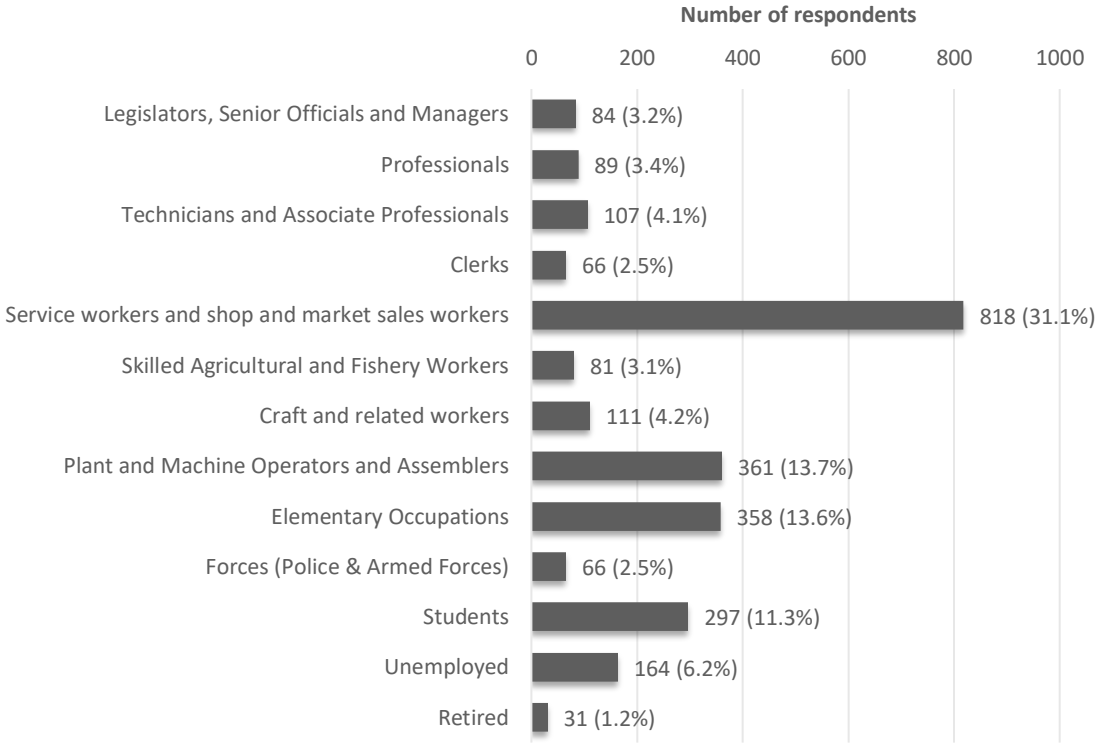
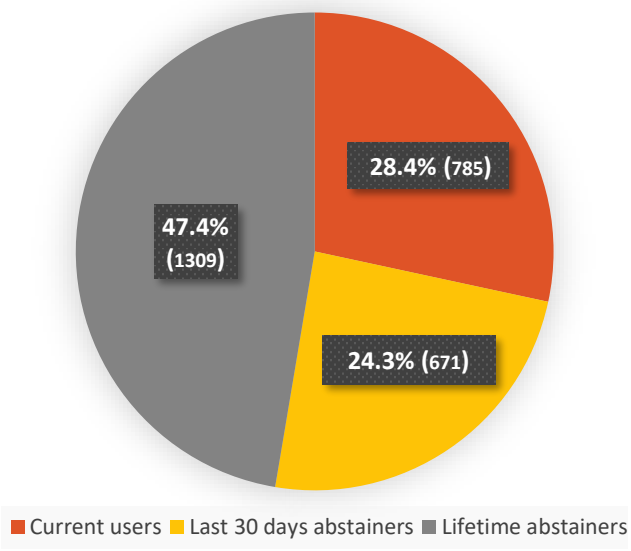


FIGURE 3: OCCUPATIONAL CATEGORIES OF THE RESPONDENTS

Status of Tobacco Smoking among Males

Smoking trends were analysed based on different categories of users, frequencies of use and types of smoking products. In consistent with previous surveys, "**Current Smokers**" were defined in this report as who have smoked in past 30 days (irrelevant of no of times or sticks). Respondents who have never smoked in their life time at the time of survey were considered as "**Lifetime abstainers**". Who have ever smoked in their life time but have abstained for past 30 days at the time of the survey were categorized as "**Last 30 days abstainers**".



As shown in Figure 4, current smoking rate of male above 15 years was 28.4% (n=785, 26.7%-30.1%). This is an increase from previous year (2017) which was at 23.8% but still lower than the rate observed in 2016 (33.7%).

FIGURE 4: OVERALL STATUS OF SMOKING AMONG MALES (15+) IN 2018

Status of Smoking by Age Groups (2016-2018)

Figure 5 shows the current smokers trend in age group from year 2016. Current smoking rates have increased across all three age groups in 2018 in comparison with previous year (2017). This increase is 17.5%, 19.8% and 19.4% respectively within the age groups 15-24, 25-39 and above 40 years. However, current smoking rates in 2018 were still lesser than in 2016. Highest percentage of current smokers (31.9%; n=162, 27.8%-35.9%) in 2018 as well were within above 40 years age group.

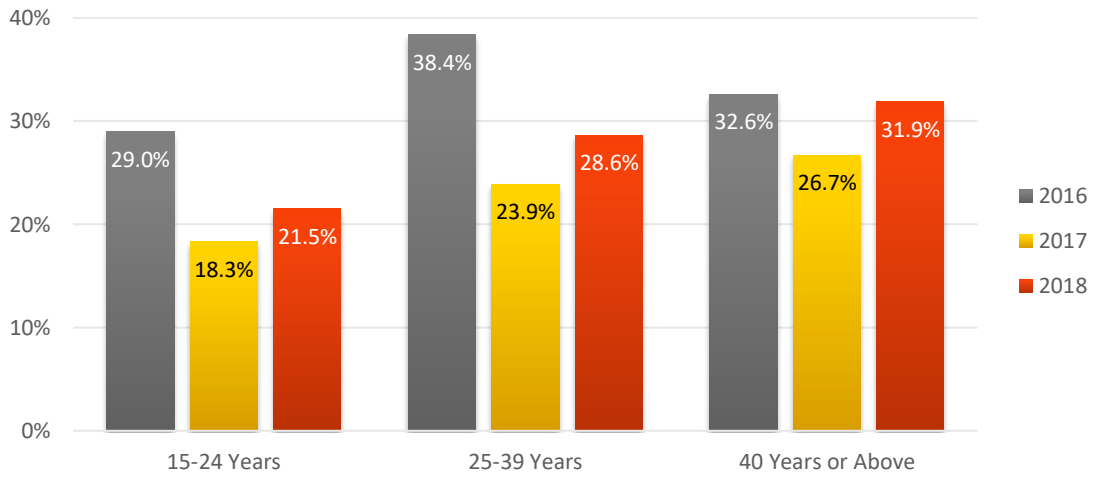


FIGURE 5: TRENDS OF CURRENT SMOKING IN DIFFERENT AGE GROUPS
Source: Weighted figures from results of ADIC Trend Surveys 2016-2018 according to 2012 Census.

Status of Smoking by Occupation

Figure 6 presents the percentage availability of current smokers based on the responses received from each occupational category (n > 100). Since the sampling were not stratified for occupational group, these estimations are not representative of these groups but useful in understanding the trend. According to the responses received within each subgroup, higher rate of current smokers were observed in "Skilled Agricultural and Fishery Workers" and "Craft and related workers" occupational group over other groups shown below.

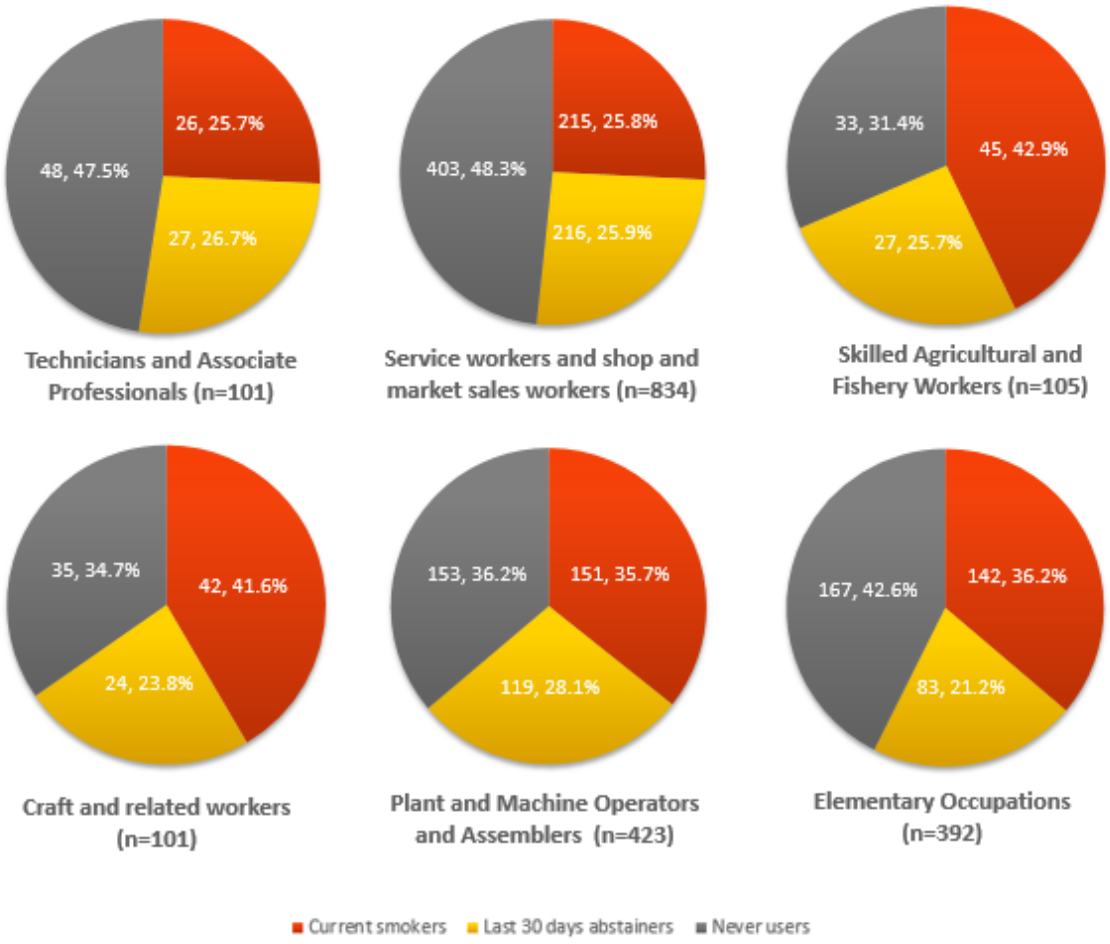


FIGURE 6: STATUS OF SMOKING BY OCCUPATION GROUP

Status of Smoking by District

Highest rate of current smokers were observed in Hambanthota district (48.5%; n=110, 42.0%-55.0%) while lowest was in Puttalama district (20.5%; n=52, 15.5%-25.4%) as shown in Figure 7. Also except for Colombo, Jaffna, Mannar and Hambanthota districts all other districts had lesser rate of current smokers than the overall current smoking rate of 28.4%.

