

Report on Tobacco Control Policy-related Survey 2017

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1. Introduction

The prevalence of daily smoking in Hong Kong has reduced from 23.3% in 1982 to 10.0% in 2017, which is among the lowest in developed regions. Key tobacco control policies were implemented to increase tobacco tax, enlarge indoor and outdoor smoke-free areas, ban tobacco advertising, sponsorship and promotion, and adopt health warnings on cigarette packs. Pictorial health warnings must cover 85% of the cigarette packs by 21 June 2018 by law.

In December 2017, the Hong Kong Council on Smoking and Health (COSHS) advocated for the tobacco endgame towards a smoke-free Hong Kong with a smoking prevalence target of 5% or below by 2027¹. In May 2018, the Hong Kong Special Administrative Region (HKSAR) Government launched “Towards 2025: Strategy and Action Plan to Prevent and Control NCD in Hong Kong” with a smoking prevalence target of 7.8% by 2025². However, the drop in smoking prevalence has been slow in recent years without major advances in control strategies. For instance, tobacco tax has not been raised for 4 years since the small increase of 11.7% in 2014. Seven countries have adopted plain packaging and many regions (including Macau) have banned tobacco displays in retail outlets. At least six jurisdictions (New Zealand, Ireland, Scotland, Canada, Finland and Malaysia) have already announced their endgame goal (smoking prevalence below 5%). Therefore, much stronger tobacco control measures are urgently needed for Hong Kong to reach the above smoking prevalence targets.

Moreover, the re-emerging waterpipe tobacco and novel products including e-cigarettes and heat-not-burn (HNB) tobacco, have already drawn much public interest especially

among young people and those being attracted by the assertion that these products are safer or less harmful than conventional cigarettes. E-cigarettes and HNB tobacco are also promoted as effective smoking cessation aids despite the lack of evidence. Smokers should use the proven effective means and free cessation services instead. Widespread use of these new products risks renormalizing tobacco smoking as users may eventually turn to combustible cigarettes. Macau has banned the sale of e-cigarettes since January 2018. The HKSAR Government has not yet introduced a plan to ban these products. Further delay would lead to increasing growth and use of these products particularly in young people.

New research is needed to tackle these new challenges, along with frequent monitoring to inform and evaluate the effectiveness of tobacco control policies. COSHS commissioned the Tobacco Control Policy-related Survey (TCPS), a regular cross-sectional survey, to collect population representative information on smoking and public opinion on tobacco control. It was first conducted in 2013 and repeated yearly through 2017. Since 2015, each survey recruited around 5,100 respondents, with over sampling of smokers and ex-smokers. Results of TCPS have been used to advocate for introducing more tobacco control measures by the Government, and key findings were disseminated in publications and press conferences for tobacco control advocacy.

This report aims to show the key findings from TCPS 2017, and to invite more discussion and advocacy on new and innovative tobacco control policies. The findings are divided into 7 themes: (1) Smoking and quitting characteristics of

current smokers; (2) Exposure to secondhand and thirdhand smoke; (3) Opinions on extending no smoking area; (4) Opinions about health warnings and point-of-sale (POS) tobacco displays; (5) Public support for increasing tobacco tax; (6) Awareness, attitude and use of new or re-emerging tobacco products (e-cigarettes, HNB tobacco and waterpipe tobacco); and (7) Public support for new tobacco control measures.

2. Methods

2.1 Study design and participants

Anonymous computer-assisted telephone interviews based on a structured questionnaire were conducted by a survey agent (Public Opinion Programme, The University of Hong Kong) from April to September 2017. Respondents aged 15 years or above, speaking Cantonese or Putonghua, were recruited. They were divided into 3 groups: (a) current smokers who, at the time of the survey, consumed cigarettes daily or occasionally; (b) ex-smokers, who consumed cigarettes previously but did not smoke at the time of the survey; and (c) never smokers, who had never consumed cigarettes in their life time. Initial calls took place during 2:00pm to 10:30pm on weekdays and weekends to cover respondents of different occupations and working hours. Each randomly selected telephone number was called back 5 times, at different hours and days of the week, before it was considered as "non-contact". All respondents provided oral consent before the interview began, and could withdraw from the study at any time without providing any reasons.

2.2 Sampling methods and respondent selection

Telephone numbers were randomly selected from residential telephone directories. To capture unlisted numbers, another set of numbers were generated by a computer programme using the "plus/minus one/two" method and appended to the sampling frame. When a telephone contact was successfully established with a target household, one eligible person was selected from all eligible family members who were at home at the time of interview, using the "next birthday" procedure.

2.3 Questionnaire development

The questionnaire used in TCPS 2017 was modified from that in the 2016 survey. Similar to the 2013, 2014, 2015 and 2016 surveys, the questionnaire included: (a) core questions; and (b) random questions. Sex, age, education level, monthly household income, employment status, exposure to secondhand smoke (SHS), and use of e-cigarettes and HNB tobacco products were core questions for all respondents. Daily cigarette consumption, intention to quit and time to first smoking after waking were core questions for all current

smokers. Random question sets were designed for random subsamples of respondents with certain smoking status. Questions on health warnings, POS tobacco displays, support for tobacco control measures, waterpipe tobacco smoking were covered in various random subsets.

