The Collaborative Funding Program for Southeast Asia Tobacco Control Research

REGIONAL RESEARCH REPORT ON TOBACCO

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Foreword

Southeast Asia Tobacco Control Alliance (SEATCA), Bangkok, Thailand

The good thing about tobacco control is that we know what works. Whereas with many health and other issues we may understand the problem but not necessarily know what to do about it, in tobacco control we have decades of experience in many countries that reveal what is effective and what isn’t. We know that public education alone is ineffective; in countries that rely solely on public education, rates of tobacco use tend to increase, and certainly don’t decline. We know that comprehensive tobacco control measures—tax increases, complete ad bans, smoke-free public places, and stronger pack warnings—do bring down smoking rates. Countries such as Thailand that have instituted strong, comprehensive tobacco control policies have seen significant declines in smoking rates. We therefore don’t need much more research on what to do; what we do need is research on how to make tobacco control policies acceptable and how to implement them effectively.

For those who still don’t consider tobacco control to be important, we also need research explaining why tobacco control is a priority issue, especially in low-income countries. We need to know how to deal with trade issues, and to understand that the costs of tobacco exceed the perceived economic benefits. We must be prepared to address the issues of women and youth, never forgetting that the most significant first step is to strengthen policies. Public education is also helpful to gain support for the policies; public education campaigns can be effective at increasing compliance with law and public support for policies, but again, not as a stand-alone measure. There is no question, and there are no shortcuts—sound policies (ad bans, smoke-free places, health warnings, and taxation) are needed to reduce tobacco use, and all the problems it causes.

While this book touches on some key themes of tobacco control, it is not meant to be exhaustive: every subject is not addressed in every country. The book presents more of a sampling, with much relevance of topics across countries; that is, the information on tobacco policy in Vietnam, or smuggling in Malaysia, is likely to be helpful for other Southeast Asian countries.

Prof. Frank Chaloupka and Dr. Hana Ross, International Tobacco Evidence Network (ITEN), University of Illinois at Chicago (UIC), Chicago, Illinois, USA

In 2000, the International Tobacco Evidence Network (ITEN) joined the Rockefeller Foundation in its far-sighted ambition to begin to fill the void in research on the economics of tobacco use and tobacco control in Southeast Asia. The strategy was to enhance local and regional research capacity by assembling world-class experts to provide training and technical assistance. As one of the partners in this initiative, ITEN was charged to lead the economics component of the program while the Institute for Global Tobacco Control or IGTC led the epidemiology component. As a first step, we, together with the Southeast Asia Tobacco Control Alliance (SEATCA),

Southeast Asia Tobacco Control Alliance
established links with key partner organizations and policy makers in four countries of Southeast Asia (Cambodia, Malaysia, Thailand, and Vietnam) and identified a promising cohort of economists and other researchers. We provided these colleagues with extensive in-country training and guidance in research in addition to background documents and econometric software. This technical assistance provided by ITEN enabled investigators to pursue research on priority topics identified in further collaboration with SEATCA. The combined efforts of local researchers, advocacy groups, health professionals, and the other Rockefeller-sponsored partners like ITEN, have resulted in the economic studies on tobacco control found in this publication. Tobacco control has developed strong roots in the region, and we are proud to have played a role in that process.

Dr. Jonathan Samet and Dr. Frances Stillman, Institute for Global Tobacco Control (IGTC), Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland, USA

In 2000, the Institute for Global Tobacco Control (IGTC) of the Johns Hopkins Bloomberg School of Public Health joined a consortium of partners brought together by Rockefeller’s innovative program, Trading Tobacco for Health (TTFH). The overall goal of TTFH was to build local capacity for tobacco control research and policy development in four countries in Southeast Asia: Cambodia, Malaysia, Thailand, and Vietnam. Key executing partners of the consortium included IGTC, the Southeast Asia Tobacco Control Alliance (SEATCA), the International Tobacco Evidence Network (ITEN), and numerous country partner agencies and researchers in each of the four countries.

IGTC was primarily responsible for enhancing skills in research design, data analysis, epidemiology, and surveillance methodology. In response to this charge, IGTC, together with regional partners, developed a targeted capacity building program focused on the development of key epidemiological research studies, standardized tracking tools, sentinel surveillance protocols, and a regional database for monitoring tobacco control measures. In the first year, IGTC gave training on epidemiological methods and mentored individual research projects. At the end of the project’s last year, IGTC focused on mentoring participants as they analyzed and disseminated their research, moving the resulting evidence into policy translation.

The project has been useful in assisting four countries in Southeast Asia to build and develop a systematic approach of evidence base for tobacco control. Thanks to the combined efforts of the TTFH consortium, the past four years of the project yielded enhanced research capacity and gains in tobacco control policy. In 2001, increased government and public awareness for tobacco control prompted multinational tobacco companies in Cambodia to voluntarily restrict direct tobacco advertisements, dramatically curtailing billboard, television, and magazine advertisements. In Vietnam in 2003, a presentation of economic analysis to finance ministers by a TTFH researcher resulted in increases in taxes on tobacco products nationwide. In Malaysia, the Prime Minister announced increases in cigarette taxes
and bans on single cigarettes. In 2004, Thailand implemented pictorial warning labels on all cigarette packs sold in the country. Most importantly, in 2004, three of the four TTFH countries—Thailand, Vietnam, and Malaysia—were among the first fifty countries to have ratified the World Health organization Framework Convention for Tobacco Control (WHO FCTC), an international tobacco control treaty. Through ratification, these governments have shown long-term commitment to advancing tobacco control programs and legislation and to curbing tobacco related death and disease.

*Dr. Supakorn Buasai, Thai Health Promotion Foundation (ThaiHealth)*

The idea of having the Collaborative Funding Program for Southeast Asia Tobacco Control Research stemmed from an initiative of The Rockefeller Foundation. In 2000, it launched the Trading Tobacco for Health (TTFH) initiative to strengthen tobacco control policies in developing countries, primarily in Southeast Asia. The program specifically intended to oversee coordination and strengthening of tobacco control research in the region and to complement the TTFH initiative.

The program is based in Thailand because Thailand has been fully utilizing its resources like evidence-based research for tobacco control programs and policies, and strengthening its networks, for the last two decades. ThaiHealth would like to share experience of the country’s success in tobacco control through the research program and other strategic programs overseen by ThaiHealth and co-funded with the Southeast Asia Tobacco Control Alliance (SEATCA). This regional research summary report encompasses hard work done under the program and in collaboration with the region’s leading tobacco control researchers, tobacco control experts, peer reviewers, and international faculties on economics and epidemiology.

Finally, ThaiHealth wishes to take this opportunity to congratulate SEATCA on its relentless efforts to make a difference in other parts of the Southeast Asia region for tobacco control. It also would like to wish success to government agencies, researchers, advocates, and health professionals of the countries of Cambodia, Indonesia, Lao PDR, Malaysia, Philippines, and Vietnam in striving to put a comprehensive tobacco control program and national policy in place for public health.
Executive Summary

As noted in the foreword, what needs to be done in tobacco control is clear. This report covers the key policy areas, as well as topics such as trade and important population groups, as summarized below:

Tax increase

Raising taxes is one of the most effective ways to reduce tobacco use, especially among youth and the poor\(^1\). Raising taxes also increases government revenue, despite concerns of increased smuggling. It is lowering taxes or keeping them low that reduces government revenue from tobacco taxes; smuggling is in fact more linked to corruption than to taxation levels. As research in this volume demonstrates, well-organized smuggling operations such as in Malaysia rely on police informers to succeed; raising salaries of police officers or otherwise controlling corruption among the police would have more impact on smuggling than reducing taxes. Concerns about smuggling should not prevent governments from increasing taxes, but should rather encourage them to implement stringent measures to reduce smuggling in order to make policies effective while reducing crime and corruption.

Nor does raising taxes hurt the poor. Research on tobacco and poverty in Cambodia and Vietnam illustrate that the poor are already harmed economically by tobacco use, despite the prices being relatively low. By raising the price of tobacco, fewer poor people would start using tobacco, and more would find the incentive to quit, so that the overall impact on the poor would decline. Meanwhile, research on poverty makes clear that tobacco control should be a priority in low-income countries, even when other health issues appear more important than tobacco use, due to the impact of tobacco use on household spending.

Tobacco policies that seek to make tobacco more affordable to the poor—as has traditionally been the case in Vietnam—are actually regressive, as the Vietnam research on tobacco taxes indicates. Tax systems should be standardized, aimed at keeping the price of all tobacco products high enough to be a disincentive to the poor and youth. Research from Malaysia further shows how demand for tobacco varies according to price.

Advertising

Strict bans on all forms of advertising and promotion are essential to reducing tobacco use, as international experience shows.\(^2\) Advertising is the tobacco industry’s primary tool to attract new users. When it is not allowed to advertise, the industry is not nearly as successful in attracting new smokers, and public health messages become much more effective when not countered by “sexier” tobacco advertising.

\(^{1}\) Jha, P. and Chaloupka, F, Curbing the epidemic: governments and the economics of tobacco control. World Bank, 1999.

\(^{2}\) Jha and Chaloupka.
Most people are unaware of the impact that advertising has on them. These effects can only be shown indirectly: higher rates of smoking in those more exposed to advertising and promotion of smoking, and reduced rates of tobacco use among populations where all forms of advertising have been banned.\(^3\) What we do see in the research is the vast extent to which people are exposed to advertising, whether it is people in rural Cambodia describing the expensive gifts offered by the industry in exchange for empty packs, or the pervasive ads viewed by university students in Malaysia. The exposure to advertising even where it is legally banned, as in Malaysia and Thailand, indicates the need for both strong laws and enforcement.

**Trade**

Free trade is often used as by the tobacco industry to fight legal measures in individual countries. It is thus important to understand what impact free trade agreements are likely to have on tobacco control by examining the impact of existing trade agreements such as the Asian Free Trade Area (AFTA). While ideally tobacco control should be exempt from trade agreements—that is, as set out in the FCTC, health should take precedence over trade—in practice, trade agreements are often successfully used to prevent governments from taking strong measures on tax and law, and can even be used to weaken existing measures.

**Health costs**

The tobacco industry frequently describes itself as economically beneficial to individuals and the nation, as a significant source of employment and taxation. However, such arguments fail to address the negative economic impact of tobacco use on the poor, and the increased health costs faced by individuals and governments from the many diseases caused by smoking. When such costs are measured, it is usually seen that the economic gains of the tobacco industry are far outweighed by the costs.

**Smoke-free areas**

To protect non-smokers from the chemical cocktail in tobacco smoke, and to help smokers to quit, it is important to expand smoke-free areas, as discussed in the research on monks in Thailand and on convincing husbands not to smoke in the home in Cambodia and Vietnam. Governments can intervene effectively by banning smoking in public places and by enforcing such bans, which also helps to spread the message that it is not acceptable to smoke everywhere. As the research on husbands make clear, putting the burden of creating smoke-free areas on non-empowered women may not prove to be effective.

**Women and youth**

Women in Asia have far lower smoking rates than men, and are thus more likely to

\(^3\) Jha and Chaloupka.
be affected by indirect than direct tobacco use. That is, exposure to men’s smoke and loss of family income due to men’s expenditure on tobacco are far bigger problems for most Asian women than their own tobacco use. We should also remain aware of the possibility, given industry’s targeting of women, that their smoking rates may increase dramatically in the future. Research on women in Cambodia, Malaysia, and Thailand show some of the reasons that women do and do not use tobacco, levels of knowledge about problems caused by tobacco, and attitudes towards advertising and other issues, as well as the potential viability of using young female students as peer educators.

Future smoking rates will depend on uptake among today’s youth, the main target of tobacco advertising. The “I’m invulnerable” attitude, eagerness to be accepted by peers, and extreme susceptibility to advertising of youth make them particularly likely to respond positively to tobacco advertising. It is important to study attitudes of both male and female youth in terms of the possibility of starting tobacco use, and potential for involvement in tobacco control programs.

The various issues included in this report provide an extensive overview of the key issues in tobacco control. Policies and programs require evidence, and this document sets out to provide just that, addressing the long-felt need for country- and region-specific evidence to help strengthen tobacco control policies and programs throughout Southeast Asia. While much more evidence may be needed on various details of tobacco control, there is already overwhelming evidence to support the passage and implementation of strong tobacco control laws, and a significant increase of tobacco taxes. Lack of sufficient country-specific evidence can no longer serve as an excuse for failing to take action to protect the health and lives of populations.
Introduction

As its markets dwindle in North America and Europe, the tobacco industry has undertaken aggressive marketing and promotional strategies in Asia. In Southeast Asia, where the cigarette market was previously closed, the tobacco industry is now successfully targeting a population of more than 500 million, of whom 70% live below the poverty line. Here, the quit rate is low, initiation and recruitment of new smokers among youth and women are increasing, tobacco control policies are slow to be developed and approved, existing policies are often not effectively enforced, and little research exists to support policies and programs.

In other parts of the world, evidence on smoking patterns and health effects, combined with an understanding of the economic consequences of tobacco, has increasingly motivated policy makers to develop and put into place strong tobacco control programs. There is now some evidence of success around the world: smoking prevalence rates have fallen in many countries, as have death rates from some diseases caused by tobacco use. There is also unquestionable proof of the positive role that increased tobacco taxes have played in tobacco control. Similar evidence now needs to be collected that reflects the local context in the developing countries of Southeast Asia, in order to support the development and enforcement of tobacco control policies there.