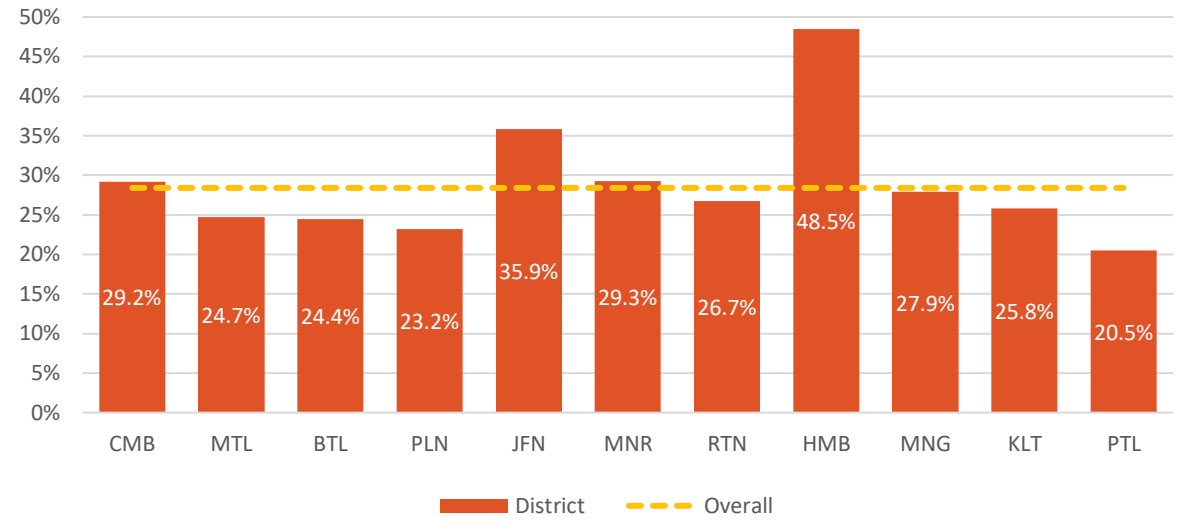


FIGURE 7: STATUS OF CURRENT SMOKERS BY DISTRICT
Notes: CMB – Colombo, MTL – Matale, BTL – Batticaloa, PLN – Polonnaruwa, JFN – Jaffna, RTN – Rathnapura, HMB – Hambanthota, MNG – Monaragala, KLT – Kalutara, PTL - Puttalama

Smoking Frequencies among Males

Frequencies of Smoking

Current Smokers can be categorized as '**Daily smokers**' and '**Non-daily smokers**' based on their smoking frequency. Non-daily users can be further categorized as who smoke 'Few times within a month' regularly or 'Occasional users' who only smoke during special occasions.

From the responded current smokers, almost three fourth (72.2%; n=563, 69.1%-75.3%) were daily smokers as shown in Figure 8.

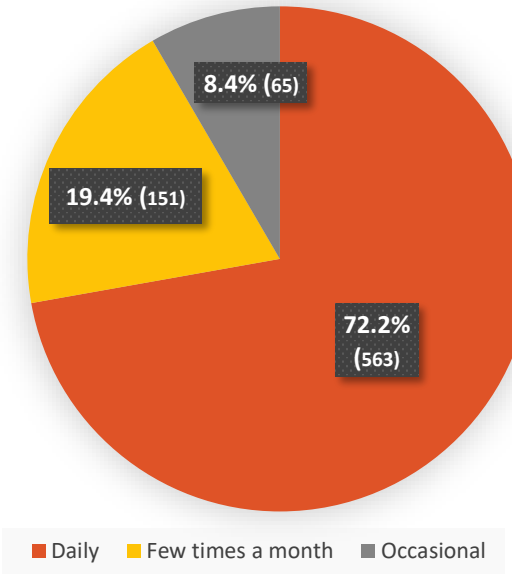


FIGURE 8: FREQUENCY OF TOBACCO SMOKING AMONG MALES (2018)

Frequencies of Smoking by Age

As shown in Figure 9, across the age groups most smokers were 'Daily smokers'. Proportion of daily users have increased with age. There were 75.8% (n=122) of daily smokers above 40 years age group, and 71.7% (n=263) and 63.6% (n=131) respectively within 25-39 and 15-24 age groups.

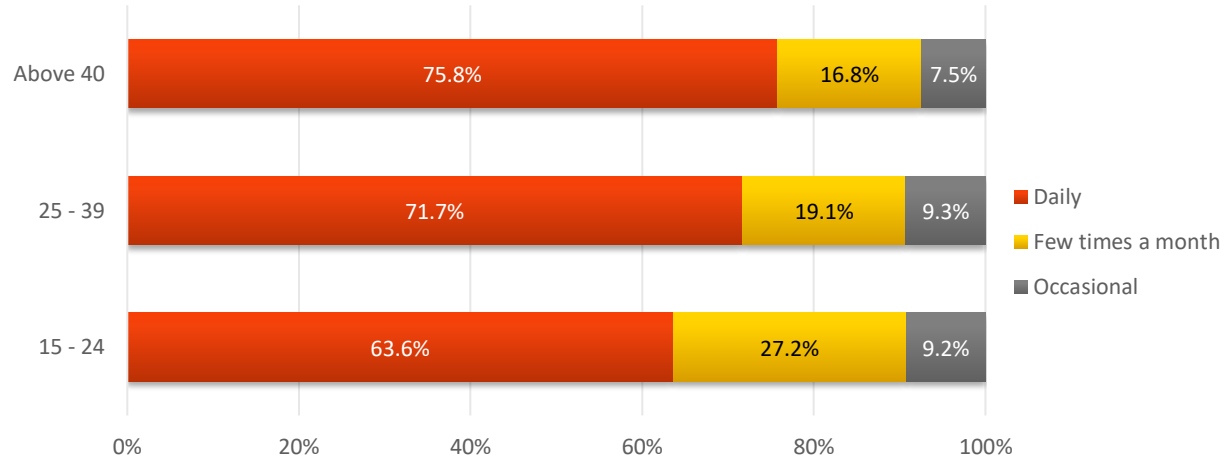


FIGURE 9: FREQUENCIES OF SMOKING BY AGE GROUP

Use of Smoking Products among Males

As shown in Figure 10, from current smokers (n=785) who took part in the survey, 89.5% (n=697, 87.3%-91.7%) were using 'Cigarettes' (includes mix use) which was clearly the most common smoking tobacco product used. Users of cigarettes were more than five times from next highest 'Beedi' which were consumed only by 15.9% (n=124, 14.3%-15.95) of current smokers while 'Cigars' were used by only 3.2% (n=27, 2.2%-4.8%).

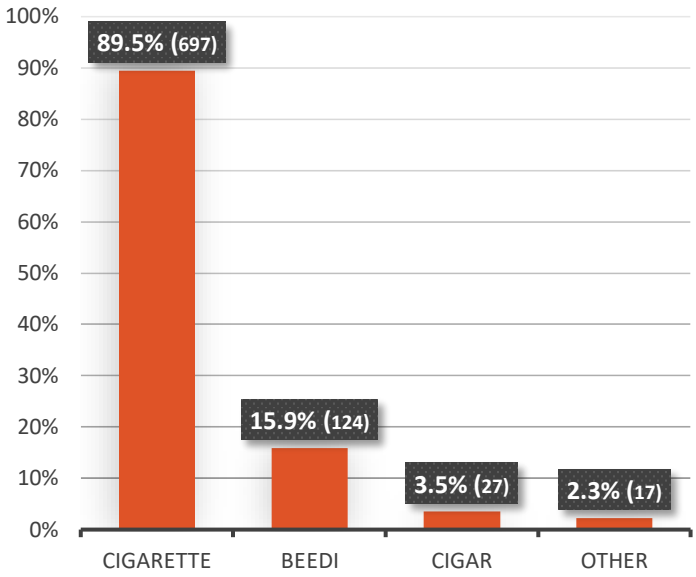


FIGURE 10: TYPE OF PRODUCTS USED BY CURRENT SMOKERS
Note: Values are including mix use of different products

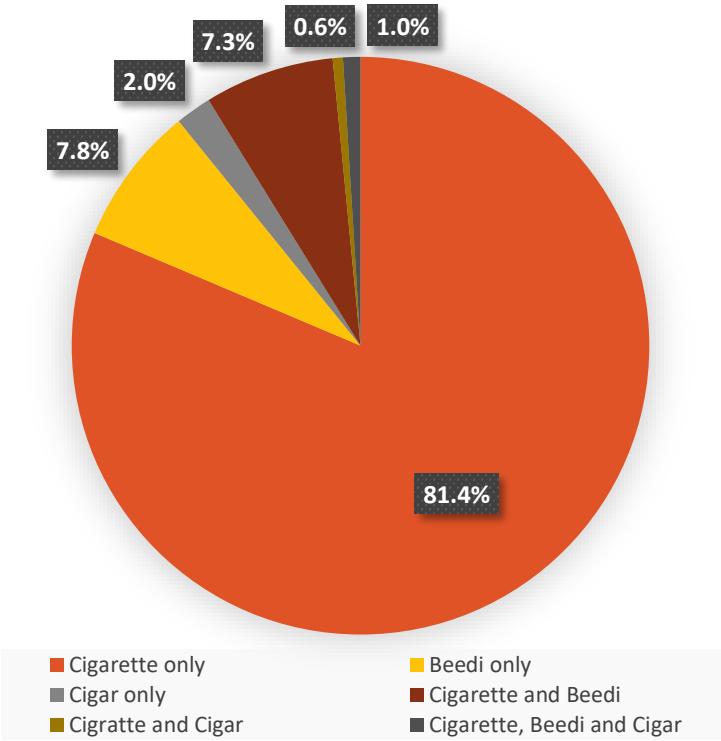


Figure 11 shows that a clear majority of current smokers were exclusively using cigarettes (81.4%, 78.6%-84.1%) while next highest was beedi at 7.8% (5.9%-9.7%) which is ten times lower than cigarettes use. Another 7.3% (5.4%-9.1%) were using both cigarettes and beedi.

FIGURE 11: EXCLUSIVE /MIX USE OF TOBACCO SMOKING PRODUCTS BY CURRENT SMOKERS

Use of Smoking Products by Age Group

Figure 12 illustrates how different smoking products were used by the current smokers in different age groups. Cigarettes were the most used product across age groups. Beedi and cigars use was comparatively higher with smokers above 40 years than two younger age groups.