2.4 Weighting and statistical analysis

TCPS 2017 recruited 5,131 respondents, including 1,712 never smokers, 1,715 ex-smokers and 1,704 current smokers. The whole sample was weighted against the projected age and sex distribution of the Hong Kong population and smoking status in 2017 to produce population representative estimates. Unless specified as estimation for specific population (e.g. SHS exposure in workplace in the respondents who were working), all percentages shown in the results section are the estimation for the general population.

Univariate analysis of variables of interest was conducted by smoking status. Chi-square test was used to examine differences by smoking status. Statistical significance was set at $p < 0.05$. Statistical analysis was conducted using STATA (Version 13.1, TX: StataCorp LP).

3. Results

3.1 Smoking and quitting characteristics of current smokers

Table 1 shows that current smokers most commonly smoked 5-14 (33.8%) and 15-24 (30.6%) cigarettes per day in the past 7 days. Nearly half of the current smokers (49.1%) consumed the first cigarette within 30 minutes after waking up. Half of the current smokers (50.6%) had no intention to quit but 19.2% planned to quit within the next 6 months and 27.8% after 6 months or some other time. Only 13.3% and 26.7% of current smokers reported ever using the smoking cessation services and smoking cessation products, respectively.

3.2 Exposure to secondhand and thirdhand smoke

One in ten (9.9%) respondents reported SHS exposure from inside home in past 7 days, which was more common in current smokers (18.8%) than never (9.2%) and ex-smokers (5.1%) ($p < 0.01$) (Figure 1). Twice as many respondents (22.3%) reported SHS exposure at home from outside in past 7 days. One-fourth of all working respondents (25.4%) reported SHS exposure at work in past 7 days, doubling to 54.5% in current smokers. Two-thirds (68.6%) of respondents reported SHS exposure at public areas in past 7 days. Thirdhand smoke exposure at home in past 7 days was reported by 13.3% of respondents.

Table 1. Smoking and quitting characteristics of current smokers by sex

	Male	Female	Total
	%	%	%
Daily cigarette consumption in past 7 days	(n=1,429)	(n=275)	(n=1,704)
No consumption	9.5	11.0	9.8
1-4 sticks	12.1	13.8	12.4
5-14 sticks	32.9	38.6	33.8
15-24 sticks	31.7	25.0	30.6
25+ sticks	5.4	3.8	5.2
DK/RTA	8.3	7.7	8.2
Mean (SD)	13.2 (8.6)	11.4 (7.4)	12.9 (8.4)
Time to first cigarette after waking	(n=1,429)	(n=275)	(n=1,704)
5 minutes or below	22.2	27.2	23.0
6-30 minutes	25.6	28.4	26.1
31-60 minutes	11.8	10.3	11.5
Over 60 minutes	29.6	25.5	29.0
DK/RTA	10.8	8.6	10.5
Intention to quit smoking	(n=1,429)	(n=275)	(n=1,704)
Yes, within 6 months	19.8	15.9	19.2
Yes, after 6 months or some other time	27.0	31.7	27.8
No	50.7	50.0	50.6
DK/RTA	2.4	2.5	2.4
Ever use of smoking cessation services	(n=469)	(n=88)	(n=557)
Yes	13.3	13.5	13.3
No	83.4	85.7	83.8
DK/RTA	3.4	0.8	3.0
Ever use of smoking cessation products	(n=469)	(n=88)	(n=557)
Yes	25.1	32.2	26.7
No	74.9	67.8	73.3

DK/RTA: Don't know or refused to answer. Sample sizes (n) refer to the actual number of respondents; Percentages were weighted, where appropriate, by age, and sex of current smokers in Hong Kong in 2017.