In 2002, the Rockefeller Foundation established a program called “Trading Tobacco for Health”, which sought to support tobacco control programs and policy-relevant research in the Southeast Asia region. The initiative brought together the Thai Health Promotion Foundation (ThaiHealth), the International Tobacco Evidence Network (ITEN) of the University of Illinois at Chicago, the Institute for Global Tobacco Control (IGTC) at Johns Hopkins Bloomberg School of Public Health, and the Southeast Asia Tobacco Control Alliance (SEATCA). It has created connections between teams of international research experts on epidemiology/surveillance and the economics of tobacco, and those locally interested in working on tobacco control research.

To advance and complement Rockefeller’s “Trading Tobacco for Health” initiative, the Thai Health Promotion Foundation (ThaiHealth) established the “Collaborative Funding Program for Southeast Asia Tobacco Control Research” to collate existing research and to identify the gaps in policy-relevant research that, if filled, could help to strengthen and/or move forward tobacco control policies. The four countries of focus were Cambodia, Malaysia, Thailand and Vietnam. The research program later became a regular program component of SEATCA.

Thousands of international studies on tobacco-related issues have already been conducted, but country situations differ in demographics, smokers’ behavior, and economic status. Thus local evidence-based research that is relevant and tailored to in-country needs was designed by the program. This regional report showcases the
work of local academic researchers who have painstakingly participated in rigorous training and proposal development, and who then conducted the research studies and multistage revisions of their proposals and reports, leading eventually to this publication.

The overall purposes of the research program were to:
- create a mechanism to support tobacco control research in the Southeast Asia region;
- strengthen tobacco control in the region through the use of local evidence-based research; and
- establish a regional network of tobacco control researchers who will conduct economic and epidemiologic research on tobacco use.

**Mechanism leading to the development and implementation of research studies**

1. **Identification of research teams:** The initial pool of country researchers in the early days of the program were identified through groundwork undertaken in the four countries with the support of WHO TFI country focal points as well as Ministry of Health officers responsible for in-country tobacco control programs. These researchers eventually joined to form the research network under SEATCA. The network has been further expanded to include officers from tax departments, women advocates, academics from Indonesia and the Philippines, and a health officer from Myanmar.

2. **Training process:** The researchers then underwent training in 2002 with two sets of faculty, focusing on epidemiology and economics. The training teamed up country researchers based on their respective area of interest and expertise. For four days the faculty trained and mentored the research teams to conceptualize their proposals, which were further polished and developed in-country. The same mechanism was undertaken with the other research projects afterwards, but in later stages the research topics to be developed were chosen in advance by the SEATCA core group and were commissioned out to the researchers.

3. **Application process:** The first batch of research studies, undertaken in 2002, were chosen through an open grant competition where 11 out of 24 proposals submitted were found to be policy relevant and of high quality, and were selected for funding. Requests for applications were distributed to the target countries and all applications were screened and considered with respect to the areas they addressed. Applications in the economics track were sent to ITEN; those in the surveillance/epidemiology track were sent to IGTC. The succeeding research studies were then commissioned based on identified priority research agendas of a particular year which were determined in-country through the workshops and by the SEATCA core group, represented by the program’s four priority countries, including WHO in-country TFI coordinators. Altogether 25 studies were commissioned through the above process.
4. Coordination of the review process: Criteria used were a) importance of the research questions; b) demonstrated relevance to developing local or national policy; c) feasibility; d) costs; e) plans for dissemination; and f) possibilities for synergy within country and among countries. Review criteria were developed jointly by ThaiHealth/ITEN/IGTC/SEATCA, who also identified the internal and external international and regional reviewers with appropriate scientific and technical expertise. For the commissioned research studies, multistage reviews were undertaken until the submitted proposals were ready for implementation.

5. Project oversight: International and regional mentors were identified to work with each successful research grantee via e-mail to support technical needs and queries that would arise during implementation on questionnaire development, calculations, and analysis.

6. Review of final output: All final reports produced and written by the research grantees were subjected to multistage peer review. SEATCA, ITEN, and IGTC took the lead on reviewing. The reports then were sent back for revisions to grantees. External reviewers then were identified to review the reports before they were sent for final editing.

7. Dissemination: Research grantees were sponsored to present preliminary and final research findings at the 12th World Conference on Tobacco or Health (2003); the Regional Workshop on Advancing Tobacco Tax Policy in Southeast Asia (2003); the Asean Free Trade Area Consultation Meeting (2004); the Asia Pacific Conference on Tobacco (2004); the Regional Workshop on Health Professionals and Tobacco Control (2004); and the Regional Workshop on Women and Tobacco Control (2006). Some of the research reports were also presented in international tobacco control and related conferences. Most of the research reports were also presented at in-country meetings and workshops. Thanks to in-country, regional and international advocacy for tobacco control, political will and presence of local evidence, policies on tobacco control were eventually passed and strengthened: tobacco taxes were considered and eventually raised; smoke-free places were expanded (e.g. Buddhist temples, buses, sports stadiums, schools); stronger health warnings were introduced; existing advertising bans were enforced; and the FCTC was ratified in several countries.

8. Publication: The program collated a list of national, regional and international publications and the details for submitting research papers. The list was disseminated to all participating researchers, who then were encouraged and supported to publicize their individual country findings in regional and international journals of their choice. Research reports and fact sheets will be published and distributed to policy makers and related organizations locally and internationally, as well as this regional report.

The results of the program have been impressive: forty-one significant policy-
relevant tobacco research studies were conducted that will help advance tobacco control in the four priority countries and in the region as a whole. A sustainable regional mechanism for the support of tobacco control research was established and developed. Collaboration and partnerships have been strengthened among researchers, health professionals, government officials, academics, advocates, and WHO TFI focal points across the countries of the Southeast Asia region. Regional issues related to tobacco control, such as the ASEAN Free Trade Area (AFTA), tobacco tax increases, women and tobacco, surveillance on advertising, second hand smoking, point of purchase advertising, and packaging and labeling were addressed.

In one way or the other, most of the evidence has already been utilized by the countries. Research results were presented to government officials, disseminated to the media and the public, and synthesized in local publications, press kits and campaign materials. Several programs and regulations have been strengthened by in-country advocacy coupled with the use of evidence, including regulations on tobacco tax, smoke-free areas expansion, and advertising bans.

Some of the research studies included here will be expanded to provide more comprehensive studies in-country, while others will lead to further collaboration at the regional level.

Finally, it is important to note that the recommendations of the researchers are not necessarily endorsed by SEATCA or others involved in this publication.

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1 Twenty-five (25) of these research studies are presented in this report.
Section 1: Economics of Tobacco

Tobacco is a concern not only for its effect on health: tobacco use can contribute to poverty and inequality. Previous research has clearly demonstrated the impact of tobacco spending on household subsistence levels. Since the poor are more likely to use tobacco than the rich, and since tobacco spending represents a considerable portion of their household expenditures, the poor are more affected by tobacco use than the rich. The share of tobacco spending in total household spending, and the ratio of tobacco spending to spending on education, health care, and food within poor households is higher than in richer households. The money wasted on tobacco therefore makes the poor even poorer, and contributes to widening the gap between rich and poor.

Imposing taxes on tobacco, which affects both tobacco demand and supply, is one of the most efficient and effective measures that can be implemented to reduce tobacco use, particularly among the poor. Simply raising the tax on tobacco products achieves a significant decline in use, while also increasing government revenues; even so, many governments are reluctant to raise taxes, citing concerns about smuggling and the impact on the poor. Since the poor are the least able to afford tobacco, however, raising taxes is a great incentive to discourage their tobacco use.

At the same time, the tobacco industry uses the fact of smuggling - and often its own inflated estimates of the prevalence of smuggling - to convince governments to keep cigarette taxes low. The availability of low-priced smuggled cigarettes encourages youth and the poor to smoke, and undermines tobacco control efforts. Therefore, efforts to counter smuggling through means other than lowering taxes must be taken seriously.

Meanwhile, lower cigarette prices that follow the establishment of free trade areas would foster more cigarette consumption, of both locally produced cigarettes and imported cigarettes. Consequently, the health cost of smoking and the number of tobacco-related deaths would rise, while tobacco tax revenue may be reduced. Thus, the liberalization that follows free trade does not necessarily provide social benefits, as is often assumed to be the case of other goods and services.

Finally, the economic consequences of tobacco use are both direct in the form of higher health care costs and transportation to and from health care facilities, and indirect costs in the form of productivity losses due to morbidity and premature mortality. Research into the economic burden of tobacco use provides important information that can be used to inform political debate and raise public awareness.

This section addresses these topics by summarizing recent research from Cambodia, Vietnam, Malaysia, Indonesia, Thailand, and Philippines. The first chapter, Tobacco and Poverty: Lessons from Cambodia and Vietnam, presents the results of two research studies from Cambodia and one from Vietnam on the ways in which tobacco use contributes to poverty and inequality in those two countries. The second chapter,
Tobacco Taxes: A Vietnam Case Study, addresses some of the issues faced by governments in deciding on tobacco taxation levels. The third chapter, Cigarette Smuggling in Malaysia, examines how smuggling is carried out in Malaysia as a case study on smuggling in the region, and offers suggestions for reducing the problem. The fourth chapter, ASEAN Free Trade Area and Tobacco: A Regional Summary examines the differential impacts of free trade on the tobacco industry and on tobacco consumption in four countries: Indonesia, Thailand, Philippines, and Myanmar. The final chapter, Health Costs of Tobacco, looks at the total health expenditures related to just three tobacco-related illnesses in Vietnam and Thailand, and examines their real costs to society. This section includes the following papers:

6. Professor Dr Ismail Rejab, International Business School, Universiti Teknologi Malaysia and Dr Zarihah Zain, Ministry of Health, Malaysia. “The Modus Operandi of Cigarette Smuggling in Malaysia.”
7. Isra Sarntisart, Ph.D., Centre for Development Policy Studies (CDePS), Faculty of Economics, Chulalongkorn University, Thailand. “AFTA and Tobacco: A Regional Summary.”
9. Myrna S. Austria, Ph.D., College of Economics, De La Salle University, Philippines. “The Economic and Health Impact of Trade Liberalization in AFTA: the Case of the Philippines.”
Chapter 1-1: Tobacco and Poverty: Lessons from Cambodia and Vietnam

Introduction

Perhaps the first significant exploration of the way that tobacco use can increase poverty was the study “Hungry for Tobacco” in Bangladesh\(^1\), which found that if the poor transferred 70\% of their tobacco spending to food, about 10.5 million children could be saved from malnutrition. Since then, much research has been conducted on the topic. This chapter highlights the results of three recent research studies, from Cambodia\(^2,3\) and Vietnam\(^4\), which demonstrate how tobacco use can contribute to poverty and inequality.

The results of the research are clear and salient: tobacco is a concern for its effects on poverty as well as on health, and poverty alleviation programs must incorporate tobacco control in order to be effective.

Background on Cambodia and Vietnam

With a population of about 13 million\(^5\), Cambodia has one of the lowest per capita GDPs in the world, at only US$259 in 2001\(^6\). Approximately 36\% of the Cambodian population lives below the poverty line\(^7\), equivalent to 4.68 million people. The Royal Cambodian Government has embarked on a poverty alleviation program to gradually reduce the poverty level; however, within this program little attention is given to the possible impact that tobacco consumption has on the status of Cambodian households. As a result, the impact of tobacco is neither fully accounted for nor appropriately addressed by the government’s Poverty Alleviation Program.

Cambodian households would greatly benefit from reducing their consumption of tobacco products. Despite this, attempting to impose controls on the tobacco trade to reduce tobacco consumption, in the form of strong laws and policies banning tobacco promotion, raising taxes, requiring large and specific warnings on tobacco products, and making public areas smoke-free, presents a very challenging task for the Royal Government of Cambodia.

\(^2\) Sisovanna, S., League of Khmer Students from Abroad (LIDEE Khmer), Cambodia. “Tobacco, poverty and socio-economic status in Cambodia.”
\(^3\) Seng Souern and Tith Vong, National Institute of Statistics (NIS), Cambodia, “The Analysis of Smoking Behavior Survey in Cambodia.
\(^4\) Hoang Van Kinh, Nguyen Thac Minh, Nguyen Thi Thu Hien (Trade University), Nguyen Tuan Lam (WHO), and Vu Thi Bich Ngoc (Institute of Finance), Vietnam. “Financial Burden of Smoking on Households in Vietnam.”
Poverty also continues to be a significant problem in Vietnam, with an estimated 15% of Vietnamese households living below the poverty line in 1998. According to the General Statistics Office of Vietnam (GSO), in 2004 18.1% of all households were poor, or 8.6% of urban and 21.2% of rural households. The tobacco industry in Vietnam often cites its contributions to poverty reduction programs as proof of its corporate social responsibility and contribution to economic development. However, such claims belie the fact that tobacco use is itself a contributor to poverty, as the Vietnam study shows.

**Methodology**

The first Cambodian research study (hereafter called the LIDEE Khmer study) utilized secondary data from the Cambodian Socio-Economic Survey conducted in 1999 (1999 CSES) in order to investigate the pattern of Cambodian household expenditures in the context of tobacco use. The investigation utilized both a descriptive analysis of the dataset, focusing on a subset comprised only of smoking households (households with at least one smoker), and a regression estimation of the entire dataset to determine how tobacco impacts household expenditures such as food, clothing, education, medical care, and housing, based on socio-economic characteristics of those households. SPSS, MS Excel and STATA software were used for data manipulation and analysis.

