

Supplement data

1. Questionnaires (for quantitative study)

a) Knowledge of the participants regarding health hazards of SHS exposure

1. Secondhand smoke is generated only by exhalation of tobacco smoke during smoking.
2. Secondhand smoke is generated by a burning cigarette or tobacco during smoking.
3. Secondhand smoke is composed of at least 70 carcinogenic chemical compounds.
4. Secondhand smoke can persist in the air at least 5 hours.
5. Secondhand smoke can cause acute ischemic heart diseases.
6. Presenting yourself in an environment where a person smokes 20 cigarettes is comparable with you smoke one cigarette.
7. Prenatal exposure to secondhand smoke is a risk for sudden infant death syndrome during the first year of life of the infant.
8. Secondhand smoke can cause chronic obstructive airway diseases.
9. Children exposed to secondhand smoke have a higher risk of asthmatic attacks.
10. The chemical compounds generated from burning tobacco which are retained on hair, parts of the body, clothing or environment causes similar health harms like active smoking.

b) awareness of legal regulations for smoking-free areas in public places according to the TPC Act 2017

1. Marketplaces have been endorsed as smoking-restricted areas since July 2017, based on the legislated Tobacco Products Control Act 2017.
2. Floating markets and flower markets are not legislated as smoking-restricted areas.
3. Smoking zones can be set up in some parts of marketplaces by attaching clearly visible indicating signs.
4. Easily visible “No smoking” signs must be placed on marketplace entrances.
5. Signs indicating smoking prohibition and the amount of penalty fine must be placed for clearly visible in public transport vehicles by the vehicle owners.
6. Smoking is allowed in a public transport vehicle which has a glass shield separating the driver from the passengers.
7. The driver of a public transport vehicle can smoke when there are no passengers on their bus.

8. Smoking is allowed at public bus stops or terminals.
9. Smoking violations in marketplaces incurs a penalty fine of a maximum of 2,000 Baht
10. Smoking violations in public transport vehicles incurs a penalty fine of a maximum of 3,000 Baht.

Remarks: The indexes of item objective congruence (IOCs) for content validity of the questions evaluating knowledge regarding SHS-related health harms and awareness of the TPC ACT 2017 were 0.934 and 0.901, respectively. The Cronbach's alpha coefficients for reliability for the individual questionnaires were 0.84 and 0.78, respectively.

2. Questionnaires (for qualitative study)

The questions used for the interviews were:

a) For the provincial tobacco control policy makers (or supervisors):

1. What are the responsibilities or actions of the marketplace owners required by the TPC Act 2017?
2. How stringent is the smoking regulation in the marketplaces and public transportation in this province?
3. How many comprehensive campaigns, public announcements and visible signs saying "No smoking" are placed in the public places to encourage compliance to the smoking-ban areas?
4. What are your comments and suggestions regarding the applicability of the endorsed TPC Act 2017 in the current situation?

b) For the front-line practitioners (policemen, municipality police, etc.):

1. What are your duties and responsibilities according to the TPC Act 2017?
2. What are the barriers or limitations about applying the legal authority according to the TPC Act 2017?

The content from in-depth interviews with the local governmental officers (LGOs), market visitors, and public vehicle passengers were as follows:

“We followed the provincial tobacco products control (TPC) policy launched by the provincial government. Then, the operational plan with pre-defined targeted outcomes was set up at the district level. Smokers aged under 15 years were screened, identified and invited to participate in smoking cessation programs organized by the district healthcare agencies. This action with a targeted outcome which followed the national and provincial tobacco control policy was supervised by the xxx (omitted for blind review) Provincial Public Healthcare Office.” (Healthcare 1)

“The first meeting of the provincial TPC committee aimed to help the non-healthcare provincial governmental agencies understand their co-responsibilities under the national and provincial TPC policy. However, most of the non-healthcare agencies could not understand their exact functions with this task. The practical details following the provincial TPC policies assigned to the succeeding levels of local governmental offices in the province were not sufficiently clear for real practical actions. Thus, it looks like the authorized measures of smoking control under the TPC Act 2017 in the province have not been fully activated, so smoking in the public places is still noted. The present public campaigns emphasizing merely on smoking ban in some buildings or public venues such as theatres, coffee shops, bars, or etc. which have been already known as smoking ban areas. There was no information about the restriction in other places. (Fundamental Education Bureau officer 1)