3.3 Opinions about extension of no smoking area

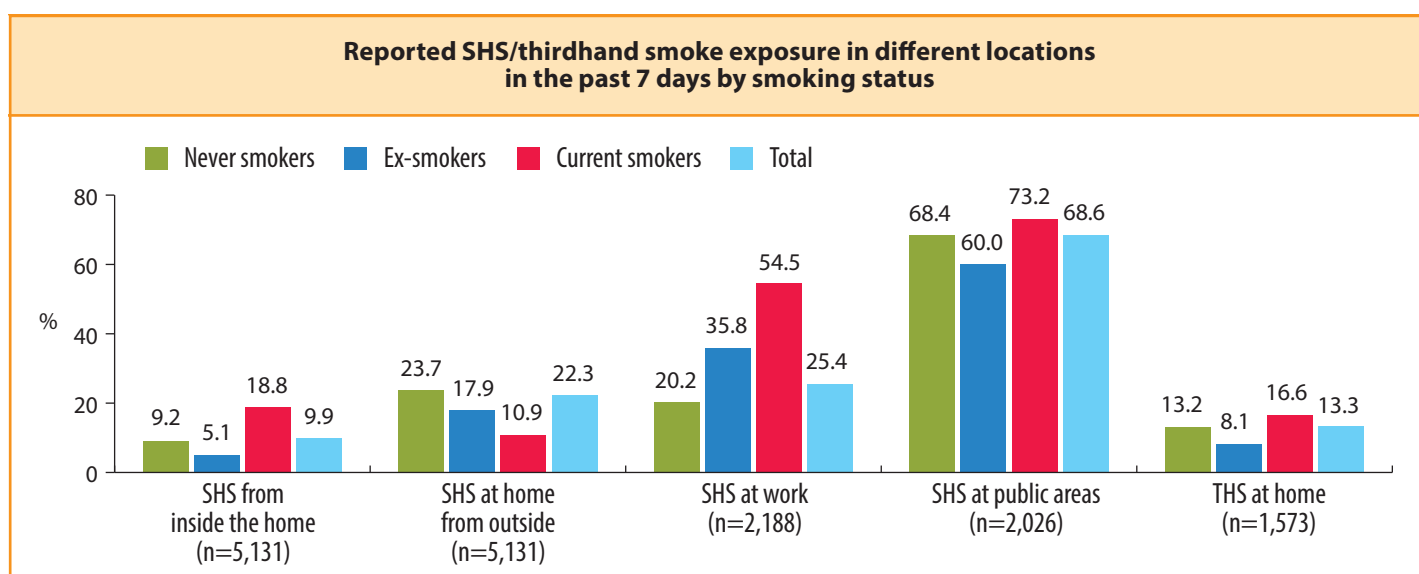
Over three-quarters of respondents supported designating various public places smoke-free, including all public transport stops (92.3%), queuing lines in public areas (91.7%), all public areas where children are present (84.2%), pedestrian walkways (82.7%), busy streets (81.8%), all common areas of residential areas (81.7%) and entrances of office buildings (within 3 meters) (76.7%) (Figure 2). Although the support by current smokers was lower than never and ex-smokers ($p < 0.01$), all measures were supported by more than half of current smokers. A vast majority (81.1%) of respondents,

including 60.0% of current smokers, supported to penalize the venue manager if smoking occurred in a designated no smoking area under their purview.

3.4 Opinions about health warnings and tobacco advertising

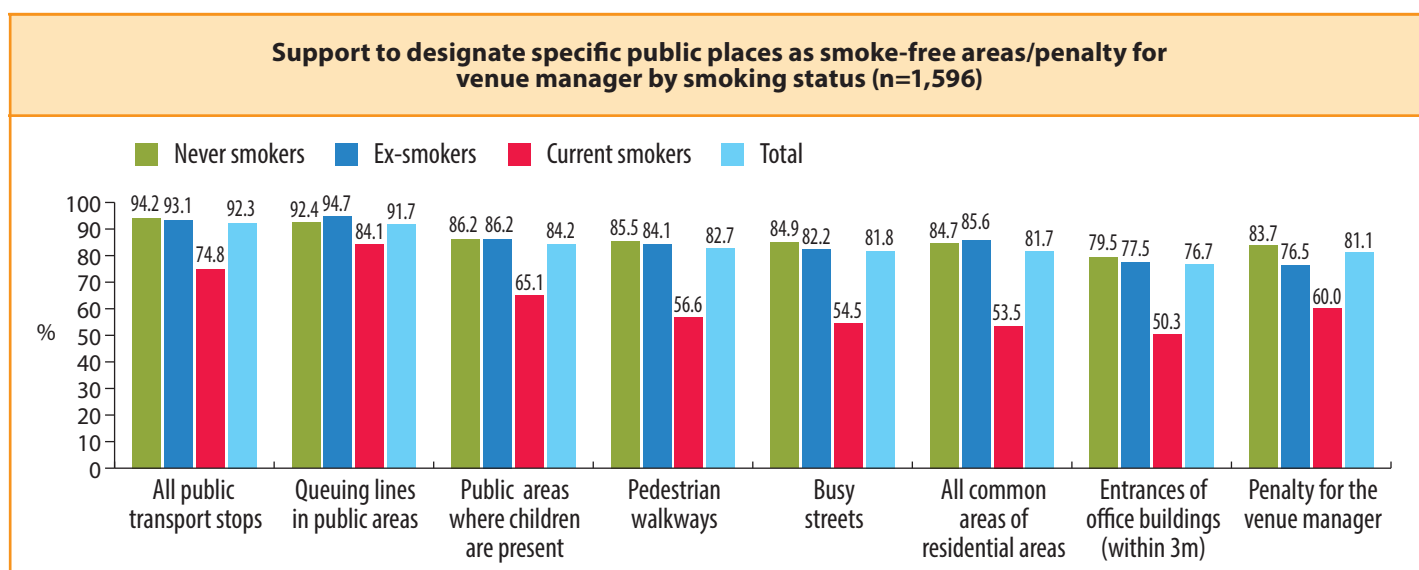
Figure 3 shows that among current smokers, 77.6% noticed the health warnings on cigarette packs in the past 30 days and as a result, 39.6% thought of the risks of smoking, 25.4% thought of quitting, and 8.5% smoked less.