The central focus of the study was on the household expenditures of 3,000 households in Phnom Penh and other urban and rural areas, including the amount spent by the entire family on food and non-food items. Within the CSES, food includes tobacco and tobacco-related products as well as alcohol. Other information used included: a) household member’s sex, age, marital status and relationship to household head, b) schooling, c) health, d) employment and earning, and e) total income and consumption. Researchers divided all smoking households into three groups to study their relative tobacco spending. These households were classified as low spenders, medium spenders, and high spenders.

The second Cambodian study (hereafter called the NIS study) was the first survey undertaken in Cambodia to focus only on smoking behavior. It was undertaken by the National Institute of Statistics (NIS) and was designed not only to obtain information about the smoking prevalence of Cambodians, but also to gather more detailed information on issues related and contributing to smoking behavior, such as health, economics, and allocation of resources (income and earnings). The principle objective of the survey was to provide policymakers and planners with current and reliable data on smoking and tobacco chewing prevalence and other economic, social and health information that could be used for making comparisons with other countries in the region, as well as for formulating strategies to address high smoking

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Southeast Asia Tobacco Control Alliance
rates in Cambodia.

After analyzing data collected through previous studies, the NIS study undertook a survey that sampled 4,200 households in 300 sample enumeration areas (villages) distributed across all 24 Cambodian provinces. The survey addressed households in both urban and rural areas, and included single person households; the number of households sampled from each enumeration area was restricted to 14. The survey used two questionnaires, including one to make a list of households in each selected enumeration area, and a second to collect demographic and socio-economic information from each selected household. The household questionnaire contained 40 questions and the interview period took about 1.5 hours per household. Thirty-three enumerators and supervisors were recruited and trained by the NIS, Ministry of Planning.

The survey was undertaken between June 11 and July 15, 2004. A complete list of every household in each enumeration area was prepared, from which 14 sample households were randomly selected in each area. All members of sampled households were enumerated. Demographic questions were completed by the head of each household (or any eligible adult member), while tobacco-specific questions were asked of each individual household member over the age of 5 years. Editing and coding of the questionnaires was completed manually at NIS. Manual processing verified questionnaire completeness, correctness, and consistency of the entries, while data entry, verification of the data captured, checking, correction of inconsistencies, and final tabulation of survey results was completed by using the Census and Survey Processing System (CSPro) of the United States Bureau of Census. Preliminary tables were generated and the data validated until accurate.

The Vietnam study was carried out using data from annual statistical reports of the General Statistics Office (GSO), the Vietnam Living Standard Surveys 1997-1998, and the Vietnam National Health Survey 2002. The Vietnam National Health Survey data was used to analyze smoking prevalence and changes in smoking patterns. The Vietnam Living Standard Survey was used to estimate the effect of smoking on poverty and inequality. Total consumption was estimated based on the two above data sets as well as statistical data from the General Statistics Office and the Ministry of Industry.

Expenditure calculations were based on the household unit because spending on tobacco affects not only income or expenditure of the smoker but also of his household. Once a portion of income is spent on tobacco, it cannot be used for other household needs; if it is not spent on tobacco, it usually will be used for the entire

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9 Cambodian Socio-Economic Survey 1999; Cambodian Demographic and Health Survey (CDHS) 2000; National Centre for Health Promotion (NCHP) of Ministry of Health and the Adventist Development and Relief Agency (ADRA) KAP studies.
household, not only for the smoker.\textsuperscript{10}

It should be noted, however, that the number of smokers, people attending schools, and old people or ill people vary by household. These factors were not taken into account when comparing tobacco spending with other essential spending or with total household expenditure. As well, since smoking is prohibited by some parents, and may be considered inappropriate for women, it is likely that there was some underreporting of cigarette and tobacco use among youth and women. This should be kept in mind in interpreting the results of the analysis.

The estimation of the number of households that fall below the poverty line was based on the Vietnam Living Standard Surveys 1997-1998 data. The poverty line itself was based on the poverty line calculated for the year 1998 by the General Statistics Office\textsuperscript{11}. STATA was used to calculate household tobacco spending. Per capita household expenditure was obtained by dividing the total household expenditure by the household size. The GSO included tobacco in household expenditures to assess poverty levels, even though such expenditures could be considered welfare reducing, as they do not provide any material benefits to the household, and, in the long run, tend to yield strong negative effects on health and working time. If tobacco expenditures were excluded from total expenditures, additional households may have dropped below the poverty line. Households whose per capita expenditure excluding tobacco was below the poverty line (but above the poverty line if tobacco expenditure was included) were considered to suffer from poverty due to tobacco use.

Only cigarette consumption was used in the analysis in Vietnam for several reasons: pipe tobacco is quite inexpensive compared to cigarettes, much of what is consumed involves home production, it is impossible to make accurate comparisons of quantity (puffs vs. sticks), and data on pipe tobacco production is difficult to obtain because pipe tobacco is produced by the informal household sector.

**Household smoking prevalence by income and region**

**Cambodia**

About two-thirds of all Cambodian households involved in the LIDEE Khmer research study included at least one smoker. The individual smoking prevalence for Cambodia and other countries in the region is shown in Table 1 below, which indicates that smoking prevalence in Cambodia in 1999 was among the highest in the region.

\textsuperscript{10} Nguyen Tuan Lam. “The Economic Impact of Tobacco Expenditure on Poor Households in Vietnam”, School of Public Health - University of Sydney, 2003.

The prevalence of smoking among female-run households was lower than among male-run households, while the prevalence of household smoking was higher in the region of Phnom Penh than in other urban or rural areas. Examining the effect of the household head’s educational level, a downward trend of household smoking prevalence was evident, from the least educated to most educated. This suggests that the level of education is positively correlated with not using tobacco, a pattern observed in most countries. As for marital status, the highest prevalence of smoking was observed among households run by a currently married head.

Spending on tobacco products by households within each region followed a pattern of increasing expenditure from the very poor group to the rich group. Across the entire country, very poor households spent the least, at 93.0 thousand Riel (US$10.33), and the rich spent the most, at 313.7 thousand Riel (US$34.86), on tobacco products per year. However, given that poor households have less total income to spend, the proportion of income that they spend on tobacco is much higher than rich households; the poor households can least afford the expenditure on tobacco, and are thus far more burdened by the expenditure than rich households.

Total annual household spending on tobacco in Cambodia was estimated at US$69,442,961. More money was spent on tobacco in the rural areas than in either of the other two study areas (Phnom Penh and other urban). This spending on tobacco further aggravates poverty in the rural areas, which are also the most populated.

NIS’s 2004 research study largely validated the findings from the information presented in the LIDEE Khmer study.
The NIS survey also collected information on smoking prevalence by occupation group; however, the sample size in each occupational group was not large enough to reliably determine smoking prevalence except for the occupational group “skilled agricultural and fishery workers”. Therefore, the apparently high smoking prevalence noted among legislators, senior officials and managers is unlikely to be representative of those professional groups, especially considering other evidence that people with higher education levels are less likely to smoke. The survey results demonstrated that smoking prevalence decreased gradually from lower to higher educational levels for both sexes and in both rural and urban areas. The study results also indicated that average monthly urban household income was two times that of rural areas, while average monthly urban household consumption was three times that of rural areas.

Full details are found in Chapter 2-3, which examines the non-economic findings of the NIS study.

**Vietnam**

Information on current smoking patterns in Vietnam was based on an analysis of the Vietnam National Health Survey 2002 data. The smoking rate decreased quite sharply from the period starting 1992-1993 and ending 1997-1998, but increased between the period starting 1997-1998 through 2002. It is possible that the latter increase may be due in part to the way a smoker was defined in each study (ever smoked more than 100 cigarettes versus ever smoked for more than six months).

The 2002 smoking rate among males aged 15 or older was 56.1%, nearly 6 percentage points higher than in 1997-1998. This is a relatively high rate both in the region and globally. In terms of occupations, the highest smoking rates were observed in people who were drivers or were employed in service, trade and/or construction industries.

Smoking rates in both urban and rural areas increased from north to south. This tendency was found in analysis of the VLSS 1992-1993 and VLSS 1997-1998 data. It showed that social traits of geographic regions have a relatively strong impact on tobacco use, and that tobacco control programs have had relatively less impact in the country’s southern regions. Tobacco control activities have been more concentrated in the North; in addition, the Vietnam National Committee on Smoking and Health (VINACOSH) is located in Hanoi, and it influences mass media much more strongly in the northern part of the country than in the southern provinces.

Smoking rates in low-expenditure quintiles\(^\text{12}\) were about 20% higher than those in high-expenditure quintiles in both rural and urban areas. This demonstrates that the poor are likely to suffer heavier burdens of disease and premature death from

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\(^\text{12}\) The General Statistics Office uses per capita total expenditure to rank the population and divides the entire sample into five living standard quintiles. The number of people in each quintile is 20% of the sample. Quintile one is poor, quintile two is near poor, quintile three is average, quintile four is better off and quintile five is rich.
smoking than the rich. In terms of type of tobacco consumed, the cigarette smoking rate is higher among the rich at 47%, while pipe smoking is higher among the poor at 27%. This is not surprising, given that pipe tobacco is much less expensive than manufactured cigarettes.

Age at smoking initiation had an influential effect on both smoking rates and tobacco dependence. Most smokers started smoking when between 15 and 25 years of age; poor smokers started smoking earlier than rich smokers. It appears that poor youth are more dependent on tobacco than rich youth, since the duration of their smoking tends to be longer.

The quitting rate rose with each expenditure quintile (except for quintiles four to five in rural areas) over the past five years. This trend is particularly noticeable in urban areas and suggests that richer households may have access to more information on the detrimental effects of tobacco and possibly greater access to tobacco control programs than poorer households. The education and information campaigns of the tobacco control program have appeared on national television and in newspapers, and more affluent households have better access to these sources of information than do households with lower income.

Tobacco and household expenditure

This section presents the patterns of spending on tobacco in comparison to basic needs and total spending of the studied households. If households that do not use tobacco spend a higher portion of their income on basic needs than households that do use tobacco, then clearly tobacco use worsens the overall situation of households beyond its effect on health.

In general in Cambodia, as shown in the LIDEE Khmer study, the percentage of total expenditure spent on food (excluding alcohol and tobacco), education, housing, and other expenses (including clothing) for the three poorest quintiles in non-smoking households was higher than it was in smoking households. That is, households without smokers devoted a larger share of household expenditures to these basic needs than did households with smokers.

The percentage of medical care spending within total expenditure was the reverse: it was lower for non-smoking households than for smoking households. This suggests that smoking households experienced more health problems than did households without a smoker in the family. However, more investigation and evidence is required to support this speculation.
Table 2: Average Monthly Household Expenditure

<table>
<thead>
<tr>
<th>Region</th>
<th>Smoking status</th>
<th>Income group</th>
<th>Food excl. tobacco and alcohol</th>
<th>Clothing</th>
<th>Education</th>
<th>Health care</th>
<th>Housing</th>
<th>Other expense</th>
<th>Tobacco</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cambodia</td>
<td>Non-smoking</td>
<td>Very Poor</td>
<td>68.02</td>
<td>2.32</td>
<td>0.68</td>
<td>4.67</td>
<td>8.25</td>
<td>16.05</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>Poor</td>
<td>69.38</td>
<td>2.97</td>
<td>1.05</td>
<td>3.97</td>
<td>6.86</td>
<td>15.77</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>63.18</td>
<td>3.08</td>
<td>1.90</td>
<td>4.99</td>
<td>9.60</td>
<td>17.26</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Well-Off</td>
<td>47.41</td>
<td>2.37</td>
<td>4.61</td>
<td>3.09</td>
<td>20.41</td>
<td>22.12</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rich</td>
<td>29.71</td>
<td>2.19</td>
<td>5.80</td>
<td>3.23</td>
<td>38.96</td>
<td>20.10</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>Cambodia</td>
<td>Smoking</td>
<td>Very Poor</td>
<td>65.71</td>
<td>2.35</td>
<td>0.50</td>
<td>6.06</td>
<td>6.51</td>
<td>15.15</td>
<td>3.72</td>
</tr>
<tr>
<td></td>
<td>Poor</td>
<td>67.22</td>
<td>2.70</td>
<td>0.78</td>
<td>4.29</td>
<td>6.14</td>
<td>15.67</td>
<td>3.19</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>66.07</td>
<td>2.70</td>
<td>1.16</td>
<td>5.85</td>
<td>5.24</td>
<td>16.08</td>
<td>2.89</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Well-Off</td>
<td>63.46</td>
<td>3.19</td>
<td>1.39</td>
<td>5.04</td>
<td>6.70</td>
<td>17.09</td>
<td>3.13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rich</td>
<td>39.93</td>
<td>2.38</td>
<td>5.02</td>
<td>3.78</td>
<td>25.10</td>
<td>21.33</td>
<td>2.46</td>
<td></td>
</tr>
</tbody>
</table>

Graphically, the percentage of family budget devoted to the purchase of tobacco products throughout Cambodia reflected a downward trend by income group, from very poor to rich. In each region, households in the poorer income groups allocated a larger share of income to tobacco than did the richer ones. Phnom Penh households spent the largest share of their income on tobacco, followed by other urban households and finally rural households. This pattern was the reverse of that of smoking prevalence in the respective regions. This may be because smoking households in Phnom Penh smoke with higher intensity, and/or purchase more expensive cigarettes.