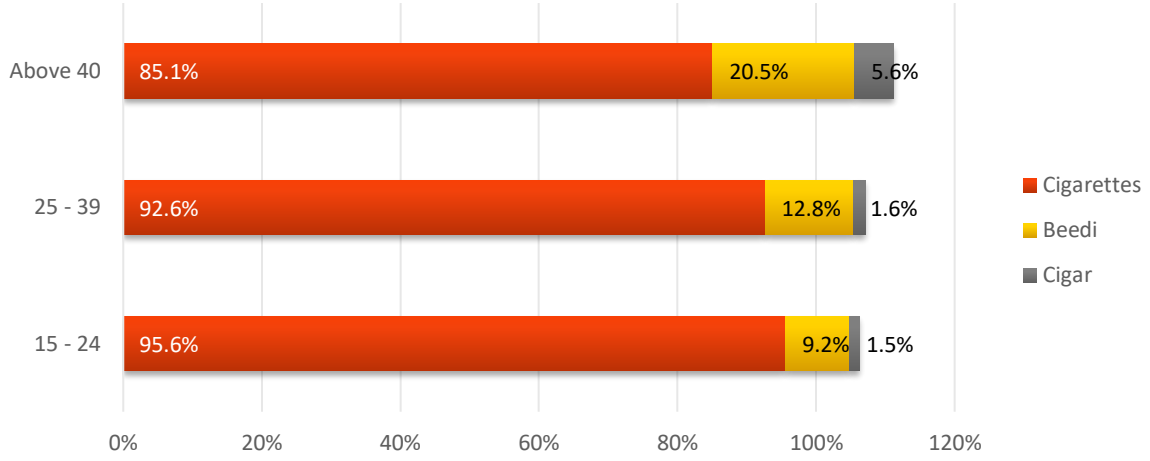
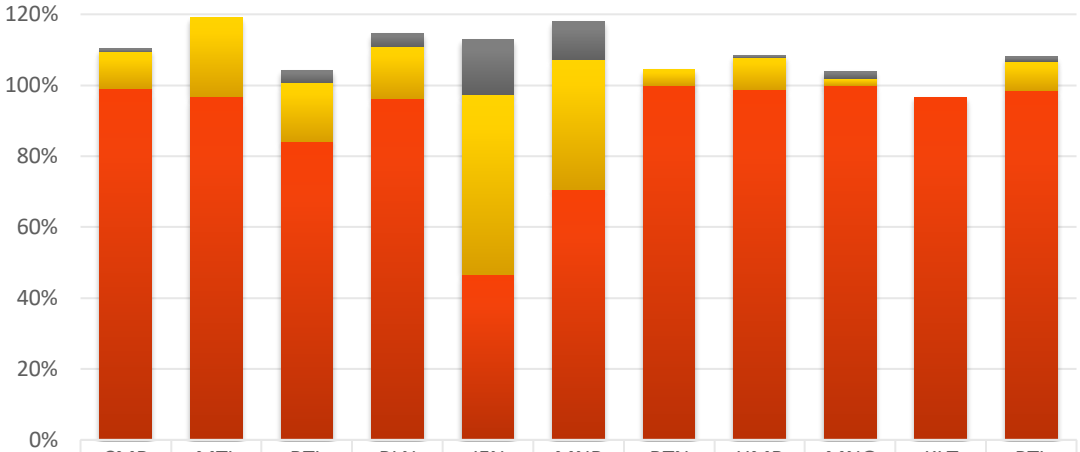


FIGURE 12: TYPES OF SMOKING PRODUCTS USE IN DIFFERENT AGE GROUPS
Note: Values are including mix use of different products

Use of Smoking Products by District

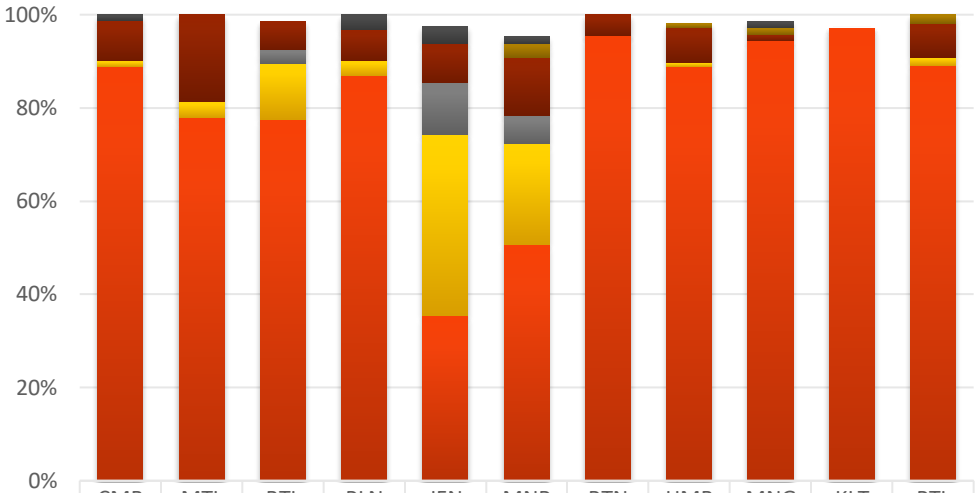
Cigarettes has been the most common form of smoking product from used by current smokers in all districts except for Jaffna. Smokers of beedi have preceded smokers of cigarettes in Jaffna while Mannar also reported a high user of beedi. Both these two districts are in Northern province.



	CMB	MTL	BTL	PLN	JFN	MNR	RTN	HMB	MNG	KLT	PTL
Cigar	1.0%	0.0%	3.5%	3.8%	15.5%	11.0%	0.0%	0.6%	2.0%	0.0%	1.2%
Beedi	10.2%	22.3%	16.6%	14.6%	50.7%	36.5%	4.4%	9.1%	2.0%	0.0%	8.3%
Cigarettes	99.2%	96.7%	84.1%	96.2%	46.7%	70.6%	100.0%	98.7%	100.0%	96.6%	98.5%

FIGURE 13: DIFFERENT SMOKING PRODUCTS USED BY CURRENT SMOKERS AT DISTRICT LEVEL
CMB – Colombo, MTL – Matale, BTL – Batticaloa, PLN – Polonnaruwa, JFN – Jaffna, RTN – Rathnapura, HMB – Hambanthota, MNG – Monaragala, KLT – Kalutara, PTL - Puttalama
Notes: Values are including mix use of different products

Figure 14 further elaborates the use of different smoking products at district level based on exclusive use and mix use. In the two districts where beedi users were higher, exclusive users of beedi too have been high compared to other districts. In all other districts exclusive use of cigarettes were high by a considerable margin.



	CMB	MTL	BTL	PLN	JFN	MNR	RTN	HMB	MNG	KLT	PTL
Cigarettes, Beedi and Cigar	1.2%	0.0%	0.0%	3.3%	3.7%	1.5%	0.0%	0.0%	1.4%	0.0%	0.0%
Cigarettes & Cigar	0.0%	0.0%	0.0%	0.0%	0.0%	3.1%	0.0%	0.9%	1.4%	0.0%	1.8%
Cigarette & Beedi	8.6%	18.6%	6.0%	6.6%	8.5%	12.3%	4.4%	7.4%	1.4%	0.0%	7.3%
Cigar only	0.0%	0.0%	3.0%	0.0%	11.0%	6.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Beedi only	1.2%	3.4%	11.9%	3.3%	39.0%	21.5%	0.0%	0.9%	0.0%	0.0%	1.8%
Cigarette only	88.9%	78.0%	77.6%	86.9%	35.4%	50.8%	95.6%	88.9%	94.4%	97.1%	89.1%

FIGURE 14: EXCLUSIVE/MIX USE OF DIFFERENT PRODUCTS BY CURRENT SMOKERS BY DISTRICT

Use of Smoking Products by Smoking Frequency

Cigarettes were the most used smoking product by the current smokers irrespective of frequency of smoking. Among daily smokers 89.1% (n=502) were using cigarettes and only 18% were using beedi.

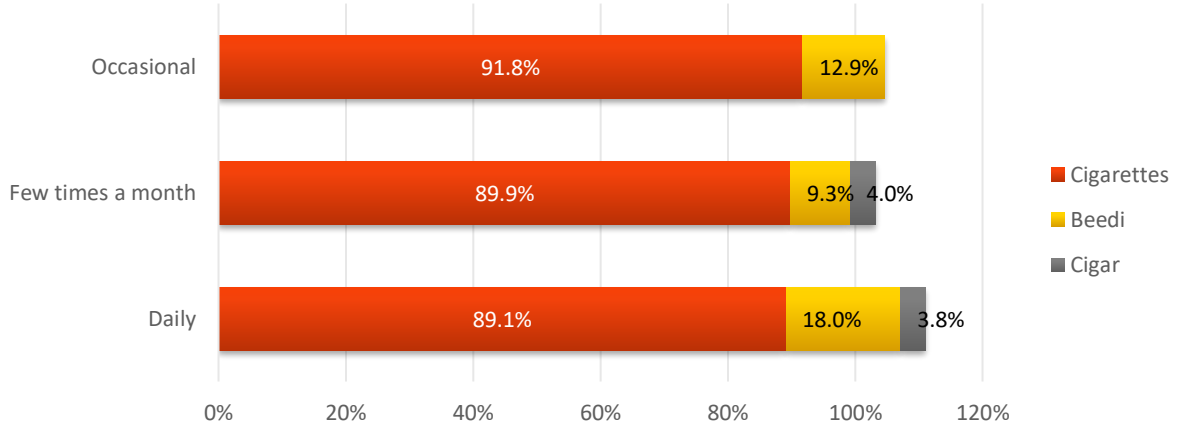
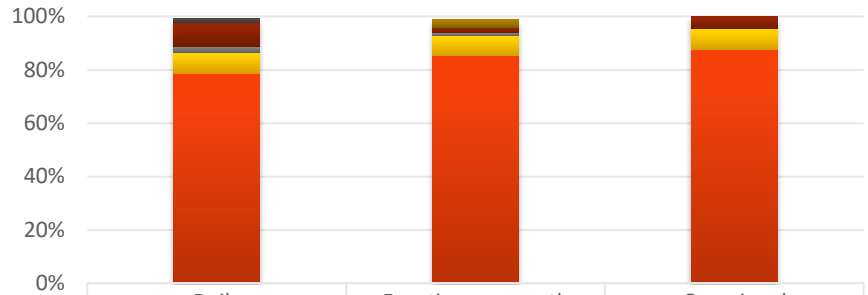


FIGURE 15: TYPES OF SMOKING PRODUCT USED BY DIFFERENT TYPE OF SMOKERS
Note: Values are including mix use of different products

As further shown in Figure 16, 78.7% of daily smokers exclusively use cigarettes. Exclusive users of beedi on daily basis is one tenth of exclusive cigarette use. Even among non-daily smokers, exclusive users of cigarettes were clearly more than user of other types.