Figure 1



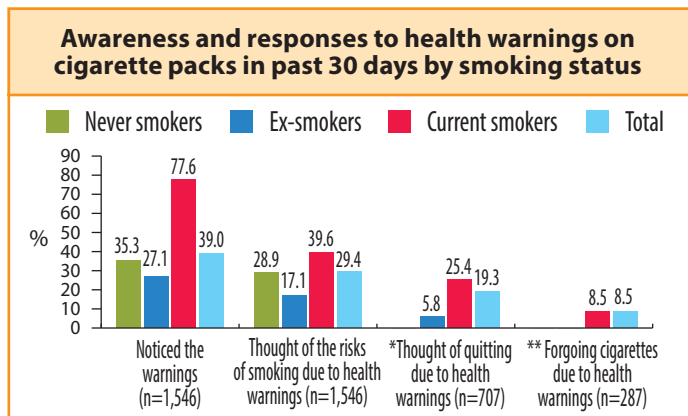
Proportion of SHS exposure at workplace were answered by the respondents who were working. Sample sizes (n) refer to the actual number of respondents. Percentages were weighted by age, sex and smoking status to the 2017 Hong Kong population.

Figure 2



Sample size (n) refers to the actual number of respondents. Percentages were weighted by age, sex and smoking status to the 2017 Hong Kong population.

Figure 3



*Ex- and current smokers only.

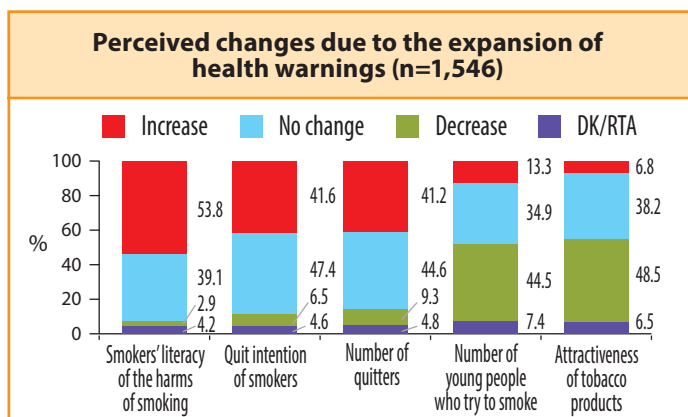
**Current smokers only.

Sample sizes (n) refer to the actual number of respondents. Percentages were weighted by age, sex and smoking status to the 2017 Hong Kong population.

Figure 4 shows that over 40% of respondents thought that enlarging the health warnings on cigarettes packs would bring favourable effects of increasing smokers' awareness on harms of smoking (53.8%), increasing smokers' intention to quit (41.6%), increasing the number of quitters (41.2%), reducing the number of young people who try to smoke (44.5%) and reducing the attractiveness of tobacco products (48.5%), which were much greater than those who expected unfavourable effects (2.9% to 13.3%).

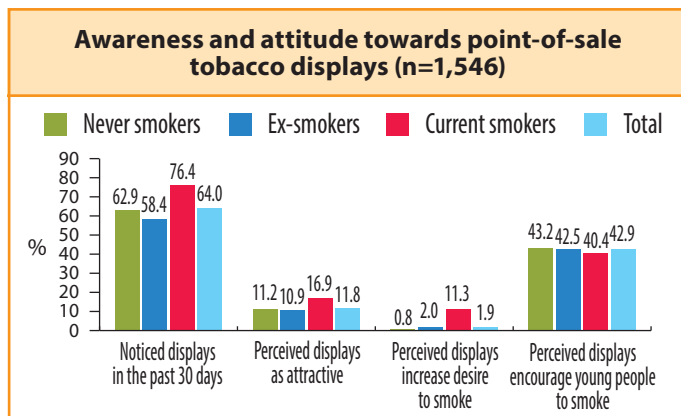
Figure 5 shows that two-thirds (64.0%) of all respondents had noticed POS tobacco displays in the past 30 days, 11.8% considered them attractive, and 42.9% thought such displays would encourage youth smoking. More importantly, 11.3% of current smokers, 2.0% of ex-smokers and 0.8% of never smokers reported that the displays had increased their desire to smoke.

Figure 4



DK/RTA: Don't know or refused to answer. Sample size (n) refers to the actual number of respondents. Percentages were weighted by age, sex and smoking status to the 2017 Hong Kong population.

Figure 5

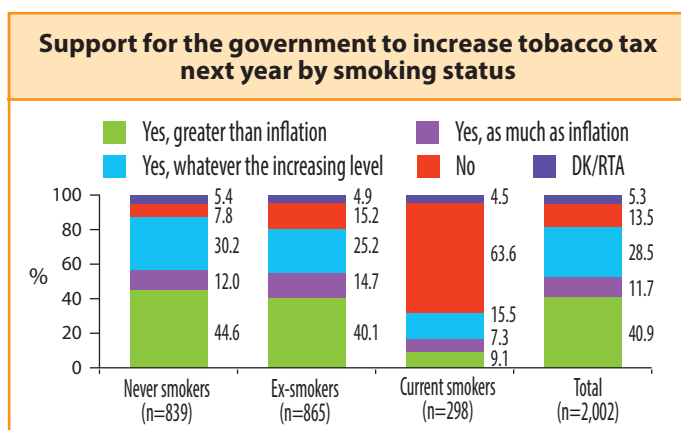


Sample size (n) refers to the actual number of respondents. Percentages were weighted by age, sex and smoking status to the 2017 Hong Kong population.