As shown in Figure 4, in every income group in Cambodia, smoking households lag behind non-smoking ones in term of consumption on housing. Medical expenditure is included in miscellaneous expenditure. The graphs reveal similar important facts about the economic impact of tobacco on household welfare in terms of satisfaction of the most basic needs in the family. Education and housing expenditures suffered the most from tobacco spending. If households did not spend their income on tobacco, their education and especially housing expenditures could be significantly increased. In rural areas, food expenditure would also benefit from saving on tobacco consumption.
Comparing the percentage of household spending on different basic needs among tobacco using and non-using households allows for calculations of the amount of money that might have been spent on basic needs if tobacco were not purchased. Calculations from the Cambodian LIDEE study are as follows:

◊ Household expenditures for food in very poor and poor income groups without tobacco consumption were 68.02% and 69.38% respectively of total household expenditures, while the corresponding figures for those households with tobacco users were 65.71% and 67.22% respectively. Thus, a smoking household will spend monthly on average KH Riel 36,378 (US$4.04) less on food when compared to a non-smoking household.

◊ Household expenditures for education in very poor and poor income groups without tobacco consumption were 0.68% and 1.05% respectively of total household expenditures, while the corresponding figures for those households with tobacco users were 0.5% and 0.78% respectively. Thus, a smoking household will spend monthly on average KH Riel 9,988 (US$1.11) less on education when compared to a non-smoking household.

◊ Household expenditures on housing in the very poor and poor income groups without tobacco consumption were 8.25% and 6.86% respectively, while the corresponding figures for those households with tobacco users were 6.51% and 6.14% respectively. Thus, a smoking household will spend monthly on average KH Riel 11,333 (US$1.26) less on housing when compared to a non-smoking household.
What do those reductions in expenditure mean, in practical terms?

◊ Households which consume tobacco spend less on basic family needs than households which don’t use tobacco. Tobacco consumption thus aggravates poverty in the family by diverting spending away from essential needs.
◊ Tobacco spending reduces the capacity of families to spend money on education, meaning that children could have less access to schooling and to necessary training and skills to earn their living. In this sense, tobacco spending in the present contributes to impoverishing future generations.
◊ Tobacco spending reduces the capacity of families to spend money on housing; poor and unhygienic housing in turn can cause disease.
◊ Tobacco spending reduces the capacity of families to spend money on food, which means that malnutrition could increase and family health could suffer. Other side effects follow, including a reduced labor force quality.
◊ Family expenditure on tobacco keeps households under negative economic pressure, depriving the smokers and their families of the resources needed to sustain or improve their living conditions. Without reducing or eliminating tobacco consumption, there is less possibility for households to sustain normal living conditions, and little possibility of improvement.

Similar results were obtained through the Cambodian NIS study. The largest percentage of smokers was found within the mid-income ranges: 45% of smokers reported being within the US$31 - US$40/month income range, and a further 42% in the US$21 - US$30 income range. In general, the prevalence of smoking among low-income women and high-income men were lower than in other groups. For the top income categories, smoking may be lower due to higher education.

However, the burden of tobacco expenditures was higher on the lowest income groups. Monthly expenditure on basic needs by smoking households is shown in Table 3. Monthly expenditure on food averaged 39% of total expenditure in urban areas and 54% in rural areas; other basic needs consumed by smoking households included housing, education, health, clothing and others, which amounted to 15.4%, 6.0%, 6.7%, 5.8%, and 13.3%, respectively. Smoking households on average spent 2.3% and 3.8% of their total expenditures on tobacco consumption in the urban and rural areas, respectively. Comparisons were not made to non-smoking households.

Table 3: Smoking Households’ Monthly Consumption of Selected Items

<table>
<thead>
<tr>
<th>Items</th>
<th>Urban (%)</th>
<th>Rural (%)</th>
<th>Cambodia (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Expenditure</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Food</td>
<td>39.3</td>
<td>54.1</td>
<td>50.7</td>
</tr>
<tr>
<td>Alcohol</td>
<td>1.5</td>
<td>2.1</td>
<td>2.0</td>
</tr>
<tr>
<td>Housing</td>
<td>22.2</td>
<td>13.4</td>
<td>15.4</td>
</tr>
<tr>
<td>Health</td>
<td>6.9</td>
<td>6.6</td>
<td>6.7</td>
</tr>
<tr>
<td>Clothing</td>
<td>4.7</td>
<td>6.1</td>
<td>5.8</td>
</tr>
<tr>
<td>Education</td>
<td>9.8</td>
<td>4.9</td>
<td>6.0</td>
</tr>
<tr>
<td>Others (Excluding tobacco expenditure)</td>
<td>12.8</td>
<td>9.0</td>
<td>9.8</td>
</tr>
<tr>
<td>Tobacco</td>
<td>2.7</td>
<td>3.8</td>
<td>3.6</td>
</tr>
</tbody>
</table>
Table 4 shows the percentage of total monthly expenditure by household smokers on tobacco by income group. The mean average of monthly expenditure on tobacco was estimated to be about US$3 per household. The expenditure on tobacco ranged between 2.4% and 8.7% of total household expenditure. As noted in the LIDEE study, the lowest income groups spent the greatest percent of their expenditures on tobacco (4.8%, Cambodia average), although it is worth noting that as subgroups, the urban smoking households with a monthly income of US$11-20 and US$31-40 spent the greatest percentage of household expenditures on tobacco. Again, this demonstrates that the lowest income groups typically bear the highest burden of tobacco consumption.

<table>
<thead>
<tr>
<th>Reported Monthly Income Group</th>
<th>Mean Expenditure on Tobacco in US$</th>
<th>% of Total Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Urban</td>
<td>Rural</td>
</tr>
<tr>
<td>US$ 10 and less</td>
<td>1.7</td>
<td>1.9</td>
</tr>
<tr>
<td>US$ 11- US$20</td>
<td>2.9</td>
<td>1.9</td>
</tr>
<tr>
<td>US$ 21- US$30</td>
<td>2.4</td>
<td>2.3</td>
</tr>
<tr>
<td>US$ 31- US$40</td>
<td>3.9</td>
<td>2.6</td>
</tr>
<tr>
<td>More than US$40</td>
<td>4.0</td>
<td>3.4</td>
</tr>
<tr>
<td>Total</td>
<td>3.7</td>
<td>2.9</td>
</tr>
</tbody>
</table>

Information on the places smokers purchased cigarettes, distributed by income groups, was also analyzed. Street sellers appeared to be the most popular source of cigarettes across all income groups. Street sellers accounted for 72% of sales to both sexes, followed by the market, which accounted for 22% of sales. The percentage of smokers getting their cigarettes from barter or free supply/collection (receiving cigarettes from tobacco industry promotions, friends, etc.) was highest for the lowest income group.

Tobacco spending imposes a relatively heavy burden on poor households in Vietnam as well. On average, a tobacco-consuming household spent approximately $51 on tobacco per year. In absolute value, the average household expenditure on cigarettes among the rich quintiles (US$90) was much larger than that of the poor quintiles (US$31) (Table 5). But as a percentage of total expenditures (Table 6), tobacco spending was higher among poor households (5.29%) than among rich ones (3.60%).

There was a higher ratio of spending on tobacco to education and tobacco to health for poor households as compared to rich ones. The ratio of tobacco/education expenditure was 1.506 for poor households and only 0.464 for rich ones; for tobacco/health care spending the ratios were 0.971 for poor households and 0.689 for rich ones.

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13 Reported incomes were commonly significantly lower than expenditures.
Table 5: Household Spending on Tobacco, Education, Health, Food and Total Expenditure by Quintile

<table>
<thead>
<tr>
<th>Quintile</th>
<th>Tobacco (1)</th>
<th>Education (2)</th>
<th>Healthcare (3)</th>
<th>Food (4)</th>
<th>Expenditure (5)</th>
<th>(6)= (1)*100/(5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor</td>
<td>31.26</td>
<td>20.75</td>
<td>32.19</td>
<td>399.22</td>
<td>591.27</td>
<td>5.29</td>
</tr>
<tr>
<td>Rather Poor</td>
<td>36.47</td>
<td>33.72</td>
<td>41.93</td>
<td>499.25</td>
<td>796.90</td>
<td>4.58</td>
</tr>
<tr>
<td>Middle</td>
<td>40.88</td>
<td>43.40</td>
<td>61.02</td>
<td>552.36</td>
<td>951.61</td>
<td>4.30</td>
</tr>
<tr>
<td>Rather rich</td>
<td>51.07</td>
<td>74.99</td>
<td>70.26</td>
<td>662.04</td>
<td>1258.02</td>
<td>4.06</td>
</tr>
<tr>
<td>Rich</td>
<td>89.79</td>
<td>193.73</td>
<td>130.28</td>
<td>1017.16</td>
<td>2494.40</td>
<td>3.60</td>
</tr>
</tbody>
</table>

Note: Exchange rate in 1998 was $1=13,300 VND; figures presented in US$.

Table 6: Spending Ratio on Tobacco to Education, Health Care, Food & Total Expenditure by Quintile

<table>
<thead>
<tr>
<th>Quintile</th>
<th>Tob/Education</th>
<th>Tob/Health</th>
<th>Tob/Food</th>
<th>Tob/Total Exp</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>65.32</td>
<td>73.42</td>
<td>8.02</td>
<td>4.04</td>
</tr>
<tr>
<td>Rural</td>
<td>71.34</td>
<td>61.35</td>
<td>7.05</td>
<td>3.92</td>
</tr>
<tr>
<td>Urban</td>
<td>59.22</td>
<td>96.60</td>
<td>9.64</td>
<td>4.20</td>
</tr>
</tbody>
</table>


Food equivalence of tobacco consumption by typical smoking household, Cambodia

Since poor households spend most of their income to satisfy basic needs, more money spent on tobacco means less money spent on essential items such as food. The research in Cambodia looked specifically into this issue, both in its estimates of the expenditures “lost” by smoking households on various basic needs, by comparing tobacco and food expenditures, and by seeing what food could be purchased for the price of a pack of cigarettes.

Figure 5: Share of Tobacco Consumption in Food Expenditures by Income Group
The package of popular cigarette brands.

The graph in Figure 5 depicts the share of tobacco expenditure in total expenditures by different regions of Cambodia. The figures range from 2.5% in Phnom Penh to 3.3% in other urban areas. Tobacco spending represents from 4.1% to 6.2% of food expenditure.

Figure 6 shows estimates of the extent to which tobacco spending cuts into food spending by income groups. The share of food consumption that was spent on tobacco increased as the income decreased. This means the very poor in Phnom Penh spent 6.18% of their food expenditure on tobacco. In each region, households in the poorest income group allocated a larger share of food expenditure to tobacco, as compared to the richest group.

Figure 7 shows what could be purchased in Cambodia for the price of a pack of 555 brand cigarettes. The money needed to buy just one pack of 555 cigarettes could have purchased 3,244 Kcal or more of food energy from a variety of nutritious foods, which could support productive activity such as physical labor and education, as well as help to improve health.

Even for more popular and seemingly inexpensive local cigarettes such as ARA, the opportunity cost of smoking is striking. A variety of products could be purchased with the money otherwise spent on cigarettes; including foods providing 3,800 Kcal of energy (a greater and more nutritional mix of foods would be available for the price of the far more expensive 555 cigarettes).
Total spending on cigarettes nationwide

In both Cambodia and Vietnam, researchers estimated the amount of money spent nationwide on cigarettes, and looked at what else that money could have purchased.

Monthly household spending on tobacco products in Cambodia, nationwide, was US$5.83 million in 1999. The annual spending on tobacco by Cambodian smoking households, at US$69,444,893, would easily fill a deficit in the national budget and be a good source of financing for many of the country’s reconstruction and social projects. This amount also exceeded most yearly by-sector development assistance disbursements that Cambodia received from the donor community in each of the years 1999-2001; it also exceeded most of the Royal Government of Cambodia’s by-sector planned amounts for socio-economic development programs in the SEDP-II for 2001-2005. The amount spent annually in Cambodia on tobacco products is equivalent to the price of 274,304 tons of high quality-rice, 1,388,382 bicycles, or to 27,778 large wooden houses in the provinces.

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The researchers in Vietnam utilized two methods to calculate total cigarette spending nationwide. The first method was based on total cigarettes consumed. Total cigarettes consumed include domestic production and smuggled cigarettes (export of domestic production is very small). In 1988, the output of domestic cigarette production was 2.14 billion packs, while smuggled cigarettes represented 0.2 billion packs\textsuperscript{16}; the average retail price was 2,493 VND\textsuperscript{17}. Total cigarette expenditure in Vietnam was thus calculated as 5,834 billion VND (1.24 billion packs * 2,483 VND) or US$416.7 million.

The second calculation of total tobacco spending in Vietnam was based on the average tobacco spending of one Vietnamese smoker and the number of Vietnamese smokers. According to the Vietnam Living Standard Survey in 1998, the average Vietnamese smoker spent 616,000 VND on tobacco in that year. The adult male smoking prevalence rate was 34.55% in 1998, and the number of adult males in the country was 30.84 million\textsuperscript{18}. Multiplying these three numbers results in the total amount of 6,564 billion VND (US$494 million) that Vietnamese smokers spent on tobacco in 1998.

The total amount of money measured by the latter method is larger than that by the former method, which is based on official data on tobacco output and smuggled tobacco. The main reason for the discrepancy is that the output declared by manufacturers underestimates true output by about 30% to reduce tax payments\textsuperscript{19}. In addition, there may be more smuggling than officially admitted. Thus, the official cigarette production and cigarette expenditures are underestimated. However, the estimate produced by this method still represents a considerable amount of money, especially considering that 15% of Vietnamese households live below the food

\textsuperscript{16} Ministry of Trade, Report on the Tobacco Business submitted to VINACOSH for the SIDA project on tobacco control program, 2000.