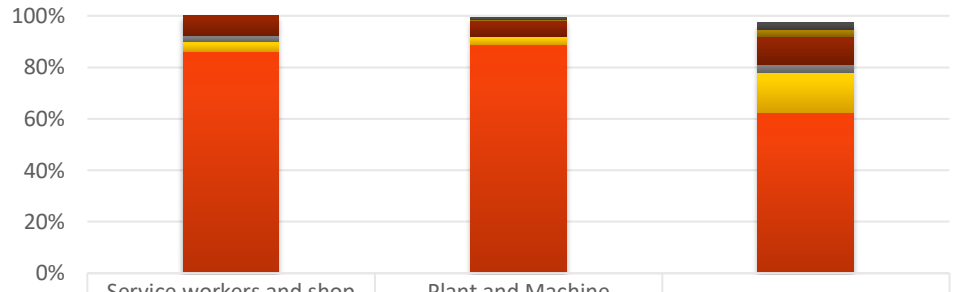


	Daily	Few times a month	Occasional
Cigarette, Beedi & Cigar	1.4%	0.0%	0.0%
Cigarette & Cigar	0.2%	2.6%	0.0%
Cigarette & Beedi	8.9%	2.0%	4.6%
Cigar only	2.3%	1.3%	0.0%
Beedi only	7.8%	7.3%	7.7%
Cigarette only	78.7%	85.4%	87.7%

FIGURE 16: EXCLUSIVE/MIX USE OF DIFFERENT PRODUCTS BY CURRENT SMOKERS BY DISTRICT

Smoking Products Used by Occupation

Users of different smoking products among different occupational groups (n>100) were as shown Figure 17. Exclusive use of cigarettes were the highest in each of the three occupational group. Within 'Elementary occupation' group, higher exclusive users of beedi were observed compared to other two groups. Remaining occupational groups did not have enough responses (<100) on types used to estimate conclusively.



	Service workers and shop and market sales workers	Plant and Machine Operators and Assemblers	Elementary Occupations
Cigarette, Beedi & Cigar	0.0%	0.7%	2.7%
Cigarette & Cigar	0.0%	0.7%	2.7%
Cigarette & Beedi	7.8%	5.9%	10.7%
Cigar only	2.3%	0.0%	3.4%
Beedi only	3.7%	3.3%	15.4%
Cigarette only	86.2%	88.8%	62.4%

FIGURE 17: EXCLUSIVE/MIX USE OF SMOKING PRODUCTS BY OCCUPATION

Smoking Initiation among Males

Age of Smoking Initiation

Initiation of tobacco smoking have occurred mostly at ages of 18 - 20 years (39.7%, n=567) and 15 – 17 years (20.4%, n=291). Over one fourth of current smokers (28.2%) have initiated smoking below 18 years. More than two third of total smoking initiation (68.0%, n=969) have occurred below 21 years. Also, 93.0% of total smoking initiation have occurred before 30 years.

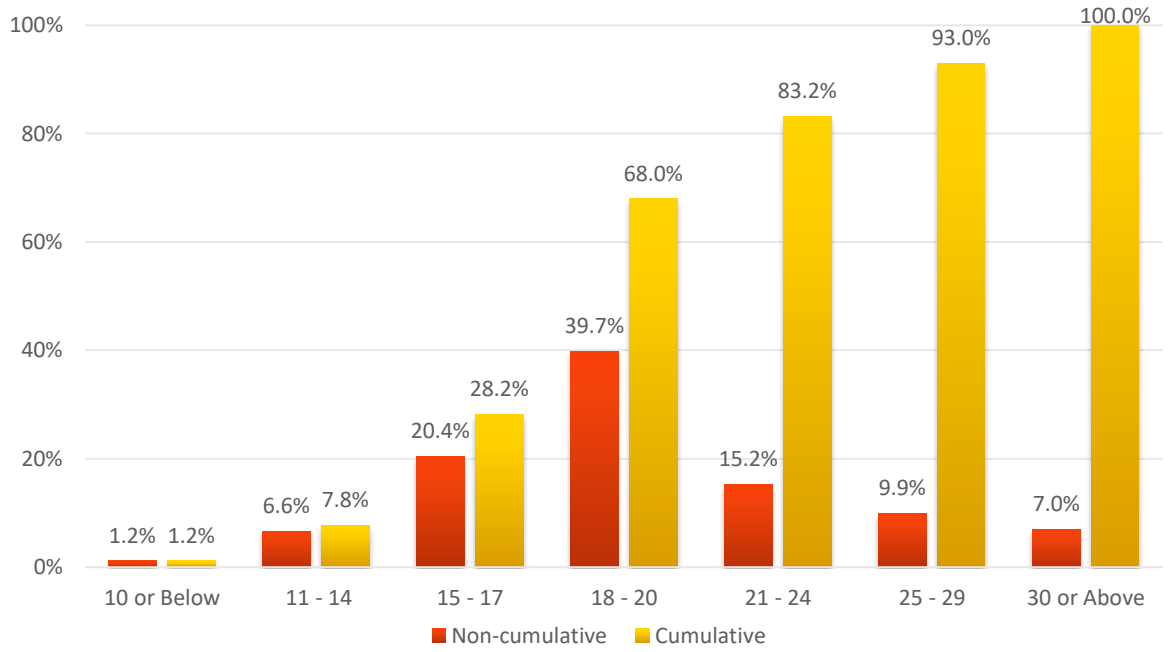


FIGURE 18: INITIATION AGE OF TOBACCO SMOKING

Initiation Age by Age Group

As shown in Table 3, mean initiation age has reduced with age group. In elderly group (40 or above) mean initiation age was 21.1 years (n=311, SE =0.379) while in the youngest group (15 – 24 years) it was only 17.8 years (n=349, SE = 0.133). This variance between the age groups has been significant (F=46.4, df=2, p < 0.001). However, it is possible that elderly group had difficulties in remembering the exact year (recalling bias).

TABLE 3: INITIATION AGE BY AGE GROUP

Age Group	N	Mean	Median	Std. Deviation	Std. Error of Mean	Skewness	F Value (Sig.)
15 - 24	349	17.8	18.00	2.484	0.133	-0.488	46.4 (p <0.001)
25 - 39	644	19.7	20.00	4.034	0.159	0.564	
40 or Above	311	21.1	20.00	6.679	0.379	1.548	

Type of Tobacco at Initiation

Figure 19 presents the type of tobacco smoking product used during initiation by ever smokers. Cigarette was the most commonly used product by a large margin across different categories analysed. Among youth who have initiated smoking during last year, 94.9% (n=74) have used cigarettes. Among all ever smokers across the ages, cigarettes were used for initiation by 82.2% (n=1189), while next highest tobacco smoking product type used was beedi which was only 13.5% (n=196).

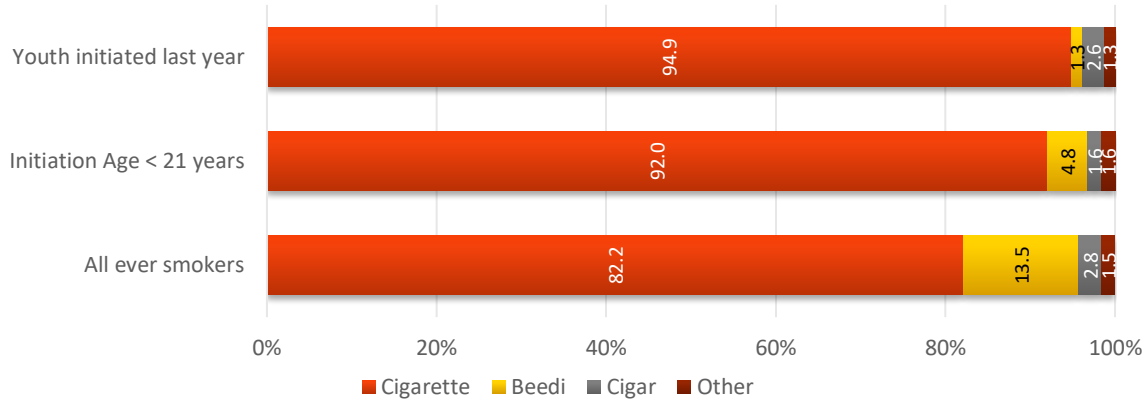


FIGURE 19: TYPE OF TOBACCO SMOKING PRODUCT USED AT INITIATION

Initial Experience of Smoking

Most reported experience across the categories was an *"Unpleasant experience"*. This was 58.7% (n=820) among all ever users and 71.5% (n=241) among the youth ever smokers. Unpleasant experience reported were cough, headache, burning sensation, bad smell etc. Next most reported experience in all three categories were "*Nothing*" which means they have not felt anything special during first use. A pleasant experience were reported by less than 10% of the respondents in all three categories.

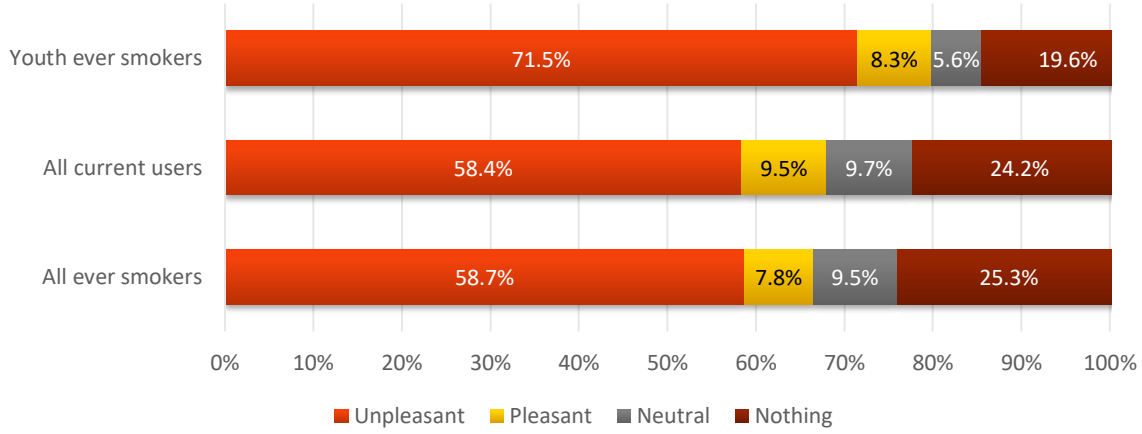


FIGURE 20: INITIAL EXPERIENCE OF SMOKING

Initiation Occasions of Smoking

From the respondents of smokers on initiation occasion (n=1418), a majority have initiated “With friends” (62.3%, n=883).