3.5 Support for tobacco tax increase

Of all respondents, 81.1% supported increasing tobacco tax next year, including 40.9% who thought the increase should be greater than inflation. Even 31.9% of current smokers supported an increase of tobacco tax (Figure 6). An annual increase in tobacco tax was supported by 71.0% of all respondents, including 36.2% who thought the increase should be greater than inflation. About one-quarter (24.3%) of current smokers supported an annual increase in tobacco tax (Figure 7).

Figure 6



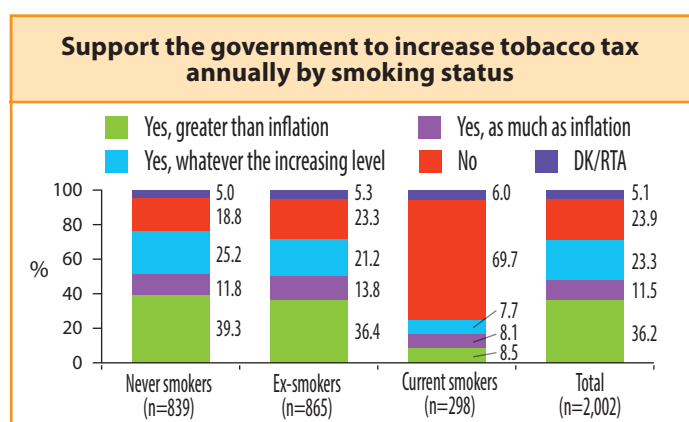
DK/RTA: Don't know or refused to answer. Sample sizes (n) refer to the actual number of respondents. Percentages were weighted by age, sex and smoking status to the 2017 Hong Kong population.

Table 2: The retail price (HK\$) of a pack of cigarettes that would make current smokers reduce the daily consumption (at least 50%) or quit smoking by sex

	Male (n=248)	Female (n=50)	Total (n=298)
Reduce daily consumption by at least 50% if price increases (%)	48.1	34.4	46.0
*Mean price	167.9	139.5	164.5
*Median price	100	100	100
*Modal price	100	100	100
Quit smoking if price increases (%)	47.3	46.2	47.1
*Mean price	325.9	174.6	302.3
*Median price	100	100	100
*Modal price	100	100	100
Either reduce or quit smoking if price increases (%)	58.2	60.3	58.5

*Only respondents who were current smokers and said they would reduce the daily consumption or quit smoking by an increase in price were included. Sample sizes (n) refer to the actual number of respondents; Percentages were weighted by age and sex of current smokers in Hong Kong in 2017

Figure 7



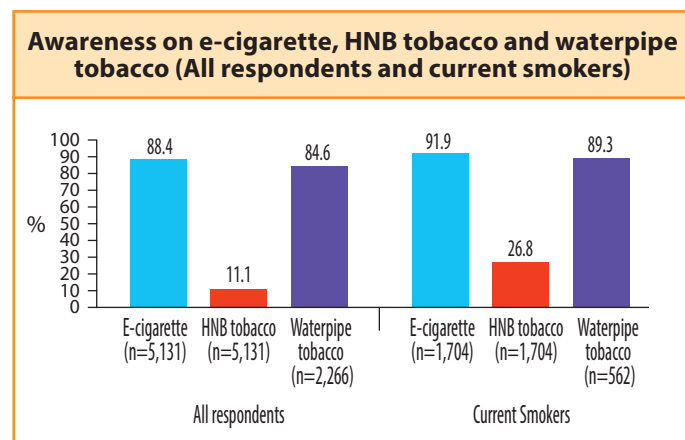
DK/RTA: Don't know or refused to answer. Sample sizes (n) refer to the actual number of respondents. Percentages were weighted by age, sex and smoking status to the 2017 Hong Kong population.

About 58.5% of current smokers would either reduce smoking by at least 50% or quit smoking if the retail price of cigarettes increases. The mean and median retail prices that would encourage them to reduce smoking by at least 50% was HK\$164.5 and HK\$100 respectively. The corresponding prices for motivating them to quit was HK\$302.3 and HK\$100 respectively (Table 2).

3.6 Awareness, attitude and use of new or re-emerging tobacco products (e-cigarettes, HNB tobacco and waterpipe tobacco)

Figure 8 shows that 88.4% of all respondents and 91.9% of current smokers had heard of e-cigarettes. Similarly, waterpipe tobacco was heard by 84.6% of all respondents and 89.3% of current smokers. HNB tobacco, by contrast, was heard by only 11.1% of all respondents and 26.8% of current smokers.