\textsuperscript{17} Author’s calculation from Vietnam Living Standard Survey 1998.


\textsuperscript{19} Ministry of Industry, Report on the effect of using cigarette tax stamp submitted to VINACOSH on SIDA project on tobacco control program 2001.
poverty line.\textsuperscript{20}

Updating the data with information from the Vietnam National Health Survey 2002, the male cigarette smoking rate at the time of the research was 38.8%; the number of over-15-year-old men was 31 million\textsuperscript{21}, and the average cigarette spending per smoker was 682,800 VND per year. All Vietnamese male smokers spent an estimated total of 8,213 billion VND on tobacco in 2002 (US$537 million).

Based on the first, most conservative method, smokers in Vietnam spent 5,834 billion VND (US$416.7 million) on cigarettes in 1998. This amount could buy about 1.6 million tons of rice, which is sufficient to feed 10.6 million people per year. The price of rice in 1998 was 3,610 VND (US$0.25/kg), which was higher than that in 1996 and 1997. If the estimate based on the second method (VLSS 1998) is used, the amount of foregone food is even higher: 1.8 million tons of rice. The contribution to the state budget by the tobacco industry accounts for only one-third of the total tobacco spending by Vietnamese smokers.

Inequality and poverty due to tobacco

In both Vietnam and Cambodia, tobacco use contributes to inequality. Since the poor are more likely to use tobacco than the rich, and spend a larger portion of their expenditures on tobacco, they are more affected by tobacco use than the rich. The money wasted on tobacco makes them even poorer than they seem, and contributes to widening the gap between rich and poor.

Calculation of Gini indices in Cambodia demonstrates the negative impact of tobacco on inequality and poverty in the society: the higher the Gini Index, the more inequality in the society (the Gini Coefficient ranges from 0 to 1, 0 representing perfect equality and 1 total inequality). That is, smoking households are in fact poorer than they seem, when money spent on tobacco is subtracted from total expenditures. Inequality could be lessened if smoking households spent that money on food or other basic needs instead.

In Vietnam, tobacco spending causes many households to fall below the poverty line. According to the World Bank and the GSO definition, the food poverty line in Vietnam is 1.287 million VND per person per year.\textsuperscript{22} Tobacco spending does not

\begin{table}
\centering
\caption{Gini Index}
\begin{tabular}{|c|c|c|c|}
\hline
\textbf{Variable} & \textbf{Region} & \textbf{All Households} & \textbf{Smoking Households} & \textbf{Smoking Households Excluding Tobacco} \\
\hline
Gini & Other Urban & 0.344 & 0.312 & 0.317 \\
 & Phnom Penh & 0.455 & 0.482 & 0.492 \\
 & Rural & 0.231 & 0.227 & 0.231 \\
\hline
\end{tabular}
\end{table}

\textsuperscript{20} Food poverty level is the level of household expenditure required to ensure that the household can buy a basket of food to provide 2,100 kcal per person per day. The 1998 food poverty line is 1,287,000 VND.


contribute to improving household living standards, but rather reduces household disposable income. Therefore, tobacco spending should be excluded from total household expenditure when assessing living standards of households. After separating tobacco spending from total household expenditures, 1.5% of the population whose living standards used to be above the food poverty line fall into the category of food poor households, i.e., whose income is insufficient to meet minimum caloric requirements. It can therefore be concluded that tobacco spending is one of the causal factors of poverty. If the amount spent on tobacco was instead used to purchase food commodities, then 11.2%\(^23\) of food poor people would be able to emerge from poverty. Similar calculations could be made for other basic needs.

Tobacco spending thus contributes to poverty in two ways: tobacco expenditure is welfare-reducing, and at the same time reduces welfare-enhancing expenditures for education, health or nutrition. Tobacco spending also contributes to widening the gap between the rich and the poor, because the poor have higher rates of smoking and spend a higher proportion of their income on tobacco.

The Gini coefficients in Vietnam before and after separating tobacco spending from total household expenditure are shown in Table 8. There are three columns of Gini coefficients: the general coefficients, the coefficients for smoking households, and the coefficients after separating tobacco spending from total household expenditure. The data in the table demonstrates that the Gini coefficients of all regions increase after separating tobacco spending from total household expenditure. Again, this suggests that tobacco use contributes to increased social inequality.

<table>
<thead>
<tr>
<th>Region</th>
<th>All households</th>
<th>Smoking households</th>
<th>All households after separating tobacco spending from total household expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>0.35</td>
<td>0.34</td>
<td>0.39</td>
</tr>
<tr>
<td>Urban areas</td>
<td>0.35</td>
<td>0.34</td>
<td>0.43</td>
</tr>
<tr>
<td>Rural areas</td>
<td>0.27</td>
<td>0.27</td>
<td>0.32</td>
</tr>
</tbody>
</table>

\(^{23}\) This number is calculated by dividing the number of people who dropped below the poverty line because of tobacco use and the total number of people below the poverty line if tobacco is excluded from the poverty calculation.

Source: Author calculations from VLSS 1998.

Inclusion of cigarette expenditures leads to slightly lower estimates of inequality measures. But the inequality could be reduced if these households switched their spending from tobacco to other, welfare-enhancing expenditures such as food, education, and housing.

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\(^{23}\) This number is calculated by dividing the number of people who dropped below the poverty line because of tobacco use and the total number of people below the poverty line if tobacco is excluded from the poverty calculation.
Recommendations

◊ Strong efforts are needed to reduce tobacco consumption, for poverty and equity as well as for improved health. Studies from other countries demonstrate that the most effective method to achieve significant reductions in tobacco use, particularly among the poor, is through an increase in tobacco taxes. In addition, all forms of promotion of tobacco products should be strictly banned.

◊ Tobacco control should be incorporated into poverty alleviation strategies. The association between tobacco use and poverty needs to be publicized more broadly, particularly among government agencies, the media, and international and local agencies working on poverty reduction and economic development.

◊ Educational programs may be useful to raise awareness of the risk of tobacco use on family economic wellbeing as well as health, particularly in countries where the existing level of knowledge is low. One efficient mechanism to achieve this is through pictorial messages on cigarette packs, which could include economic as well as health messages.

Conclusion

These three research studies demonstrate the financial burden of tobacco use assumed by Cambodian and Vietnamese households. Although other expenditures (cost of medical treatment such as health care costs to treat diseases caused by smoking, costs due to fires caused by smoking, time and productivity loss from smoking-related illnesses, and other opportunity costs) are not taken into account, tobacco spending represents a considerable portion of household expenditures, and a significant sum of money nationwide. This highlights the need to strengthen tobacco control, particularly through national policy, and to incorporate tobacco control into poverty alleviation strategies.

Poor people and poor households suffer disproportionately from tobacco use. In most countries, smoking rates are highest among the poor. In addition, the share of tobacco spending in total household spending, and the ratio of tobacco spending to expenditures on education, health care, and food within poor households is higher than it is in richer households. Therefore, poor households should be a primary target of tobacco control programs, and national policies should be enacted which have been proven internationally to reduce tobacco use among the poor.

Tobacco use contributes significantly to poverty. If tobacco use did not divert needed funds from household disposable income, more than two million people in Vietnam would be able to escape from poverty. The very poor in Phnom Penh spend up to 10% of their food expenditure on tobacco, while the money needed to buy just one pack of domestic or imported cigarettes could buy 3,244 to over 3,700 Kcals of food energy. This means that tobacco control activities could help to eliminate hunger and
to reduce poverty.

Tobacco consumption could undermine efforts of poverty alleviation programs in Cambodia, Vietnam, and elsewhere in the world. To address poverty and inequity, it is also important to address tobacco use.

Bibliography

ADRA, *Cambodian Tobacco or Health Program*, Phnom Penh, 1996.


Nguyen Tuan Lam, “*The Economic Impact of Tobacco Expenditure on Poor Households in Vietnam*,” School of Public Health, University of Sydney, 2003.


Royal Government of Cambodia, *The Triangle Strategy*


Chapter 1-2: Demand Analysis and Tobacco Taxes: Case Studies from Vietnam and Malaysia

Introduction

Imposing taxes on tobacco is one of the most efficient and effective measures that can be implemented to reduce tobacco use. Simply raising the tax on tobacco products achieves a significant decline in use, while also increasing government revenues. Despite this win-win situation, many governments are reluctant to raise taxes, due to concerns about smuggling and the possible impact on the poor.

These reports, while focusing on Vietnam and Malaysia, address some of the issues faced by governments in deciding on tobacco taxation levels. In particular, they question whether policies that keep taxes low on tobacco products used to a greater proportion by the poor are actually harmful to those they mean to benefit, and whether smokers are in fact responsive to higher cigarette prices.

Some countries levy a uniform tax on cigarettes, while others levy a differential tax based on the type of tobacco used for their production, origin of tobacco (domestic, foreign), cigarette length, and so on. Vietnam imposes differential tax rates on three types of cigarettes: a tax of 65% is imposed on filtered cigarettes made from imported materials; a tax of 45% is imposed on filtered cigarettes made from domestic materials; and a tax of 25% is imposed on non-filtered cigarettes made from domestic materials. The tax is imposed on the base wholesale price; the retail price already includes the tax. Malaysia, on the other hand, does not yet have a clear tobacco tax policy. There have been several cigarette tax increases over the past decade, but their main purpose was to raise government revenue. Some aspects of the tobacco tax policy are driven by the economic interests of tobacco farmers and cigarette producers, and therefore have had little affect on reducing consumption. Similar to Vietnam, Malaysian tobacco tax differentiates between domestic and foreign origin of cigarettes.

How are the targets of tobacco control programs, particularly reducing smoking behavior among different social classes, affected by tax rates? Would imposing different tax rates support poverty reduction policies or simply increase burdens on


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the poor? Will the current taxation systems deter youth, who are highly vulnerable to taking up tobacco use? These questions need to be answered to provide a sound foundation for drafting appropriate tax policies which will have a positive impact on tobacco control and thus on public health and poverty reduction.

The Vietnamese research attempted to answer these questions by analyzing the consumption patterns and characteristics of smokers of low-priced cigarettes, looking at the price elasticity of demand for cigarettes, and calculating the effect of imposing a single uniform tax of 65% on all cigarettes. The research results showed that imposing a uniform tax of 65% on tobacco would result in an increase of 16-32% in the price of low-priced cigarettes, a decrease of about 27% in tobacco consumption, and an increase of more than 11% in the government’s tobacco tax revenue. That is, imposing a uniformly high tax on tobacco would not only benefit the poor, it would also increase government income.

The Malaysian study was the first to estimate the responsiveness of Malaysians to higher cigarette prices. It demonstrated how cigarette excise tax policy could be used to curb the tobacco epidemic in Malaysia, predicted the impact of higher cigarette taxes on future mortality, and estimated the impact of this policy on the state tax revenue. The research results showed that a 10% increase in price would result in a 3.8% reduction in cigarette consumption over the long-run if annual tobacco tax increases were made. A simulation model revealed that an increase in cigarette excise tax from the current level of RM 1.60 (US$0.42) per pack to RM 2.00 (US$0.53) per pack in 2006 would increase the average cigarette price by 5.9% and reduce consumption in that year by 2.25%. This reduced consumption would translate to between 174 and 179 fewer tobacco-related deaths per year among the adult population. At the same time, the government would collect an additional RM 437 million (US$116 million) in cigarette excise taxes, or almost 23% more compared to what it would otherwise collect in 2005.

In both cases, therefore, demand analysis showed that taxation is an effective method of reducing consumption while increasing government revenue.

Price Elasticity

Tobacco taxes as an effective measure of tobacco control

Evidence from countries with different income levels demonstrates that raising tobacco taxes significantly reduces tobacco consumption. Higher taxes cause some regular smokers to quit smoking, and prevent a segment of non-smokers from initiating smoking. High taxes also reduce the number of ex-smokers who relapse and consumption among continuing smokers. On average, a 10% rise in cigarette prices causes a 4% decline in use in high-income countries and an 8% decline in low- and middle-income countries. That is, low-income consumers are likely to respond
more vigorously to cigarette price increases.6

Young people are more price-responsive than older people; therefore high tobacco taxes could have a particularly large effect on children and youth. Research indicates that if tax increases in 1995 had raised real cigarette prices by 10%, 40 million then-smokers throughout the world would have quit smoking, thus preventing at least 10 million tobacco-related deaths.7

The actual impact of a cigarette tax change, however, will depend on how it translates into final cigarette prices, on cigarette prices relative to other goods, the size of the tax change relative to the initial price, the average income of the smoking population, and on the price of a close substitute, e.g. the price of tobacco used for roll-your-own (RYO) cigarettes. For a cigarette tax to have a sizable effect on smoking rates, it should be sufficiently large and lead to a noticeable increase in cigarette sale prices so that it will have a significant impact on the consumer budget. However, the impact of higher cigarette taxes can be reduced if taxes on cigarette substitutes do not follow the same trend, because some cigarette smokers will be motivated to switch to RYO cigarettes.8 Empirical evidence shows that higher taxes will reduce cigarette consumption even with the presence of cigarette smuggling.9

The relatively low responsiveness of the market to a change in cigarette prices (i.e. low price elasticity of cigarette demand) implies that a small tax increase may lead only to higher government tax revenue.10 A mathematical model of tax revenue and price elasticity11 shows that in a country like Malaysia where tax represents about 30% of the final cigarette price, a 1% tax increase would lead to 0.58% to 0.97% revenue increase for price elasticity ranging from -1.4 to -0.1.