“We accept that the legal control of smoking in public places is less effective, although we have known that it is one of our responsibilities. Anyway, a case of smoking violation in the public places is not ranged as the top of public danger compared with criminal issues, civil life and property safety, or traffic accidents, especially during long holidays when road traffic is more congested. Additionally, the police force was often required for supporting infection control during the pandemic of COVID-19. Due to the limited number of policemen and a diversity of responsible tasks, we accept that the strictness of smoking control by the police force is weak, but we will do our best in the future. Furthermore, as some policemen themselves are current smokers, it causes them feel difficult to inhibit people who are smoking in the public, or to fine them when they violate the smoking prohibition. (Policeman 1)

“The officers of the Ministry of Social Development and Human Security (MOSH) have not clearly understood what specific actions from us are required by the provincial TPC committee. We know that smoking influences human security, so the MOSH is likely a supporting agency for tobacco control, and we are willing to cooperate with or support the other agencies in applying tobacco control measures. There is no direct assignment to us relating to the smoking control actions. We expect a more regular and comprehensive consensus on this issue. More regular provincial committee meetings to clarify the actions required from us and other agencies should be held. Direct inspection of the smoking-restricted zones in the public places specified by the Act and reviews of provincial smoking control measures should be done more regularly. (MOSH officer 1)

“There are not strong proactive actions in prohibition of smoking among the public. Only a few actions by the local non-governmental anti-smoking community networks have been done, and in a few districts or subdistricts of the province. Although the smoking-free zones in the public places had been defined, the stringency of this measure was low.” (Healthcare 2)

“The introduction of electric cigarettes by the currently new smokers increase the number of new smokers, especially the youth. The warning signs of non-smoking areas attached for visibility in public places such as in the parks, sea-sides, or restaurants, etc. are mostly ignored by the smokers. The non-governmental public networks to enhance smoking control is needed, especially in areas where there is a shortage of governmental manpower and resources.” (Healthcare 3)

“The marketplace owners should have one or more easily visible “No smoking” signs attached at the entrances as well as within the market area. The seeable violations can be reported online by sending the photographs of the smokers to the authorized officers for a 5,000 Thai Baht fine.” (Policeman 2)

“The strictness of smoking control in the marketplaces depends markedly on the intensive inspections of the local officers. We observed that no “No smoking” signs were visible at the market entrances, within the market zone, or at the exits. This possibly makes the marketplaces to be unrecognized as smoking-restricted areas according to the Tobacco Product Control Act 2017. The violating smokers are not reported and fined according to the law because of no adequate authorized officers to take this action and the methods to report have not been already known by the public too.” (Healthcare 4)

“Since a number of the local officers themselves are active smokers, it seems unreasonable to apply the legal punishment on the violating smokers.” (MOSH officer 2)

“We have no adequate manpower or time to inspect the various public places legally defined as smoking-restricted areas. Most of the people have not known that they can report smoking violation events to the authorized officers by using online medias. The method of reporting a violation done by attaching a photograph of the violator may cause the reporter concern for his own safety, therefore, under- or non-report of the violations is a selected response to the violation event.” (Provincial Excise Office, PEO officer 1)

“When “No smoking” signs are not visible in the marketplaces and no one has ever been really fined 5,000 Thai Baht for smoking violation, the public lacks an awareness that smoking in such public places is a legal mistake and has to be fined as a punishment.” (Healthcare 5)

“The people who go to marketplaces may not know about the legal regulation and the method of reporting smoking violations. Instead, they avoid exposure to tobacco smoke by moving away from the smokers.” (Fundamental Education Bureau, FEB officer 1)

“Most of the public vehicle drivers usually smoke. Commonly, they open the window to let the smoke float out the driver’s compartment. They believe that the shielding glass between the driver and the passenger compartment can prevent the exhaled or burned tobacco smoke to reach the passengers sitting in behind them. And, the “No smoking” sign is attached only in the passenger compartment, but not in the driver’s one.” (Healthcare 6)

“The food buyers and the market transporters, who are mostly immigrants from Cambodia or Myanmar in the markets, are usually smokers. The food sellers in the places do not intend to request the smokers to quit smoking to avoid potential conflicts or arguments with them. It is possible that there is no visible “No smoking” sign in the markets, or the smokers do not know about the smoking restriction law in marketplaces. The percentage of active smokers in the marketplaces may be reduced if there is close and regular inspection by the LGOs.” (Market visitor 1, MV1) (Figure 1)