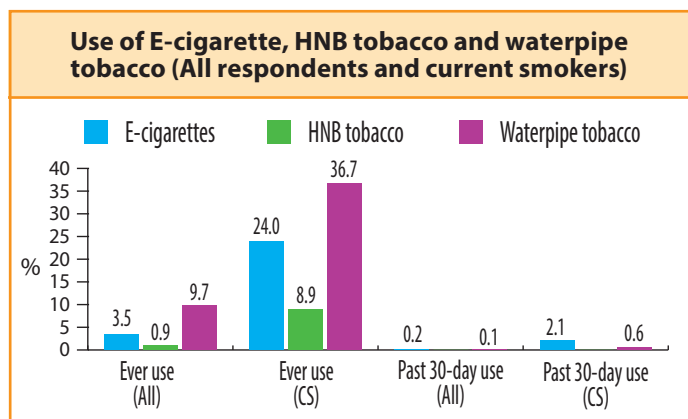
Figure 8



Sample sizes (n) refer to the actual number of respondents; Percentages were weighted by age, sex and smoking status to the 2017 Hong Kong population

In all respondents, only 3.5%, 0.9% and 9.7% had ever used e-cigarettes, HNB tobacco and waterpipe tobacco, respectively (Figure 9). In current smokers, the corresponding proportions were 24.0%, 8.9% and 36.7%. In all respondents, the prevalence of using e-cigarettes and waterpipe tobacco in past 30 days was 0.2% and 0.1% respectively. The corresponding proportions for current smokers were 2.1% and 0.6%.

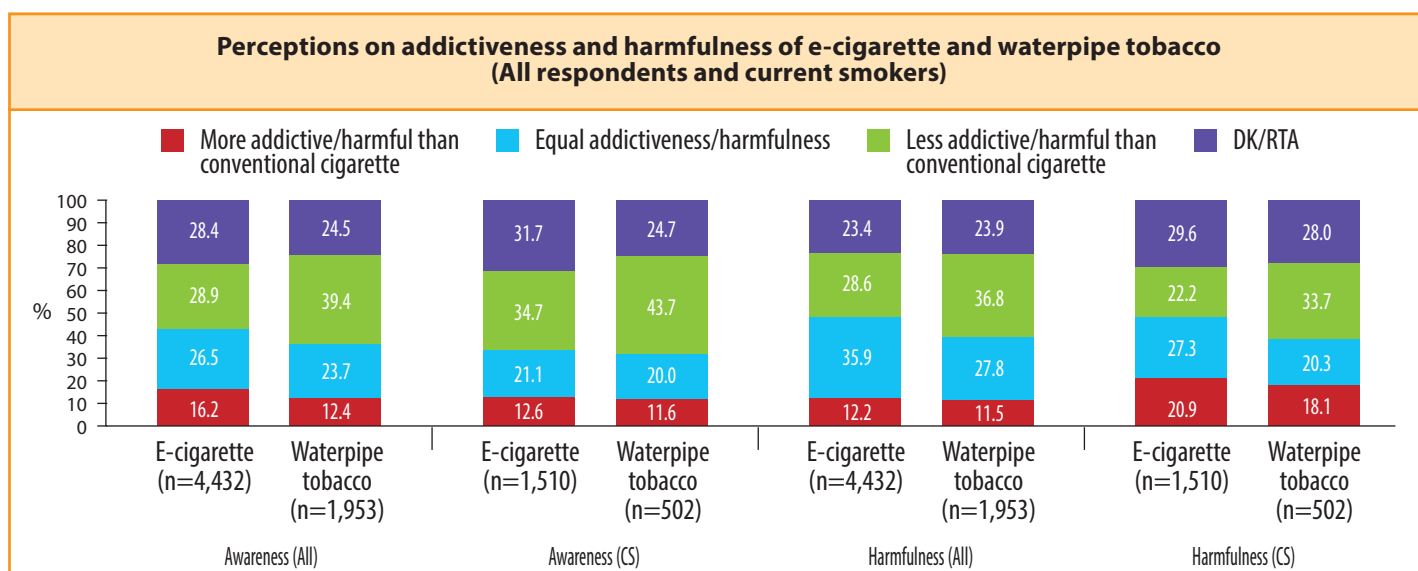
Figure 9



All: All respondents; CS: Current smokers. Use of HNB tobacco in past 30 days was not assessed in TCPS 2017. Ever use of e-cigarettes and HNB tobacco and use of e-cigarettes in past 30 days were answered by all the 5,131 respondents, including 1,704 current smokers. Ever use and use of waterpipe tobacco in past 30 days were reported by subset of 2,266 respondents, including 562 current smokers. Percentages were weighted by age, sex and smoking status to the 2017 Hong Kong population.

Figure 10 shows that 28.9% of all respondents and 34.7% of current smokers perceived e-cigarettes as less addictive than conventional cigarettes. The corresponding percentages for perceived addictiveness of waterpipe tobacco were 39.4% and

Figure 10



All: All respondents; CS: Current smokers; DK/RTA: Don't know or refused to answer. Only respondents who heard of e-cigarettes or waterpipe tobacco were included. Sample sizes (n) refer to the actual number of respondents; Percentages were weighted by age, sex and smoking status to the 2017 Hong Kong population.

43.7%. About 28.4% of all respondents and 31.7% of current smokers did not know the addictiveness of e-cigarettes. Similarly, about one-fourth of all respondents (24.5%) and current smokers (24.7%) did not know the addictiveness of waterpipe tobacco.