There have been a number of studies focusing on price elasticity of cigarette demand in developing countries; however, only a few low- and middle-income countries have country-specific estimates of the cigarette market’s price responsiveness. Studies from South Africa12, Thailand13, China14, Indonesia15, and Vietnam16 indicated

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7 Ibid, page 6.
that cigarette prices were an important determinant of cigarette consumption, but that the degree of price elasticity varied according to the level of taxation, across income groups, and between urban and rural areas. Data from Malaysia indicate that taxes on cigarettes have been effective in reducing tobacco use.

**Tobacco taxes globally**

Tobacco taxes can take several forms. Specific tobacco taxes, added as a fixed amount to the price of cigarettes, allow the greatest degree of flexibility, since they allow governments to raise the tax with less risk that industry will respond with actions that would offset the tax. *Ad valorem* taxes, such as value-added taxes or sales taxes, are a percentage of the base price and are imposed by virtually all countries. *Ad valorem* taxes may be imposed at the point of sale or, as in many African countries, on the wholesale price. Taxes may vary according to the origin of the manufacturer or the type of product. For example, some governments impose higher taxes on cigarettes produced abroad than on domestically produced ones, or on high-tar cigarettes compared to low-tar cigarettes.

An increasing number of countries currently earmark tobacco tax revenue for anti-smoking activities or other specific activities. For example, one of China’s largest cities, Chongqing, and several U.S. states earmark part of the revenue from tobacco taxes for counter-advertising, education about tobacco’s effects on health, and other tobacco control activities. Some countries use earmarked tobacco taxes to support health services; they could also be earmarked for smoking cessation activities.

**Base price of tax**

The base price on which taxes are levied can be the wholesale price from tobacco companies or the retail price. Since retail sales prices are usually very different (i.e., higher) than wholesale prices, especially for tobacco, the distinction is very important. For example, say two countries both use a tax rate of 50% on tobacco, but the tax of country A is based on the wholesale price of US$0.50 per pack, while the tax of country B is based on the retail price of US$0.80. The tobacco company in country A would have a tax payment of US$0.25, but the tobacco company in country B would have a tax payment of US$0.40. The difference is US$0.15; in relative terms, the tax payment in country B is 60% higher than the tax payment in country A, even though both countries have a tax rate of 50%. Therefore, understanding the base price on which the tax is imposed is very important to understand the true tax rate.

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http://pathcanada.org/vietnam/tobacco/research/docs/PriceElasticityEstimatesForCigaretteDemandInVietnamEN.pdf

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Tobacco tax rate variances

Tobacco tax rates vary from country to country (Figure 1\textsuperscript{17}). In high-income countries, the tax component accounts for at least two-thirds of the retail price of a pack of cigarettes. In low-income countries, on the other hand, it accounts for less than half of the retail price.\textsuperscript{18}

The optimal tax rate that should be imposed is difficult to determine because it depends on many factors, including the costs imposed by smokers on non-smokers, social values such as the level of protection of children and others from tobacco smoke, and on the purpose of taxation, i.e., to increase tax revenues or to reduce the burden of tobacco-related diseases. In countries attempting to reduce tobacco consumption, the tax component is typically between two-thirds and three-fourths of the retail price of a cigarette pack.

In a compilation of tobacco tax systems for 202 countries worldwide\textsuperscript{19}, 95 of the 114 countries with information available levied a uniform tax on tobacco, and only 19 levied tobacco tax rates that varied according to types of tobacco products and source of materials. Of those 19 countries levying different tobacco tax rates, ten belonged to the former Soviet Union and/or were in Eastern Europe.

Tobacco tax treatment in countries with advanced tobacco control policies

Thailand is one of the countries demonstrating the greatest success in tobacco control. Currently, Thailand levies a uniform tax on all tobacco products. Between 1992 and 2002, the tobacco tax in Thailand was raised six times, increasing from 55% in 1992 to 75% in 2001. Tobacco tax revenue doubled from 15,438 million baht in 1992 to 31,247 million baht in 2002. Meanwhile, consumption fell from 2,035 million packs in 1992 to 1,716 million packs in 2002.\textsuperscript{20} Australia also imposes a uniform tax on all tobacco products. Their tobacco specific tax is 246 AUD per 1,000 cigarettes, plus a 20% sales tax.\textsuperscript{21}

Tobacco tax in Vietnam

\begin{figure}[h]
\centering
\includegraphics[width=0.5\linewidth]{figure1.png}
\caption{Average Cigarette Price, Tax, and Percentage of Tax Share per pack, by World Bank income groups, 1996}
\end{figure}

\textsuperscript{17} Ibid, page 39.
\textsuperscript{18} Chaloupka, F. and Jha, P., Curbing the Epidemic: The Economics of Tobacco Control. World Bank, 1999.
\textsuperscript{19} 11th World Conference on Tobacco or Health, Tobacco Control Country Profiles.
\textsuperscript{21} 11\textsuperscript{th} World Conference on Tobacco or Health, Tobacco Control Country Profiles.
The tobacco tax law in Vietnam has changed significantly since 1999. Prior to 1999, the government imposed a tax rate of 70% on filtered cigarettes produced mainly from imported materials, a tax rate of 52% on filtered cigarettes produced mainly from domestic materials, and a tariff rate of 70% on imported cigars. After 1 January 1999, tobacco taxes actually declined, with the government imposing a tax rate of 65% on filtered cigarettes produced mainly from imported materials and cigars, a tax rate of 45% on filtered cigarettes produced mainly from domestic materials, and a tax rate of 25% on non-filtered cigarettes. The base wholesale price on which the tax is calculated was set by the tobacco companies or wholesale distributors.

The current tax structure on tobacco in Vietnam means that cigarette prices vary considerably. Non-filtered cigarettes produced from domestic materials, besides having lower production costs, are taxed at the lowest rate, and are thus sold at prices much lower than filtered cigarettes. The price of many domestically-produced cigarettes is around US$0.07 per pack but the price of foreign brand cigarettes such as 555 and Marlboro is over US$1. The low price of unfiltered cigarettes encourages low income people (including youth) to purchase them.

**Tobacco tax in Malaysia**

In Malaysia, cigarette tax is collected from cigarette manufacturers or cigarette importers. Until 2004, taxes were levied according to the cigarette weight. The tax regime changed in 2005 when Malaysia adopted a specific excise tax per stick, which was easier to administer since it required only counting the number of sticks without weighing them. Specific tax is also harder for manufacturers and importers to avoid by making cigarettes lighter.

There are two different tax structures for domestic and imported cigarettes. As of October 2005, locally-produced cigarettes sold in Malaysia were levied the excise tax of RM 0.08 (US$0.02) per stick. Imported cigarettes were subject to an import tax: cigarettes imported from non-ASEAN countries were taxed RM 0.20 (US$0.05) per stick while cigarettes imported from ASEAN countries were levied RM 0.10 (US$0.03) per stick. Both domestic and imported cigarettes are also subjected to a 25% sales tax added on top of the factory value with excise tax (domestic) or on top of custom declared value (imported). The excise tax on locally-produced cigarettes (over 95% of the market), represents only about 25% of the total retail price, far below the tax level found in some of Malaysia’s neighboring countries.

Imported tobacco leaves are exempted from taxes for licensed manufacturers, while locally-produced cigarettes face the same tax treatment regardless of the origin of the tobacco. Exported cigarettes and tobacco leaves are not taxed. These policies are aimed at boosting the manufacture of finished products and making Malaysia a hub

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22 Researchers’ investigation of Hanoi tobacco market in August 2003. The exchange rate was around 15,000 VND (Vietnam dong) per one USD in 2003.
of cigarette manufacturing for export to ASEAN countries and Asia.\textsuperscript{23} Relatively high import duties on tobacco products also help to protect domestic producers from foreign competition.

Malaysia implemented several cigarette tax increases between 1990 and 2003 that applied to both domestic and imported cigarettes. The most noticeable among these were the 100% and 40% increases in excise tax in 1992 and 1998, respectively. However, since these increases started from a very low excise tax rate, the actual per unit tax increase was quite small. For example, the 100% excise tax increase in 1992 only resulted in a 17% increase in real cigarette prices. The tobacco sales tax was increased from 15% to 25% in October 2000.

**Tobacco consumption patterns among Vietnamese smokers of low-priced cigarettes**

For this study, the researchers referred to “low-priced cigarettes” as those costing less than 5,000 VND a pack.\textsuperscript{24} Based on the Vietnam Living Standards Survey 1997-1998, smokers of cigarettes costing less than 5,000 VND per pack accounted for 78% of the market, while those smoking cigarettes costing over 5,000 VND per pack accounted for the remaining 22%. That is, the majority of smokers in Vietnam consumed low-priced cigarettes.

**Characteristics of smokers of low-priced cigarettes**

The prevalence of smokers of low-priced cigarettes varied by geographic region, occupation, educational level, and household size. Low-priced cigarettes were particularly popular among households whose heads were agricultural workers, representing approximately 60% of low-priced cigarette smokers. Further, about 11% of low-priced cigarette smokers lived in households whose heads were jobless. A majority of low-priced cigarette smokers lived in rural areas, where tobacco control activities were quite limited.\textsuperscript{25}

In terms of educational level, low-priced cigarette smokers mostly lived in households whose heads had low levels of education: 69% lived in households where the head was illiterate or had only primary level education, while 16% of low-priced cigarette smokers lived in households where the head had less than secondary school education.\textsuperscript{26}

**Tobacco spending by smokers of low-priced cigarettes**

This section compares tobacco spending with spending on other items such as education, health care, and food; it also compares tobacco spending to total

\textsuperscript{23} Ministry of Primary Industries Malaysia, 2000.

\textsuperscript{24} The researchers considered a low price as one that is less than or equal to 1/3 of the highest cigarette retail price. The highest retail price in 1998 was 15,000 VND, thus a low price is 5,000 VND or lower.


\textsuperscript{26} Researchers’ calculation from Vietnam Living Standard Survey 1998.
household expenditure. One might expect that poor households would spend a larger proportion of their income on basic needs such as clothing, education, health care, housing, and transport, and a smaller portion on tobacco, as compared to wealthier households. However, the researchers found that tobacco spending of poor households represented a larger proportion of their expenditure than it did for rich households. Poor households' tobacco spending was equal to 1.5 times their educational spending and was equivalent to their health care spending. By contrast, tobacco expenditures for rich households were 46% and 69% of educational and health expenditures, respectively. As far as total expenditures were concerned, the percentages of poor households' and rich households' spending on tobacco were 5.3% and 3.6%, respectively. The relative proportion of tobacco spending is important, since if the proportion is high, raising tobacco taxes would have a larger impact on household budget.

In summary, the researchers found strong evidence that smokers of low-priced cigarettes accounted for a large share of total cigarette consumption. Most consumers of low-priced cigarettes were poor and lived in rural areas or small towns; they tended to be employed in the agricultural sector. They spent a larger proportion of their household disposable income on cigarettes than richer smokers; consequently, they bore the largest relative economic burden from tobacco use.

Table 1 shows smoking rates by income quintiles. As indicated, the poor are more likely to smoke. Consequently, they are more likely to suffer from tobacco-related diseases such as cancer, especially lung cancer, heart and circulatory diseases, and emphysema. In addition, because these diseases can appear as early as age 40 (along with other smoking-related medical conditions), the higher disease incidence is likely to further add to their higher economic burden by increasing the likelihood of not being able to continue to earn income.

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27 The average size of Vietnamese households is 4.75 people; the average number of adults is 2.87, the average number of children under age 10 is 1.80. Household size tends to be larger for those having lower living standards and in rural areas.
29 The General Statistics Office uses per capita total expenditure to rank the population and divide the whole sample into five living standard quintiles. The number of people in each quintile is 20% of the sample. Quintile one is poor, quintile two is near poor, quintile three is average, quintile four is better off and quintile five is rich.
Table 1: Tobacco use by expenditure quintiles and type of household (%)

<table>
<thead>
<tr>
<th>Expenditure Quintiles</th>
<th>Men</th>
<th></th>
<th>Women</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Use tobacco products</td>
<td>Cigarettes</td>
<td>Pipe/chewing tobacco</td>
<td>Use tobacco products</td>
</tr>
<tr>
<td>Quintile 1</td>
<td>58.46</td>
<td>30.02</td>
<td>33.22</td>
<td>5.55</td>
</tr>
<tr>
<td>Quintile 2</td>
<td>54.19</td>
<td>32.12</td>
<td>26.45</td>
<td>4.53</td>
</tr>
<tr>
<td>Quintile 3</td>
<td>52.60</td>
<td>34.94</td>
<td>21.53</td>
<td>3.02</td>
</tr>
<tr>
<td>Quintile 4</td>
<td>47.70</td>
<td>36.34</td>
<td>15.35</td>
<td>2.72</td>
</tr>
<tr>
<td>Quintile 5</td>
<td>43.02</td>
<td>38.06</td>
<td>7.17</td>
<td>2.08</td>
</tr>
</tbody>
</table>

Source: VLSS 1997-1998

Tobacco consumption in Malaysia

Smoking prevalence in Malaysia is increasing. In 1996, 25% of 32,991 participants (18 years of age and older) in a National Health and Morbidity Survey identified themselves as smokers. The same survey carried out in 1986, but looking at the population 15 years of age and older, found a prevalence rate of 21.5%.32

Smoking is much more prevalent among men than among women. Male and female smoking prevalence rates in 1996 were 49.2% and 3.5%, respectively. Although the national surveys showed a reduction in female smoking rates from 4% in 1986 to 3.5% in 1996, World Tobacco Market File estimated that there was in fact a rise in the number of female smokers (from 4% in 1985 to 5% in 1995).33 This source also predicted that smoking among Malaysian females would rise further.