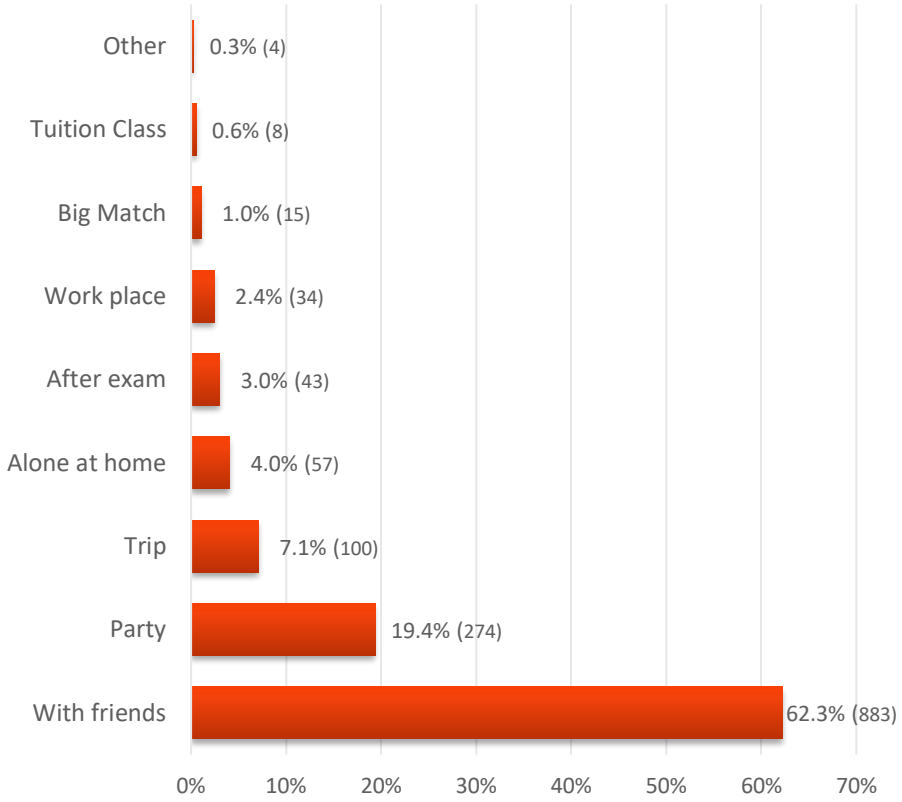


FIGURE 21: INITIATION OCCASIONS OF SMOKING

Smoking Cessation

Quitting

A considerable proportion of ever male smokers (whom have smoked during their lifetime) have quit smoking at the time of the survey (41%, n=595) as shown in Figure 22. However, 58.6% (n=844) of ever smokers have not.

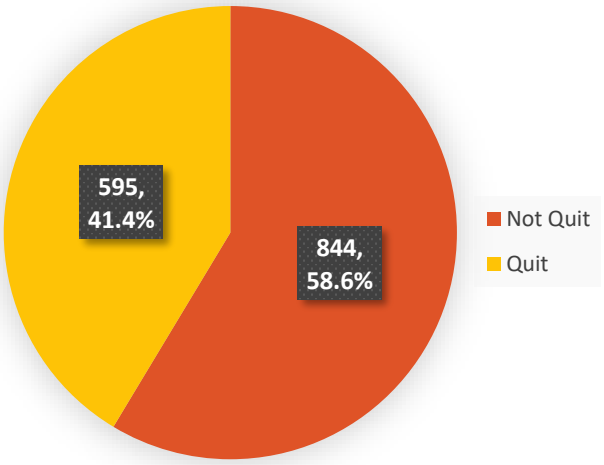


FIGURE 22: QUITTING FROM TOBACCO SMOKING BY EVER SMOKERS

Quitting Age

As presented in Table 4, overall mean quitting age (weighted for age group) was 29.31 years (SD: 10.38). Among the three age groups responded to the survey, youngest age group showed the lowest mean age of 19.72 years (SD: 2.27) while eldest group had the highest mean age of 33.97 years but with a higher deviation (SD: 11.23).

TABLE 4: AGE QUIT FROM TOBACCO SMOKING

	No. of Respondents	Mean quit age (Years)	Std. Deviation (Years)	Min – Max (Years)
Overall (weighted)	535	29.31	10.38	12 - 62
Age group				
15 - 24 Years	113	19.72	2.27	12 - 24
25 - 39 Years	228	25.28	5.01	13 - 41
40 or Above	126	33.97	11.23	14 - 62

Reasons to Quit Smoking

Among respondents who have quit from smoking during youth period (15-24 years, n=198); done it due to 'dislike' or considering it as a 'useless' act more than other reasons (46%, n=91). However, among respondents who quit from smoking beyond age 40 years (n=85), most have quit smoking due to 'health concerns' (59%, n=50) more than the other reasons. Most common reasons to quit among respondents who have quit smoking within 25-39 years (n=208) were, 'dislike/useless' (37%, n=76) and 'health concerns' (32%, n=67).

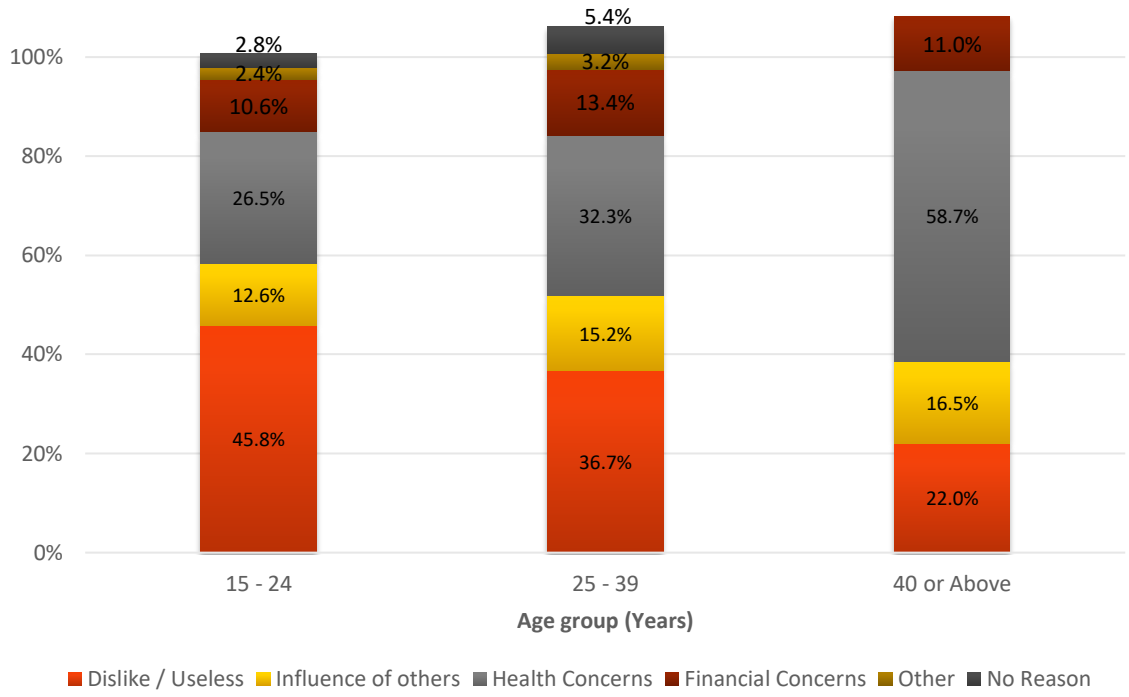


FIGURE 23: REASONS TO QUIT FROM SMOKING

Expenditure on Smoking

Monthly Expenditure on Tobacco Smoking per Smoker

As shown in Table 5, dispersions of monthly expenditure per smoker for current smokers overall or in other subcategories were highly right skewed which means there are some outliers in these subgroups who spend much more than the rest (but not many). Current smokers within 'above 40 years' and within 'daily smokers' categories, have a larger median value and an IQR for expenditure per smoker than other groups.

TABLE 5: MONTHLY EXPENDITURE PER USER ON SMOKING

	No. of Respondents	Median (In rupees)	IQR (In rupees)	Min-Max (In rupees)
Age Group (All current smokers)				
15 - 24	184	3000	1000-5000	100 - 30000
25 - 39	328	3000	1325-6000	150 - 25000
40 or Above	145	3600	1100-7500	10 - 22500
Age Group (Daily smokers only)				
15 - 24	118	4500	3000-7125	150 - 30000
25 - 39	244	4500	2500-7500	150 - 25000
40 or Above	112	5000	2000-7500	100 - 22500
Smoking Frequency				
Daily	517	4500	2400-7500	100 - 30000
Few times a month	141	557	300-1500	10 - 8000
Occasional	35	500	260-1000	100 - 6000
Overall (weighted)	**699**	3000	1034-6000	10 - 30000

Note: Expenditure is for all types of smoking tobacco products.

Median value of expenditure in last month for 'Daily' smokers (Rs. 4500) is considerably higher than overall value (Rs. 3000). This could be because median for expenditure of 'Non-daily' smokers is very small comparatively (Rs 557 and 500). Since above 70% of smokers are 'Daily' smokers, it is better to analyse the expenditure patterns of 'Daily' smokers to get a better understanding on level of expenditure.

Expenditure on smoking in last month for all current smokers and 'Daily' smokers in each district is as per Figure 24 and Figure 25 respectively. Jaffna and Mannar districts have shown a smaller median value on expenditure compared to other districts. This could be because use of lower priced tobacco product 'beedi' was more prominent over higher priced 'cigarettes' in these two districts than others. Kalutara district showed the bigest variation of expenses and Matale had the highest median value for expenditure per smoker for all current smokers and daily smokers.