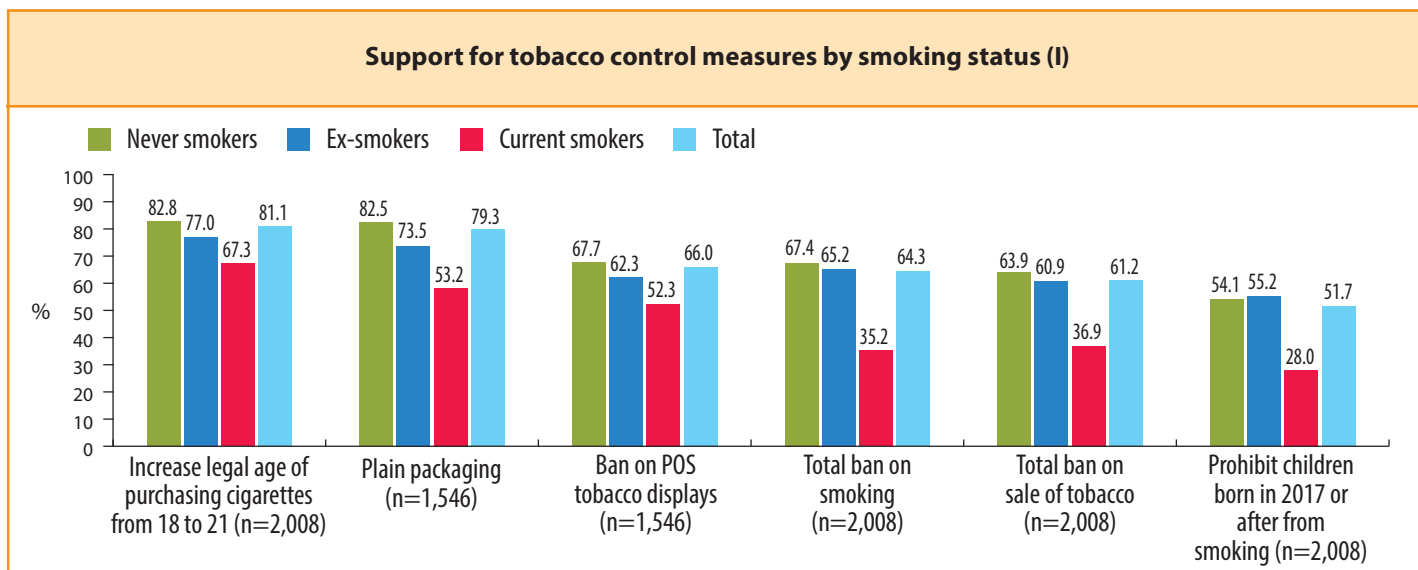
About 28.6% of all respondents and 22.2% of current smokers perceived e-cigarettes as less harmful than conventional cigarettes. About one-third of all respondents (36.8%) and current smokers (33.7%) perceived waterpipe tobacco as less harmful than conventional cigarettes. About one-fourth of all respondents (23.4%) and current smokers (29.6%) did not know the harmfulness of e-cigarettes. The corresponding results on harmfulness of waterpipe tobacco (All: 23.9% and CS: 28.0%) were similar.

3.7 Support for new tobacco control measures

Figure 11 shows that in all respondents, the most supported tobacco control measure was an increase in the legal age of purchasing cigarettes from 18 to 21 years (81.1%), followed by plain packaging (79.3%), a ban on POS tobacco displays (66.0%), a total ban on smoking (64.3%), a total ban on tobacco sale (61.2%), and to "prohibit children born in 2017 or after from smoking" (51.7%). Support was the greatest from never smokers, followed by ex-smokers and current smokers.

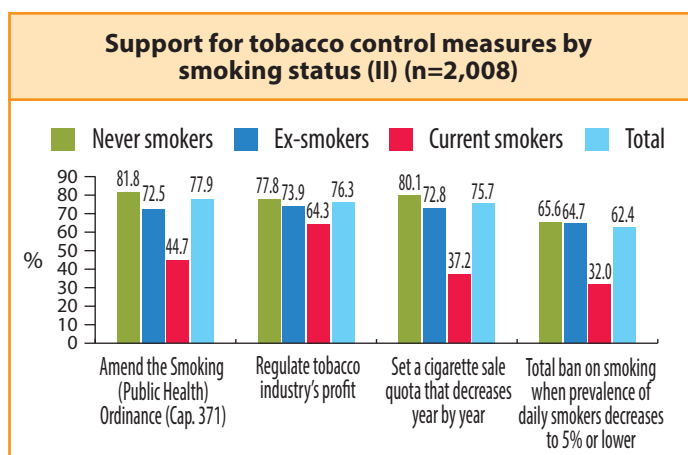
Figure 12 shows support of all respondents for amending the Smoking (Public Health) Ordinance (Cap. 371) (77.9%), regulating tobacco industry's profit (76.3%), setting a cigarette quota that decreases year by year (75.7%), and banning smoking when the smoking prevalence decreases to 5% or lower (62.4%). At least one-third of current smokers supported the above measures.

Figure 11



Sample sizes (n) refer to the actual number of respondents. Percentages were weighted by age, sex and smoking status to the 2017 Hong Kong population.

Figure 12



Sample size (n) refers to the actual number of respondents. Percentages were weighted by age, sex and smoking status to the 2017 Hong Kong population.