Youth smoking is an acute problem in Malaysia. In 2000, the Ministry of Health estimated that the smoking rates among adolescent boys and girls, aged 12 to 19, were 30.7% and 4.8%, respectively.34 Other studies have found smoking rates among Malaysian youth ranging from 30% to 60%.35

Data for 2005 showed that a pack of 20 cigarettes (Benson & Hedges) in Malaysia cost 7% of the average daily income of an employee in the manufacturing sector. Addiction to cigarettes can divert scarce resources away from basic family needs

such as education and nutrition. This leaves families with a smoker vulnerable to malnutrition, which causes additional health expenditure.

Uniform tobacco tax rates and reduced consumption in Vietnam

The Vietnamese researchers sought to understand the effect of a uniform tax on tobacco consumption and government revenue; to do so, they needed to assess the price elasticity of demand of two types of cigarettes: non-filtered and filtered cigarettes produced using domestic materials.

In Vietnam, time series data is available only for limited time periods and is not consistently collected. Definitions used in data collection are also changed over time; therefore the time series data is not particularly useful for estimating price elasticity of demand. This situation is common in both developing and developed countries. In addition, the data collected does not clearly distinguish the type of user. Cross-sectional data was thus employed to estimate smoking elasticities of persons who consumed primarily low price cigarettes.

The researchers used the second Vietnam Living Standard Survey (VLSS) to estimate the price elasticity of cigarette demand. The second Vietnam Living Standards Survey was implemented between December 1997 and December 1998 with a sample size of 6,000 households, consisting of 28,518 individuals.

The VLSS dataset contained a large number of variables on a wide range of socio-economic factors including education, employment, family structure, location, and living standards. The questionnaire included a separate section on smoking for people aged 6 years and older. There were eight questions related to smoking; the first question asked whether the individual had ever smoked cigarettes for a period of 6 months or more. For those who responded affirmatively, three additional questions were asked: whether they currently smoked, how many cigarettes they smoked each day, and the amount of money spent on cigarettes over the past 12 months. The survey asked similar questions on pipe and chewing tobacco, including questions regarding expenditures on cigarettes and pipe smoking.

In addition to the household questionnaire, a supplementary questionnaire collected commune-level data.36 Three sales points in each commune were interviewed about prices of goods and services, including the price of two types of cigarette (a high-priced filtered cigarette, 555, and a local brand of filtered cigarette, VINATABA). This yielded six price data points from each commune which were then used to calculate an average commune price. This average commune-level cigarette price was used along with data from other control variables to estimate price elasticities.

Results

The price elasticity of male smoking was -0.94 for the entire population, -1.16 for the

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36 The commune is the lowest administrative unit in Vietnam. The average population of a commune is about 7,000 people.
two lowest quintiles, and -0.75 for the two highest quintiles. Demand from the low income group was therefore more elastic than it was for the high income group, as might be expected due to the lower quintiles’ limited budgets. At the same time, the conditional price elasticity of the overall population was -0.50, for the two lowest quintiles -0.59, and for the two highest quintiles is -0.40. Therefore, as the price of cigarettes increased 10%, the quantity demanded by low-income smokers who continue to smoke would fall 5.9% while the quantity demanded by high-income smokers would fall only 4.0%. The quantity demanded by smokers overall would fall 5.0%. These results are consistent with the theory and findings of previous studies.\(^{37}\) The researchers noted certain limitations in their data which may have affected their overall results:

- Interviewees tended to underestimate income because they may not have remembered all income sources and because higher income is often regarded as being linked to illegal activities such as corruption.
- The potential substitution of pipe tobacco for cigarettes was taken into account by using the spending on pipe tobacco, instead of price.
- The research only included medium- and high-price standard cigarette brands.
- As smoking is prohibited by some parents, and may be considered unladylike for women, it is likely that there was some underreporting of cigarette and tobacco use among both youth and women.

The effect of imposing a uniform high tobacco tax

Based on the research results, the researchers sought to estimate the change in consumption and government tax revenue rates if a uniform tobacco tax of 65% was imposed in Vietnam; this was the highest current tax rate that was imposed on filtered cigarette brands produced with imported materials at the time of this research. Estimates were made of the changes in consumption and tax revenues of unfiltered cigarettes and filtered cigarettes made from domestic materials only.\(^{38}\)

<table>
<thead>
<tr>
<th></th>
<th>Quantity consumed (million packs)</th>
<th>Retail price (1,000 VND)</th>
<th>Tax rate based on wholesale price</th>
<th>Tobacco tax revenue (billion VND)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-filtered cigarettes</td>
<td>175.35</td>
<td>1.00</td>
<td>0.25</td>
<td>35.07</td>
</tr>
<tr>
<td>Filtered cigarettes produced with domestic materials</td>
<td>1,578.15</td>
<td>2.20</td>
<td>0.45</td>
<td>1,077.49</td>
</tr>
<tr>
<td>Total</td>
<td>1,753.5</td>
<td></td>
<td></td>
<td>1,112.56</td>
</tr>
</tbody>
</table>

Source: Ministry of Industry and Ministry of Finance, 2003\(^{39}\)


\(^{38}\) Calculations were not made for filtered cigarettes or those made from imported materials as they were already taxed at the 65% rate and thus no changes in consumption or tax revenues were anticipated.

\(^{39}\) Share of cigarette consumption and price based on the Ministry of Finance report submitted to VINACOSH for SIDA-funded Tobacco Control Program 2003.

Southeast Asia Tobacco Control Alliance
### Table 3: Consumption, price and revenue after imposing a uniform tobacco tax of 65%

<table>
<thead>
<tr>
<th></th>
<th>Quantity consumed (million packs)</th>
<th>Price after tax (1,000 VND)</th>
<th>Tax rate</th>
<th>Tobacco tax revenue (billion VND)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-filtered cigarettes</td>
<td>99.5</td>
<td>1.32</td>
<td>0.65</td>
<td>51.7</td>
</tr>
<tr>
<td>Filtered cigarettes produced using domestic materials</td>
<td>1,184.5</td>
<td>2.55</td>
<td>0.65</td>
<td>1,189.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,284.0</td>
<td><strong>1,241.6</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source:* Author’s Estimation

The figures in Table 4 show that by imposing a uniform tobacco tax rate of 65%, the price of non-filtered cigarettes would increase 32%, while the price of filtered cigarettes made from domestic materials would increase by 16%. Government revenues from the additional taxes would increase 11.6% (129 billion VND), including 16.6 billion VND from non-filtered cigarettes and 112.4 billion VND from filtered cigarettes made from domestic materials. The most important outcome is that consumption would fall 26.78% overall for both categories of cigarettes, with consumption of non-filtered cigarettes falling 43.28% and consumption of filtered cigarettes produced with domestic materials falling 24.94%.

### Table 4: Change in price, consumption and government tobacco tax revenue from imposing a uniform high tobacco tax rate of 65%

<table>
<thead>
<tr>
<th></th>
<th>Change in price after tax (%)</th>
<th>Change in tobacco consumption</th>
<th>Change in tobacco tax revenue(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Quantity (Million packs) %</td>
<td>Value (Billion VND) %</td>
<td></td>
</tr>
<tr>
<td>Non-filtered cigarettes</td>
<td>+0.32</td>
<td>-75.85</td>
<td>16.63</td>
</tr>
<tr>
<td>Filtered cigarettes produced using domestic materials</td>
<td>+0.16</td>
<td>-393.65</td>
<td>112.41</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>-469.5</td>
<td>129.04</td>
</tr>
</tbody>
</table>

*Source:* Author’s estimation

**Increased tobacco tax rates and reduced consumption in Malaysia**

The Malaysian researchers sought to estimate the impact of tobacco prices and tobacco taxes (price elasticity) on cigarette consumption in Malaysia, as well as the income elasticity of cigarette demand and the impact higher cigarette taxes could have on future tobacco-related mortality and government revenue. These estimates were seen as important for policy makers since they would demonstrate the impact of a cigarette tax increase on cigarette consumption and government tax revenue.
The analysis was based on secondary aggregate time series data from the Department of Statistics, Department of Customs, Ministry of Primary Industries, and Ministry of Finance.

 Aggregate data on excise tax and import duties collected by the government between 1990 and 2004 was used to calculate cigarette consumption in Malaysia. Using the information on the excise tax and import duty rates per kg, the researchers estimated consumption of both domestic and imported cigarettes in kg per year. To convert the weight amount to number of cigarettes, they assumed that each kg of cigarettes was equal to 1100 sticks. The per capita consumption was then calculated by dividing the total consumption (in sticks) by the size of the adult population (defined as those 15 years of age and older). This variable served as the dependent variable in their demand model.

 Time series data on cigarette prices during the period 1990-2004 was gleaned from official government statistics. The Department of Statistics provided the tobacco consumer price index (CPI), which represents the costliness of all tobacco products sold in Malaysia taking into account general inflation. The index is based on monthly surveys of prices of various cigarette brands and other tobacco products in randomly selected stores across the country. The price of each cigarette brand was then weighted according to the popularity of the brand based on monthly household expenditure surveys. In addition to the tobacco CPI, the researchers obtained the average monthly prices of the Benson & Hedges cigarette brand. The prices of Benson & Hedges brand were adjusted for inflation using the general consumer price index (CPI).

 The researchers also recognized that tobacco control measures other than cigarette tax increase were important determinants of cigarette consumption; they thus created a dichotomous indicator capturing the introduction of tobacco control policies and other important events such as the launch of anti-tobacco campaigns. This indicator was equal to one for the years 1993, 1995, 1997, 2003 and 2004, zero otherwise. The aggregate time series data were analyzed by STATA statistical software.

 Results

 The impact of price was statistically significant for both short-term and long-term assessments of tobacco consumption, with at least a 10% level of significance in each. The impact of income was also statistically significant at the 5% level in the short-term model. The impact of tobacco control measures, however, was not significant. This was probably due to their limited enforcement and the high social acceptability of smoking. The researchers did not control for cigarette smuggling; in this sense they may have overestimated the impact of price on cigarette demand since some of

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40 Benson & Hedges, Dunhill, Marlboro, and Salem were the four most popular cigarette brands in Malaysia in 2002.
the measured reduction in “legal” consumption would actually be replaced by smuggled cigarettes.

The coefficients on the lagged residual of the long-run equations were -0.89 and -1.11 for the tobacco CPI and the price of Benson & Hedges, respectively. This indicated that, on average, about 89% or 111% of the deviation from long-run equilibrium would be compensated for in the following year. In comparison to some other macro-economic relationships\(^{41}\), this is a large speed of adjustment. Thus, deviations from equilibrium are unlikely to persist for a long time.

The long-run price and income elasticities based on the model with tobacco CPI were -0.382 and 1.003, respectively. The model using Benson & Hedges prices estimated the long-run price and income elasticity of -0.707 and 0.993, respectively. Higher price elasticity in the model controlling for price of a specific brand was expected, as it captured substitution towards other cigarette brands. Increasing the price of one cigarette brand will lead not only to reduced cigarette consumption overall, but also to lower consumption of that brand, in particular if prices of other brands are not increased to the same degree and at the same time.

The short-run price and income elasticities in the model with tobacco CPI were -0.126 and 0.024, respectively. The short-run price and income elasticities in the model with Benson & Hedges prices were -0.096 and 0.030, respectively. As expected, long-run elasticities were greater than short-run elasticities, which represents a typical phenomenon for an addictive product such as cigarettes.

*The effect of increasing the tobacco tax*

Determining the price elasticity of cigarette demand allowed the researchers to predict the impact of a cigarette tax increase. For the purpose of their analysis, they assumed that the import duties would remain unchanged and that the excise tax on cigarette would increase 25% from the 2005 level of RM 0.08 per stick or RM 1.60 per pack of 20 sticks (US$0.02/stick or US$0.42/pack) to RM 0.10 per stick or RM 2 per pack (US$0.03/stick or US$0.53/pack).

First, they needed to predict the impact of a tax increase on average cigarette prices, as their elasticity estimates reflected responsiveness to cigarette prices. The proposed tax increase of 25% would increase average prices by 6.2%.\(^{42}\) According to 2004 statistics, about 4.73% of the cigarette market consisted of imported cigarettes, which were levied an import duty, but not an excise tax. Therefore, 95.27% of the tobacco CPI would feel the impact of an excise tax increase. Tobacco CPI would increase by 5.9%. Applying the price elasticity -0.382, the researchers predicted that a 25% increase in excise cigarette tax would result in a 2.25% reduction in cigarette consumption over the longer-term, which in turn could represent 174-179 premature

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\(^{42}\) The researchers based this on the then-current prices of Dunhill and Benson & Hedges brands.
deaths from tobacco-related causes averted each year for 20 years.\textsuperscript{43} In addition to reducing premature deaths, this tax increase would also increase government revenue from excise cigarette taxes by 22.7%.

**Summary**

Vietnam currently imposes three different tax rates on tobacco according to the source of raw materials and the type of cigarettes: filtered or non-filtered. There are large discrepancies among these tax rates, leading to high disparities among cigarette prices. The wide availability of low-priced cigarettes in the market makes it easier for teenagers and the poor to access tobacco.