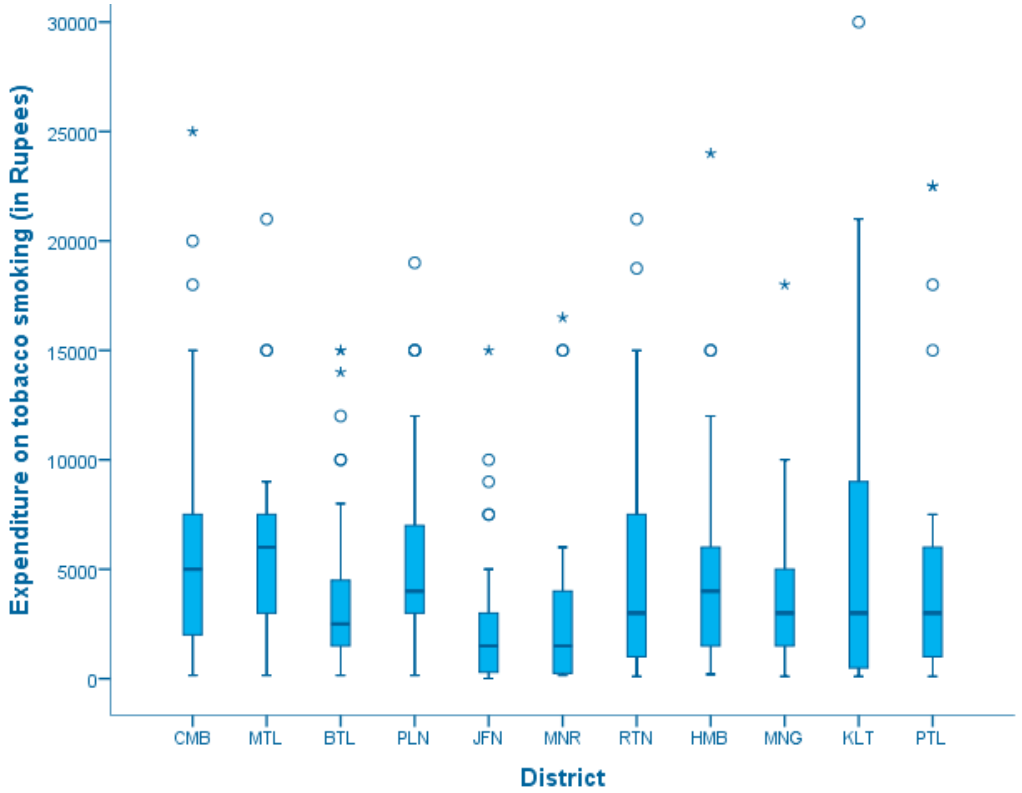


FIGURE 24: MONTHLY EXPENDITURE ON TOBACCO SMOKING PER SMOKER

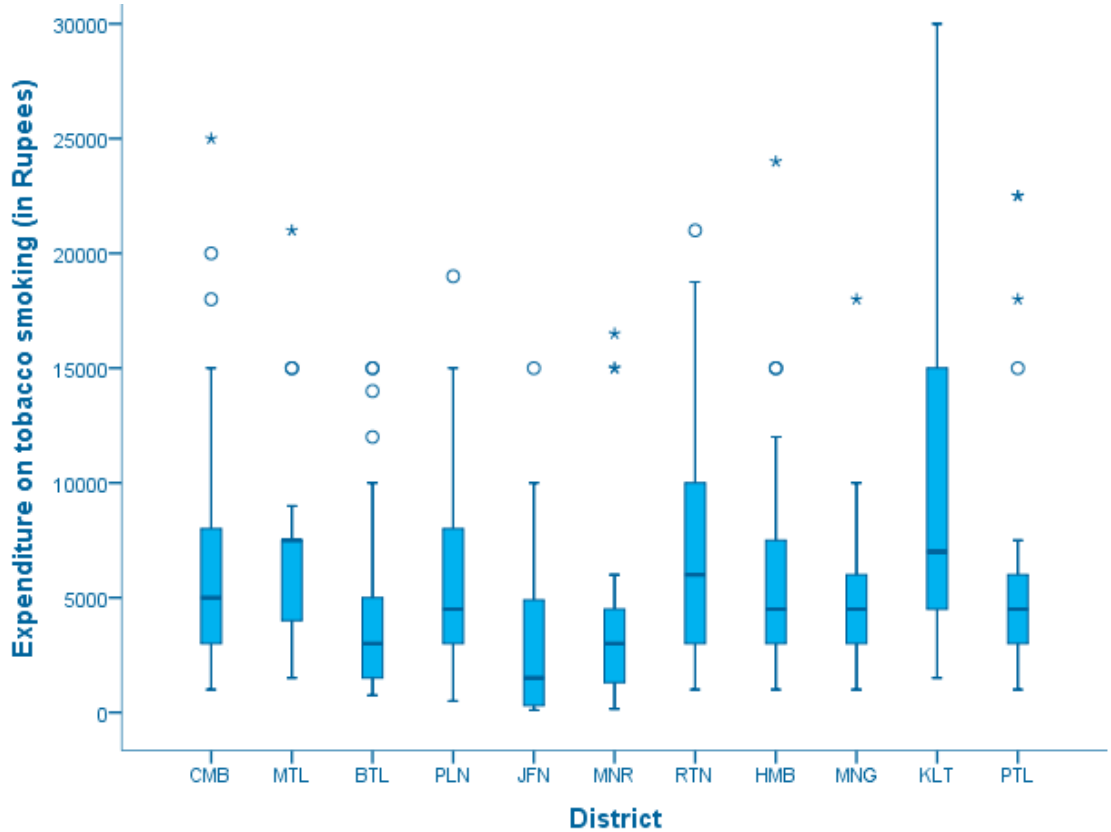
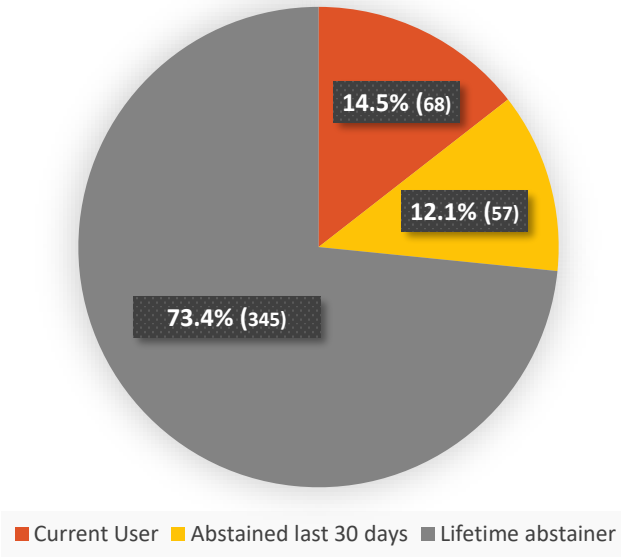


FIGURE 25: MONTHLY EXPENDITURE ON TOBACCO SMOKING PER SMOKER (DAILY)

Notes: CMB – Colombo, MTL – Matale, BTL – Batticaloa, PLN – Polonnaruwa, JFN – Jaffna, RTN – Rathnapura, HMB – Hambanthota, MNG – Monaragala, KLT – Kalutara, PTL - Puttalama

Miscellaneous

Smoking below 21 Years



Age 21 is legal age limit to purchase tobacco products. It is prohibited to purchase or sell tobacco products to anyone under 21 years of age according to National Authority on Tobacco and Alcohol Act No. 27 enacted in 2006. However, as shown in Figure 26, from male respondents below 21 years, 14.5% (n=68) were current smokers. Also, one fourth of the respondents were ever smokers (i.e. smoked once in lifetime).

FIGURE 26: STATUS OF SMOKING BELOW 21 YEARS

Figure 27 shows that 95.5% (n=64, 90.6%-100.5%) of current smokers below 21 were using cigarettes for smoking which clearly stands out from other product types used. Next highest type 'beedi' was used seven times lesser than cigarettes.

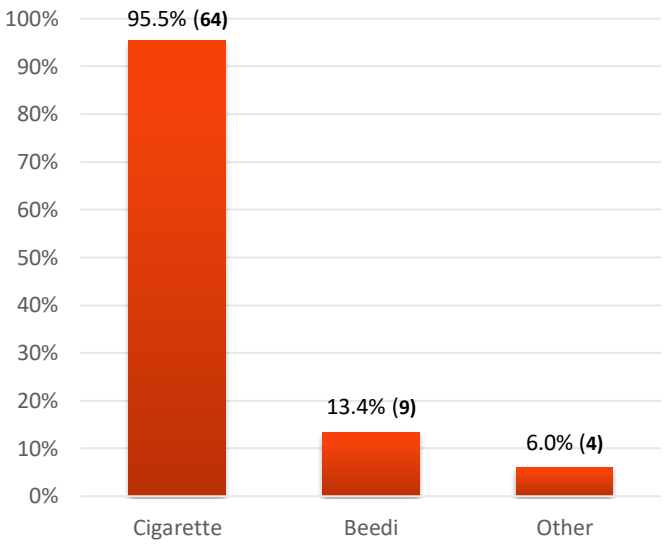
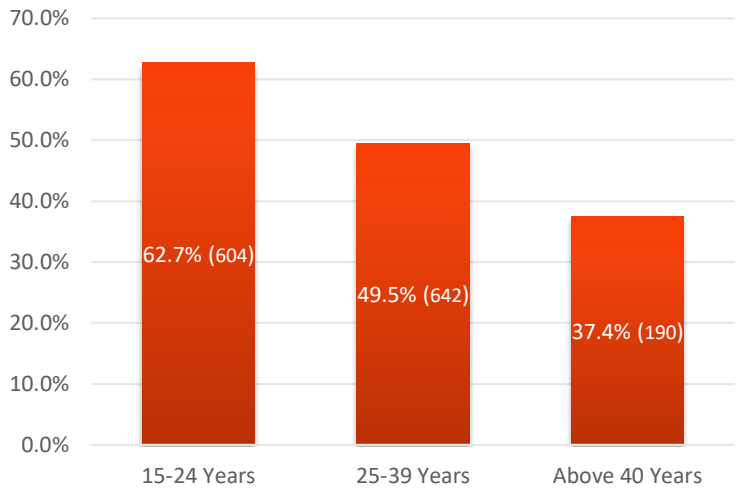


FIGURE 27: TYPES OF SMOKING PRODUCTS USED BY CURRENT USERS BELOW 21 YEARS

Life time abstainers



As shown in Figure 28, most proportion of lifetime abstainers of smoking (never smokers) are in younger age groups. In 15-24 age group it has been 62.7% (n=604) and reduced to 49.5% (n=49.5) and 37.4% (n=190) in subsequent 25-39 and above 40 years age groups.

FIGURE 28: LIFE-TIME ABSTAINERS FROM SMOKING

Among the never smokers in youth group and in overall, most common reason stated for abstaining is due to 'unpleasantness' and it was stated by more than one third of the never smokers. Next highest reasons given were, concerns on negative consequences and considering it as a useless act (Figure 29). In combination, these three facts were given as reasons for life-time abstinence by over 80% of never smokers in youth group and overall.