4. Discussion

TCPS 2017 showed consistent results with the government's Thematic Household Survey (THS) in mean daily cigarette consumption (TCPS: 12.9; THS: 12.4), and added that about one-fourth of the current smokers had strong nicotine dependence (time to the first smoking after waking up is within 5 minutes). Our TCPS showed that about half of current smokers (50.6%) had no intention to quit smoking. About 28% of them ambivalently expressed a wish to quit smoking but without a quit date. As they reported "Yes, after 6 months or some other time", the proportion of intending to quit may be inflated.

The low motivation to quit in current smokers is the main reason for the low utilization of smoking cessation service (13.3%) and products (26.7%). More resources for promoting smoking cessation and increasing the accessibility of the services are needed.

As Hong Kong is a densely populated area and most people live in multi-unit high-rise buildings, SHS exposure in homes from smoke drifted in from outside (22.3%), workplace (25.4%), and public areas (68.6%) is still common. The current smoke-free legislation is still insufficient to protect many non-smokers from SHS exposure in homes and many public areas. Meanwhile, our TCPS showed very strong public support for the extension of smoke-free areas in public transport stops, pedestrian walkways, busy streets, entrances of office buildings, etc. These findings highlight the urgent need and demand from a great majority of the public, and we strongly recommend the HKSAR Government to proceed quickly for further expansion of statutory no smoking areas.

Increasing tobacco tax is the most effective measure to reduce smoking and greatly reduce socioeconomic inequalities in smoking^{3, 4}. Our TCPS over the years has repeatedly shown that public support for tax increase is very strong. To motivate smokers to quit or reduce smoking, the median retail price should be HK\$100, which means almost doubling the current price of around HK\$57 per pack, and is closer to the retail price in Australia (about HK\$154), New Zealand (about HK\$133), Norway (about HK\$103) and UK (about HK\$94). New Zealand, Australia, UK, and Canada (Ontario) have adopted a long-term and continuous plan to increase tobacco tax every year. Therefore, we strongly recommend the HKSAR Government to substantially increase tobacco tax by 100% next year, and adopt regular and substantial increases in tobacco tax in the long-run.

Our TCPS has demonstrated the different popularity in two new tobacco products: e-cigarettes and HNB tobacco, and re-emerging waterpipe tobacco. E-cigarettes have got a very high level of awareness, and had been ever used by about one-fourth of current smokers. However, very few habitually used it for a long time. HNB tobacco is at an earlier stage of popularity in Hong Kong. Only about 8.9% of current smokers had ever tried HNB tobacco. Waterpipe tobacco has similar awareness level as e-cigarettes and had been ever used by 36.7% of current smokers. Further breakdown of these figures by age and smoking characteristics would need studies of larger sample size. Also, the growing trend of using HNB and waterpipe tobacco should be monitored continuously. The majority of respondents perceived these products as less harmful than conventional cigarettes, or did not know clearly the harmfulness, suggesting the need for public education about the harms of these tobacco products. The prevalence of using these forms of tobacco has been increasing dramatically in the US and Europe. Hong Kong would follow and the problems would become out of control unless these products are prohibited promptly.

Plain packaging^{5, 6, 7}, banning POS tobacco displays^{8, 9, 10} and increasing the legal age of purchasing cigarettes from 18 to 21^{11, 12} are policies that have been implemented in other countries, and are effective to reduce tobacco use in smokers, ex-smokers and the younger generation. Our TCPS showed very strong public support for these new policies. Moreover, all these policies were supported by more than half of current smokers. The Government and policy makers should not yield to oppositions from the tobacco industry and related alliances in the legislation of these policies.

Several factors support Hong Kong to implement new tobacco control measures. First, a wide variety of tobacco control measures has been implemented and free smoking cessation services are available for decades. This forms a good foundation and environment for the implementation of more stringent policies. Second, it has one of the lowest smoking prevalence in the developed regions and hence is faster to achieve the endgame (<5% smoking prevalence) than other regions. Lastly, our TCPS has shown a strong support for those new strategies. The HKSAR Government should seize the opportunity to implement much more stringent tobacco control policies to achieve the Government's goal to lower the smoking prevalence to 7.8% by 2025.

5. Limitations

This study has several limitations. First, the term "current smokers" refers to both daily and occasional smokers and "ex-smokers" refers to ex-daily and ex-occasional smokers. Yet for the purposes of this survey, it was not necessary to distinguish between daily and occasional use. Second, all information was collected by telephone survey which did not allow face-to-face interaction with and verification of smoking status by the interviewer. However, this method can ensure anonymity and so might collect more truthful data.

Third, it was a cross-sectional survey. A cohort study or panel survey with longitudinal data would be better in measuring changes within the same individual over time.

6. Conclusions

TCPS 2017 findings showed very strong public support to strengthen the existing tobacco control measures, ban or regulate the new tobacco products and implement novel measures. Much more resources for the social marketing of smoking cessation, implementation of effective policies, and continuous monitoring and evaluations are needed to achieve a single digit smoking prevalence in the next few years, and to reach the HKSAR Government's and COSH's targets. Moreover, future TCPS should assess the effectiveness of the tobacco control efforts and provide scientific evidence to step up tobacco control measures towards the endgame and a smoke-free Hong Kong.

7. Acknowledgements

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