“I see smokers or experience smell tobacco smell in the marketplaces every time when I visit the markets. The market transporters or seller assistants are commonly noticeable as smokers. If they knew about the smoking restrictions and the amount of money to be fined for a smoking violation, they may comply with the regulation. However, because no one has ever been fined for this violation before, there may be a disagreement with the front-line officer on duty if a violator is really fined.” (Market visitor 2, MV2)

“Drivers of “Songthaew” who transport the passengers in the city are mostly smokers. The smoke from their burning cigarettes can reach the passengers sitting in the compartment behind. No one dares to ask the drivers to stop smoking due to the concern about possible arguments occur, especially when aged persons or children are the passengers facing the smoke.” (passenger 1) (Figure 2)

“I didn’t know that smoking violations could be reported and how to report them. My personal safety is my major concern if the driver knows who reports his smoking violation to the authorized officer. Because I usually ride on a “Songthaew” average 2 times/day, it is possible for me to meet the driver I reported his smoking violation by chance.” (passenger 2)

“When the passengers on the bus, microvan or “Songthaew” experience a driver who is smoking, no one dares to ask him to stop smoking or stop and get off the vehicle. The passengers usually have no reaction to the events by putting their faces down to look at their smart phones or have a short nap instead. It would be better if the bus drivers quit smoking while driving because the tobacco smell attaches to our body, hair or clothes seeming like we are active smokers.” (passenger 3)

“The passengers facing the bus drivers who are smoking during driving the bus avoid to ask them to stop smoking immediately because of such reaction can interfere with driving and initiate argument with the driver on the driven bus. It is unsafe to do so.” (passenger 4)

“The motorcycle taxi (MCT) drivers, while riding and waiting for passengers at their stops, usually smoke. Until now, no strict inspection or controls on this group of smokers have been applied. Or, the drivers themselves possibly do not know about the legal restrictions of smoking on public vehicles. The related local governmental agencies for enforcing smoking control should stress the smoking restrictions and provide a practical guideline to the MCT drivers. Stringent inspection and punishment of the smoking violators should be done to enforce the strictness of the smoking regulation law.” (passenger 5)

3. STROBE Statement—Checklist of items that should be included in reports of *cross-sectional studies*

	Item No	Recommendation	Page No
Title and abstract	1	(a) Indicate the study’s design with a commonly used term in the title or the abstract	2
		(b) Provide in the abstract an informative and balanced summary of what was done and what was found	2
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	3-5
Objectives	3	State specific objectives, including any prespecified hypotheses	5
Methods			
Study design	4	Present key elements of study design early in the paper	5
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	5
Participants	6	(a) Give the eligibility criteria, and the sources and methods of selection of participants	5-6
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	6
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	6-8
Bias	9	Describe any efforts to address potential sources of bias	NA
Study size	10	Explain how the study size was arrived at	6

Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	6
Statistical methods	12	(a) Describe all statistical methods, including those used to control for confounding	9
		(b) Describe any methods used to examine subgroups and interactions	NA
		(c) Explain how missing data were addressed	NA
		(d) If applicable, describe analytical methods taking account of sampling strategy	NA
		(e) Describe any sensitivity analyses	NA
Results			
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	9
		(b) Give reasons for non-participation at each stage	NA
		(c) Consider use of a flow diagram	NA
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	9-13
		(b) Indicate number of participants with missing data for each variable of interest	NA
Outcome data	15*	Report numbers of outcome events or summary measures	
Main results	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	9-13
		(b) Report category boundaries when continuous variables were categorized	NA
		(c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	NA
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	13-16 Qualitative
Discussion			
Key results	18	Summarise key results with reference to study objectives	16,17
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	18

Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	16-18
Generalisability	21	Discuss the generalisability (external validity) of the study results	18
Other information			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	18

*Give information separately for exposed and unexposed groups.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at <http://www.plosmedicine.org/>, Annals of Internal Medicine at <http://www.annals.org/>, and Epidemiology at <http://www.epidem.com/>). Information on the STROBE Initiative is available at www.strobe-statement.org.

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