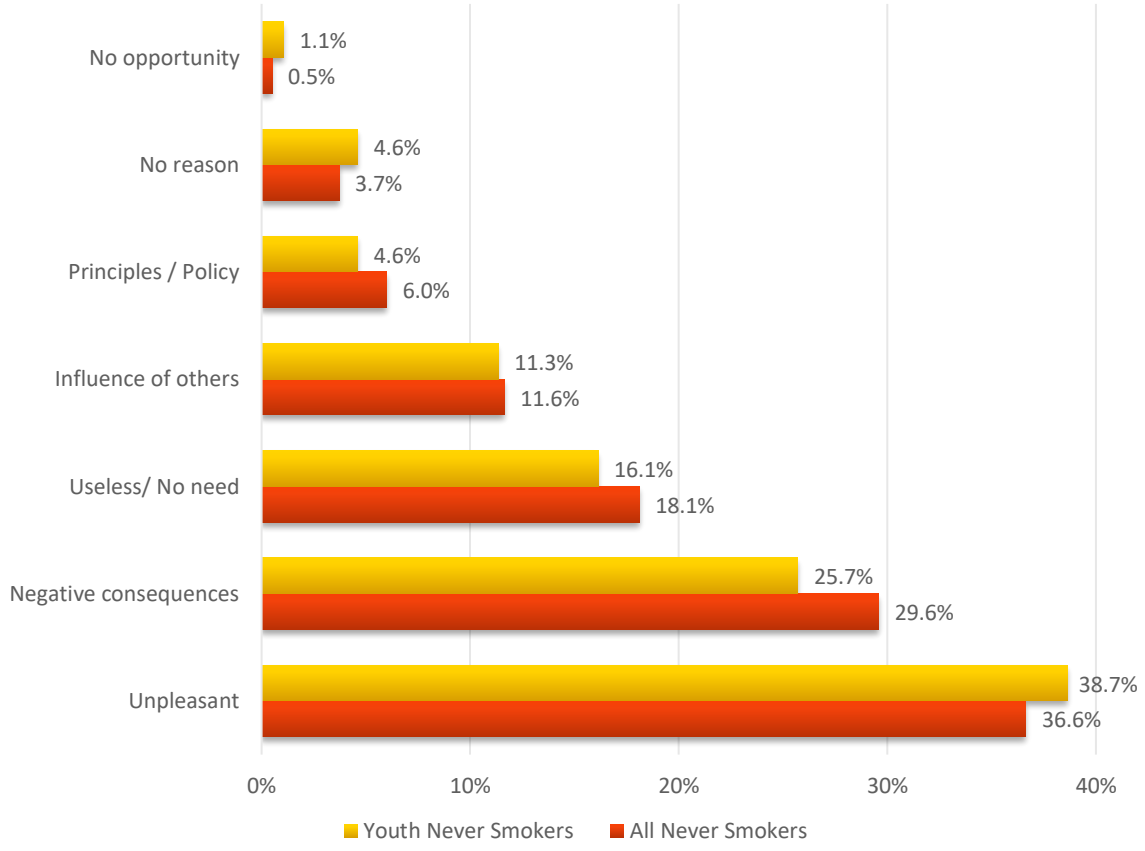


FIGURE 29: REASONS FOR LIFE-TIME ABSTINENCE FROM SMOKING

Reasons for Smoking

As per the reasons for continuing smoking given by current smokers (Figure 30), most of them were smoking as a habit. Proportion of smokers doing it due to a 'habit' has increased considerably with age of the respondents. In youngest group it was 45.8% (n=93) while it was 63.2% (n=222) and 72.8% (n=115) for 25-39 and above 40 years age groups. Smokers continuing smoking due to pleasure (21.7%, n=44) is less than half of who does it as a 'habit' in youth group and it has decreased nearly to one fifth in two older groups as 13.7% (n=48) and 13.9% (n=22) respectively.

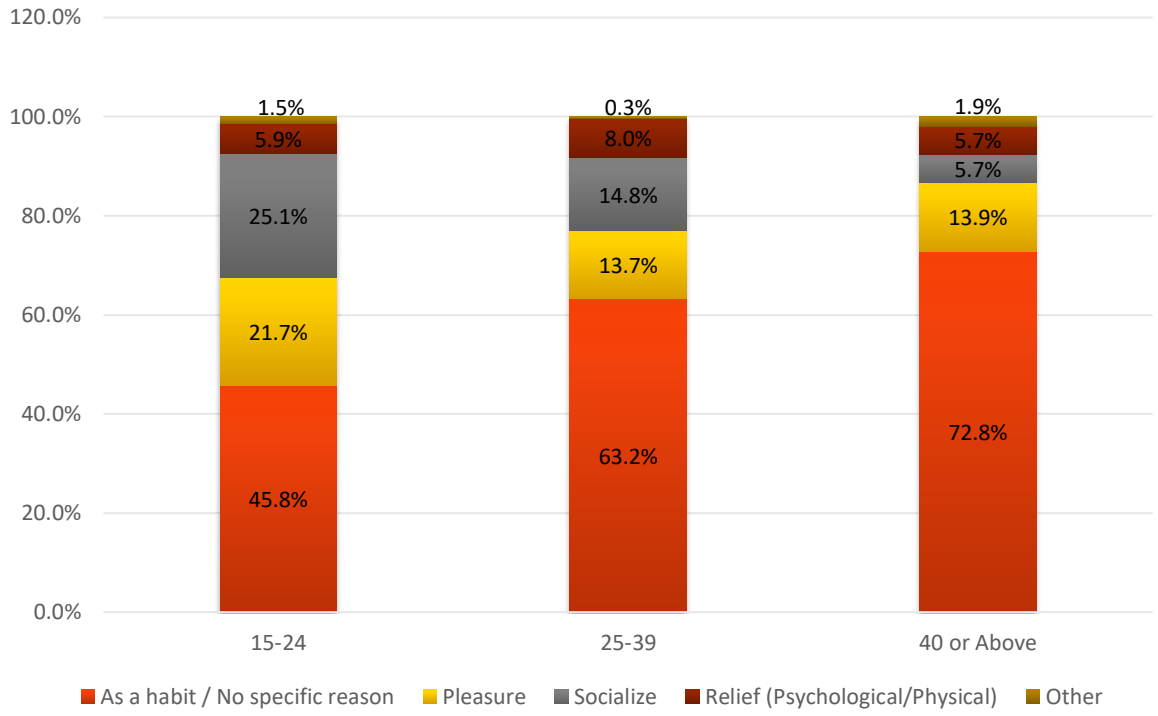
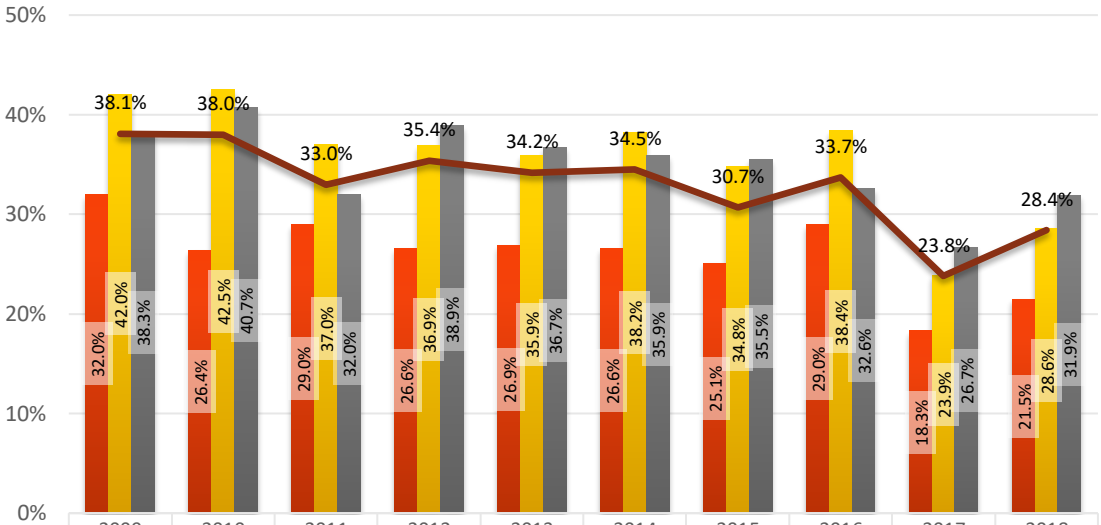


FIGURE 30: REASONS FOR SMOKING BY CURRENT SMOKERS

Tobacco Smoking Trend in Last Ten Years (2009-2018)

As Figure 31 illustrates, last ten years shows a decreasing trend in tobacco smoking in Sri Lanka. However 2018 shows an increase compared to 2017 but still lower than 2016 rates. Reduction of tobacco smoking rate in 2017 could be attributed to the considerable price hike on most sold cigarette brands in late 2016. But prices did not change for a 20 month period from November, 2016 to July, 2018. This absence of incremental price increase resulted in improving affordability of cigarettes during this period, thus influencing the demand. This could be the main cause for the increase observed in 2018.



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
15-24	32.0%	26.4%	29.0%	26.6%	26.9%	26.6%	25.1%	29.0%	18.3%	21.5%
25-39	42.0%	42.5%	37.0%	36.9%	35.9%	38.2%	34.8%	38.4%	23.9%	28.6%
40 or Above	38.3%	40.7%	32.0%	38.9%	36.7%	35.9%	35.5%	32.6%	26.7%	31.9%
Overall (Weighted)	38.1%	38.0%	33.0%	35.4%	34.2%	34.5%	30.7%	33.7%	23.8%	28.4%

FIGURE 31: TOBACCO SMOKING TREND IN LAST TEN YEARS (2009-2018)

Source: Trend Surveys on Tobacco Smoking by Alcohol and Drug Information Centre (2009 - 2018).
Note: Overall current smoking rate is calculated by weighting age group wise according to age distribution of national population in Census and Statistics (2012).

Discussion

In year 2016 prices of most sold cigarettes increased by 43% due to increase of excise tax and imposing 15% VAT on cigarettes. Overall smoking is very sensitive to cigarette prices since majority of tobacco smokers are cigarette consumers. This was reflected by drop of cigarette sales by 700 million sticks (NDDCB, 2017) and a 27% reduction of smoking (ADIC, 2017) following the price increase in 2016. However, there were no price increase on cigarettes from November, 2016 to July, 2018. And this absence of incremental price changes for a period of 20 months have made cigarettes more affordable to the consumer. This is the main reason for observed increase of tobacco smoking in this report (2018) compared to 2017. However 2018 rates are still lower than 2016 and the downward trend of smoking in last decade or more is continuing.

Results also shows that a clear majority of current smokers uses 'Cigarettes' (89.5%). From current smokers 81.4% uses only cigarettes. Next highest was 'beedi' and it is used by only 15.3%. This finding is consistent with previous trend surveys and STEP survey conducted by WHO which reported a lower use of beedi. However, Tobacco Industry have stated beedi market in Sri Lanka is 1.5 times bigger than the cigarette market (CTC, 2018). But, results through this survey is a strong proof that industry quoted figures on 'beedi' market is far from reality. Overall users of 'beedi' were 5.8 times lesser than the cigarette users. Since most common form of smoking is with 'cigarettes' by a large margin, more priority should be made on controlling cigarettes. But at the same time controlling 'beedi' should not ignored since in some areas 'beedi' users were quite high (e.g. 50.6% in Jaffna).

Legal age limit to purchase tobacco products in Sri Lanka is a minimum of 21 years. But this study has observed that from respondents below 21 years of age, 14.5% were current smokers. And most of them were using 'cigarettes' (95.5%) while next most used type 'beedi' was used only by 13.4%. Price of most sold cigarette brand is considerably higher than beedi but there are other cheaper alternative cigarettes available. Since most purchase cigarettes as loose sticks real effect of price is not felt. Therefore the controlling policies should take into consideration other non-price factors which affects the affordability of cigarettes like banning of single stick sales (which is a violation of pictorial health warnings) and reassessing the tax structure to encounter availability of cheaper cigarettes in the market.

WHO estimates deaths caused annually in Sri Lanka due to smoking as 12,351 or 10% of all deaths (WHO, 2018). Another study conducted by WHO have estimated cost to the Sri Lankan economy due to premature deaths and disabilities by tobacco smoking is much higher than the tax revenue from tobacco. Therefore the negative consequences of smoking are too severe to ignore and any sign of an increase on smoking should considered as a warning. This report raises an alarm for the policy makers, institutions and advocates to further tighten the prevailing tobacco control measures.

References

ADIC. (2017). *SPOT Survey - Report on Smoking Trends in Sri Lanka.* Alcohol and Drug Information Centre. Retrieved from http://adicsrilanka.org/wp-content/uploads/2018/12/Tobacco-report-2017-July.pdf

CTC. (2018). *Ceylon Tobacco Company PLC - Annual Report 2018.* Ceylon Tobacco Company.

DCS. (2012). *Census of Population and Housing.* Department of Census & Statistics.

WHO. (2015). *National non communicable disease risk factor survey, STEPS survey Sri Lanka.* World Health Organization.

WHO. (2017). *Economoic and Social Costs of Tobacco and Alcohol in Sri Lanka 2015.* World Health Organization.

WHO. (2018). *Sri Lanka Tobacco Factsheet 20018 R4.* World Health Organization.

Annexure 1: Survey Instrument

DISTRICT	RATHNAPURA	HAMBANTHOTA	MONARAGALA	POLONNARUWA	PUTTALAM
COLOMBO	KALUTHARA	JAFFNA	MATALE	BATTICALOA	MANNAR

Residency of the participant verified?	☐
Purpose of the survey explained and consent of the participant received?	☐

Demographic Information	
Question	**Response**
1. What is your age?	<Years>
2. What is the highest level of education you have received?	1. No formal Education ☐ 2. Upto Grade 10 ☐ 3. Completed O/L ☐ 4. Completed A/L ☐ 5. Diploma ☐ 6. Degree ☐ 7. Vocational training ☐ 8. Other (please specify)
3. What is your occupation?	<please specify>

Tobacco Smoking Information	
4. Have you ever smoked?	1. Yes ☐ 2. No ☐
5. If 'No' for previous question, what were the reasons for it?	<please specify>
Note: Questions on smoking ENDs for never smokers.	
Questions 6 – 13 are <u>only</u> for <u>ever smokers</u>	
6. When did you smoke for the first time?	<Age in years>
7. What was the occasion you did it?	<please specify>
8. What type of smoking product you used when doing it for the first time?	1. Cigarette ☐ 2. Beedi ☐ 3. Cigar (Suruttu) ☐ 4. Other <please specify>
9. What did you feel/experience during first use?	<please specify>
10. Have you quit from smoking at present?	1. Yes ☐ 2. No ☐
11. What is the reason for it?	<please specify>

<table>
<tr><td>12. If answer is ‘Yes’ to question #10, when was it?</td><td><Age in years></td></tr>
<tr><td>13. When was the last time you smoked?</td><td>1. During last month(30 days) □
2. Before last month (30 days) □</td></tr>
<tr><td colspan="2">Questions 14 - 16 are only for who have smoked during last month (current smokers)</td></tr>
<tr><td>14. What are the types and frequencies of tobacco products you smoke?</td><td>
<table>
<tr><th>Type</th><th>Daily</th><th>Monthly</th><th>Occasional</th></tr>
<tr><td>Cigarettes</td><td>□</td><td>□</td><td>□</td></tr>
<tr><td>Beedi</td><td>□</td><td>□</td><td>□</td></tr>
<tr><td>Cigar</td><td>□</td><td>□</td><td>□</td></tr>
<tr><td>Other <specify></td><td>□</td><td>□</td><td>□</td></tr>
</table>
</td></tr>
<tr><td>15. How much did you spend on smoking in last month?</td><td>< Amount in Rupees></td></tr>
<tr><td>16. Reasons for continuing to smoke?</td><td><please specify></td></tr>
</table>

Note: Survey instruments were developed in Sinhala language and translated to other languages.

Annexure 2: Data Tables

TABLE 6: STATUS OF TOBACCO SMOKING BY SOCIO-DEMOGRAPHIC VARIABLES

	Number of resp.	Current Users	95% CI (%)	Abstained last 30 days	95% CI (%)	Lifetime abstainer	95% CI (%)
Categories of smoking by age group							
15-24 Years	963	21.5%	18.9-24.1	15.8%	13.5-18.1	62.7%	59.7-65.8
25-39 Years	1296	28.6%	26.2-31.1	21.8%	19.6-24.1	49.5%	46.8-52.3
Above 40 Years	508	31.9%	27.8-35.9	30.7%	26.7-34.7	37.4%	33.2-41.6
Overall (weighted)	**2767**	**28.4%**	**26.7-30.1**	**24.3%**	**22.7-25.9**	**47.4%**	**45.5-49.3**
Category of smoking status by occupation							
Students	199	9.5%	5.5-13.6	14.1%	9.2-18.9	76.4%	70.5-82.3
Retired	73	14.3%	6.3-22.3	17.6%	8.9-26.4	68.1%	57.4-78.8
Unemployed	119	14.3%	8.0-20.6	17.6%	10.8-24.5	68.1%	59.7-76.4
Forces (Police & Armed Forces)	73	27.4%	17.2-37.6	42.5%	31.1-53.8	30.1%	19.6-40.7
Elementary Occupations	392	36.2%	31.5-41.0	21.2%	17.1-25.2	42.6%	37.7-47.5
Plant and Machine Operators and Assemblers	423	35.7%	31.1-40.3	28.1%	23.8-32.4	36.2%	31.6-40.7
Craft and related workers	101	41.6%	32.0-51.2	23.8%	15.5-32.1	34.7%	25.4-43.9
Skilled Agricultural and Fishery Workers	105	42.9%	33.4-52.3	25.7%	17.4-34.1	31.4%	22.5-40.3
Service workers and shop and market sales workers	834	25.8%	22.8-28.7	25.9%	22.9-28.9	48.3%	44.9-51.7
Clerks	58	27.6%	16.1-39.1	36.2%	23.8-48.6	36.2%	23.8-48.6
Technicians and Associate Professionals	101	25.7%	17.2-34.3	26.7%	18.1-35.4	47.5%	37.8-57.3
Professionals	93	21.5%	13.2-29.9	11.8%	5.3-18.4	66.7%	57.1-76.2
Legislators, Senior Officials and Managers	79	25.3%	15.7-34.9	19.0%	10.3-27.6	55.7%	44.7-66.7
Categories of smoking by district							
Colombo	261	29.5%	24.0-35.0	28.5%	23.0-33.9	42.3%	36.3-48.3
Matale	236	24.6%	19.1-30.1	23.8%	18.4-29.3	51.5%	45.1-57.8
Batticaloa	263	24.3%	19.1-29.5	14.1%	9.9-18.3	61.5%	55.6-67.4
Pollonnaruwa	272	23.2%	18.1-28.2	33.1%	27.5-38.7	43.8%	37.9-49.6
Jaffna	202	35.1%	28.6-41.7	8.4%	4.6-12.3	55.7%	48.8-62.5
Mannar	215	29.3%	23.2-35.4	17.1%	12.1-22.2	53.6%	46.9-60.3
Rathnapura	247	26.7%	21.2-32.2	31.6%	25.8-37.4	41.7%	35.6-47.8
Hambanthota	197	50.3%	43.3-57.2	23.3%	17.4-29.3	28.2%	21.9-34.5
Monaragala	235	27.2%	21.5-32.9	24.7%	19.2-30.2	47.4%	41.0-53.8
Kalutara	271	25.8%	20.6-31.0	28.0%	22.7-33.4	46.1%	40.2-52.1
Puttalam	253	20.6%	15.6-25.5	30.7%	25.0-36.4	48.8%	42.7-55.0

TABLE 7: TYPES OF TOBACCO PRODUCTS USED BY CURRENT SMOKERS

	No. of Respondents	Cigarettes	95% CI (%)	Beedi	95% CI (%)	Cigar	95% CI (%)
Types by age group							
15 - 24	236	95.6%	93.0-98.2	9.2%	5.5-12.9	1.5%	-0.1-3.0
25 - 39	367	92.6%	90.0-95.3	12.8%	9.4-16.2	1.6%	0.3-2.9
Above 40	161	85.1%	79.6-90.6	20.5%	14.3-26.7	5.6%	2.0-9.1
Overall (weighted)	**779**	**89.5%**	**87.3-91.7**	**15.9%**	**13.3-18.5**	**3.5%**	**2.2-4.8**
Types by district							
Colombo	80	99.2%	97.3-101.2	10.2%	3.5-16.8	1.0%	-1.2-3.1
Matale	59	96.7%	92.2-101.2	22.3%	11.7-32.9	0.0%	0.0-0.0
Batticaloa	66	84.1%	75.2-92.9	16.6%	7.6-25.6	3.5%	-0.9-8.0
Pollonnaruwa	63	96.2%	91.5-100.9	14.6%	5.9-23.4	3.8%	-0.9-8.5
Jaffna	85	46.7%	36.1-57.3	50.7%	40.1-61.3	15.5%	7.8-23.1
Mannar	62	70.6%	59.3-81.9	36.5%	24.5-48.5	11.0%	3.2-18.7
Rathnapura	66	100.0%	100.0-100.0	4.4%	-0.5-9.3	0.0%	0.0-0.0
Hambanthota	107	98.7%	96.6-100.8	9.1%	3.6-14.5	0.6%	-0.9-2.1
Monaragala	70	100.0%	100.0-100.0	2.0%	-1.3-5.3	2.0%	-1.3-5.2
Kalutara	70	96.6%	92.4-100.9	0.0%	0.0-0.0	0.0%	0.0-0.0
Puttalam	52	98.5%	95.2-101.8	8.3%	0.8-15.8	1.2%	-1.8-4.2

TABLE 8: FREQUENCIES OF TOBACCO SMOKING BY CURRENT SMOKERS

	No. of Respondents	Daily	95% CI	Few times a month	95% CI	Occasional	95% CI
Frequencies by age group							
15 - 24	206	63.6%	57.0-70.2	27.2%	21.1-33.3	9.2%	5.3-13.2
25 - 39	367	71.7%	67.1-76.3	19.1%	15.1-23.1	9.3%	6.3-12.2
Above 40	161	75.8%	69.2-82.4	16.8%	11.0-22.5	7.5%	3.4-11.5
Overall (weighted)	**779**	**72.2%**	**69.1-75.3**	**19.4%**	**16.6-22.2**	**8.4%**	**6.5-10.3**