Imposing a uniform high tax of 65\% on tobacco would result in a 16-32\% increase in low-priced cigarette prices, a decrease of about 27\% in tobacco consumption, and an increase of more than 11\% in the government’s tobacco tax revenue. Therefore, imposing a uniform high tax on tobacco not only benefits the poor by reducing their tobacco consumption levels, but also does not hurt the government budget.

At the same time, several limitations of the analysis deserve consideration. In computing the change in tax revenues, potential substitution between cigarette types has been ignored. As the price of the cheaper, non-filtered domestic cigarettes increases, there may be substitution toward the filtered domestic brands, and as the price of filtered domestic cigarettes increase, there may be more substitution towards the filtered cigarettes made with foreign tobacco. However, these effects would tend to increase tax revenues, as more cigarettes would be purchased at the higher price level. For these reasons, the above estimates may actually underestimate the increase in tax revenues.

When estimating consumption price elasticities, ideally substitution from cigarettes to pipes would be taken into account. In Vietnam, pipe tobacco is a close substitute for cigarettes and vice versa. As the price of cigarettes increases with higher tax, some smokers may shift to pipe tobacco. Consequently, with an increase in the consumption of pipe tobacco, the price of pipe tobacco should increase. At present the price of pipe tobacco is low, there is no tax on pipes, and current consumption data is not available; thus this potential change in consumption has not been included in the estimates.

By imposing a uniform tax on cigarettes, the price of domestic cigarettes will increase. The change in the domestic price will widen the gap between domestic and regional prices of cigarettes. This change may attract smuggling of cigarettes into Vietnam and thereby reduce the tax revenues. However, a review of the literature\textsuperscript{44}


indicates that smuggling depends on other factors in addition to the gap between domestic and international prices of cigarettes. These factors include the strength and extent of law enforcement, activities of market control forces, and the living standards of poor people in border areas (poor, jobless people near some border entrance points tend to work for smugglers). The Government of Vietnam currently pays considerable attention to the smuggling issue to protect the domestic market. Therefore, within this study, the change in consumption and tax revenues were estimated by assuming that the level of smuggling would remain constant.

The Malaysian study contributes to the national tobacco control policy development and fiscal budget planning with the first-ever estimated cigarette demand model specific to the Malaysian market. This study could also contribute to the tobacco control literature and the development of further simulation studies and expanded research. The researchers’ estimate of price elasticity based on their aggregate time series data and the preferred model specification indicated that a 10% increase in cigarette prices would result in a 3.8% decline in cigarette consumption. This estimate is comparable to results from neighboring countries such as Thailand or Vietnam based on micro-level data.

The Malaysian researchers further estimated that the income elasticity of cigarette demand in Malaysia was +1.0, meaning that a 10% increase in income would lead to a 10% increase in cigarette demand. This again was comparable to estimates from other middle income countries. These estimates suggest that the income effect is quite strong, since a change in income results in almost proportional change in cigarette consumption in the same direction. Therefore, it can be expected that the tobacco epidemic in Malaysia will spread with income growth if no stringent tobacco control measures are taken.

Conclusion

Levying a uniform high tax on tobacco is a rational policy for Vietnam in order to lower the smoking rates in the short as well as the longer term. Worldwide, few countries are applying different tax rates on tobacco, as is currently the case in Vietnam. Most of the countries that do so are in Eastern Europe and the former Soviet Union, and are not among those succeeding in tobacco control. The results of the Vietnamese research indicate that tax revenues are likely to increase as taxes are raised for domestic unfiltered and domestic filtered cigarettes to the level of the existing rate for foreign filtered cigarettes. The decrease in quantities consumed would be more than compensated for by an increase in the tax rate. That is, health and economic concerns can be met with one action: consumption declines but revenues increase.

Cigarette tax increases in Malaysia would result in a win-win situation: improved public health and an increase in government resources. Ideally, a portion of these

newly obtained resources would be used to help smokers to quit. They could also be used to support tobacco farmers to switch to alternative crops.

While this research paper focused on just two countries – Vietnam and Malaysia -- the information presented is applicable elsewhere as well. Keeping tobacco taxes low -- whether overall or only on the types of tobacco most used by the poorest -- in order to avoid harming the poor economically could be seen as an odd form of subsidy, one which encourages a behavior that governments are otherwise trying to discourage. Since the poor are the least able to afford spending money on tobacco, there is a great incentive to discourage their tobacco use. Raising tobacco taxes actually represents a win-win-win situation, as it will improve health, contribute to poverty alleviation, and increase government revenue.

Two key arguments may be put forward against increasing tobacco taxes: that they will contribute to smuggling, and that they will harm those most addicted among the poor. The first argument is easily countered by the information indicating that taxation levels are not responsible for smuggling, and that other actions (increasing penalties, using tax paid markings, and increasing police enforcement) are far more effective at reducing smuggling than reducing taxes. As for the second argument, since the poor overall will reduce their tobacco use and thus their expenditures on tobacco if prices go up, it makes no sense to keep prices low on a deadly product, thereby encouraging its use. Finally, concerns over possible negative consequences to highly addicted users can be assuaged in more helpful ways, such as by spending some of the increased taxation revenues on cessation assistance to the poor or other programs to improve their wellbeing rather than to subsidize their addiction.

Bibliography

11th World Conference on Tobacco or Health, Tobacco Control Country Profiles.


Ministry of Primary Industries Malaysia, 2000.


Rosemawathithi, Dr. Disease Control Division of the Ministry of Health, 2000.

http://www.prn2.usm.my/mainsite/tobacco/malaysia.doc


U.S. DHHS, Reducing the health consequences of smoking: 25 years of progress: a report of


Chapter 1-3: Cigarette Smuggling in Malaysia

Background

Cigarette smuggling is an enormous problem throughout the world, with an estimated one-third of all cigarettes exported “disappearing”. That is, “from a world export total of 846 billion in 2000, some 227 billion cigarettes did not reappear as imports. Total loss of revenue by governments due to cigarette smuggling around the world is estimated at US$25-30 billion annually”.¹ According to the World Health Organization (WHO) report, smuggled cigarettes account for one-third of all international cigarette exports, and of this amount, 355 billion cigarettes are destined for the Southeast Asian market, where smuggling has become a problem of immense proportions.²

Cigarette smuggling causes enormous concern to those working in tobacco control for two main reasons: 1) smuggled cigarettes are cheaper than legal ones and thus counterbalance the effects of tax increases on lowering prevalence; in particular, smuggling makes cigarettes more affordable for those most affected by price (youth and the poor); and 2) the tobacco industry uses smuggling to convince governments to lower their taxes, which then makes tobacco “more affordable” and potentially leads to increased tobacco use. In addition, smuggling causes the loss of government revenues and increases criminal activity.

This chapter is based on research which examines the way that smuggling is carried out in Malaysia³, presented as a case study on smuggling in the region, and offering suggestions for reducing the problem of smuggling.

Cigarette smoking in Malaysia

The national prevalence of smoking in Malaysia in 1999 was 25%, up from 20% ten years earlier. Youth and the poor have relatively high smoking rates in Malaysia while being the most affected by price increases, which suggests that they are likely to purchase smuggled cigarettes when they have access to them. The present study found that Customs officials are aware that smuggled cigarettes are available for those smokers familiar to the retailers at a cheaper price (approximately 50 cents cheaper per pack compared to duty paid [DP] cigarettes). That is, buyers must be “regular customers” in order to buy cheaper smuggled cigarettes. Shopkeepers are cautious about selling smuggled cigarettes because they know that it is illegal. These cheaper cigarettes could create the false impression in smokers that it is not a financial burden to smoke, and thus younger and lower-income smokers could be less motivated by cost concerns to quit.

¹ The FCTC and Tobacco Smuggling: NGO Briefing for the International Conference on Illicit Trade in Tobacco, New York: 30 July-1 August 2002, page 2.
³ Ibid.
Cigarettes available on the market can be classified into two groups based on price: premium brands and non-premium brands. Premium brands are sold at RM5 to RM6 (US$1.32-$1.58) for a pack of 20. American cigarettes, particularly Marlboro, Salem, Lucky Strikes and Camel, are popular among younger, up-market smokers. Indirect advertisements of these cigarettes are clearly targeting these groups. The non-premium brands are sold at RM4 (US$1.05) for a pack of 20, and they are popular among those in the lower-end of the market. Kretek, clove cigarettes from Indonesia, are sold at RM4.50 (US$1.18) for a pack of 20, or in smaller and less expensive packs.

Premium cigarettes are also available in small packs of 10 or 14 sticks sold at “cheaper” prices of around RM4 per pack (US$1.05). These smaller packs could appeal to low-income groups, who might not be able to afford the standard packs. Observations indicate that youth may start on smaller packs and later move on to larger ones.

**Background of cigarette smuggling in Malaysia**

Cigarette smuggling is a big business, well-organized and syndicated, involving vast sums of money. In 2002 alone, the Malaysian Royal Customs and Excise confiscated 414,674 kg of cigarettes smuggled into Malaysia. The estimated value of the confiscated cigarettes was RM 96,907,235 or US$25.5 million.

According to Customs officials, the estimated value noted above is only the tip of the iceberg. The actual amount and value of cigarettes smuggled into Malaysia is likely to be much greater, indicating an enormous loss of revenue to the government through lost taxes. Since smuggling is highly profitable for the smugglers, they will take the risk of being caught and fined for evading the tax rather than stop smuggling.

The tobacco industry has argued that the higher-priced duty-paid (DP) cigarettes will, to some extent, encourage more smuggling of duty-not-paid (DNP) cigarettes into Malaysia. International evidence shows, however, that smuggling is more related to levels of corruption than to taxation levels on cigarettes.

**Data collection**

This report presents the findings from eight in-depth interviews, all with Customs officials: six in Kuala Lumpur and one each in Malacca⁴ and Johor⁵. Interviews with police and border patrol personnel, who are also involved in anti-smuggling activities, were not carried out, following the advice of the Customs officials. These departments support Customs in anti-smuggling activities, but, according to the Customs officials, do not maintain records on smuggling of particular products such as cigarettes.

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⁴ Malacca is a state in the south of Peninsular Malaysia.
⁵ Johor is the southernmost state in Peninsular Malaysia. It is an important state in customs activity because of its location as the gateway to Malaysia from Singapore.
as cigarettes. The study also attempted to set up an interview with an ex-smuggler to gain in-depth understandings of the motive and *modus operandi* of cigarette smuggling. However, he declined the interview at the last minute. The researchers were also advised against witnessing an anti-smuggling raid conducted by the police and Customs for safety reasons. Further, no raid was conducted within the study period.

**Where smuggling occurs**

Smuggling takes place throughout Malaysia, whenever the smugglers find the conditions favorable. The most prominent smuggling regions are along the west coast of Peninsular Malaysia, stretching from Lumut in Perak to Kuantan on the east coast of the Peninsula. The long Malaysian shores between these two points make it difficult to patrol and thereby curb smuggling. A significant amount of effort, time, and resources would be needed to identify where smuggling would next occur.

Sabah and Sarawak are also implicated as states where smuggling activities are prominent, and could be included in future studies on smuggling in Malaysia. The ports of Miri and Bintulu in Sarawak are often cited as locations where smuggling has been observed to take place, as are Lahad Datu, Sandakan and Tawau in Sabah.

Smuggling along the Malaysia-Thailand border is also rampant, although not for cigarettes. It is suspected that cigarette smuggling to Thailand is not beneficial because the price of cigarettes in Malaysia is actually much higher than in Thailand.

**Modus operandi**

The researchers noted that a clear cut *modus operandi* was observed in Malaysian cigarette smuggling. Kreteks, which are exclusively from Indonesia, are smuggled by boat and landed on one of the Malaysian shores indicated above. Whites, on the other hand, are smuggled seemingly through legal import or transshipment procedures, using falsified declarations on import documents. These cigarettes are smuggled through the main ports of entry, notably Port Klang and Johor Port in West Malaysia. Whites have been seen to come from China, Europe (England), Hong Kong, and Taiwan.

Contraband whites are first exported to Singapore as goods in transit, bound for a third country. Singapore plays a mainly transshipment role in Malaysian cigarette smuggling. Since the cigarettes are labeled as bound for a third country such as Malaysia, they will be stored as bonded goods at the Singapore port. To the Port of Singapore Authority, the goods in transit need not be examined, because they are not going into the country and, therefore, no tax needs to be paid.

The cigarettes might be kept in the warehouse at the port but only for a short time, to avoid incurring high storage charges. They are then unloaded onto feeder vessels bound for Malaysia. Often, the cigarettes are loaded on the feeder vessels directly from the mother ship without being stored at the Singapore Port. Upon reaching Malaysia, these goods are declared as non-taxable goods, meaning they might pass.

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Southeast Asia Tobacco Control Alliance
without customs examination, since they are “intended” for export to third countries.

Another method adopted by smugglers is to declare part of the consignment with Customs, for example two containers out of ten, as cigarettes and pay duties accordingly, while declaring the remaining eight containers as non-taxable goods. The smuggled cigarettes are then stacked together with the declared non-taxable goods, making it difficult for Customs officials to effectively examine them without spending a significant amount of time doing so.

There are cases where the containers containing cigarettes are not declared at all, but reported to contain items that are non-taxable, such as iron bars. As thousands and thousands of containers are declared non-taxable, it is not practical for Customs to inspect each one of them. Even if Customs were to examine all containers that were declared as non-taxable, it would take weeks before they were done. This would unnecessarily delay some genuine manufacturers from receiving their non-taxable imported raw materials in a timely manner for production. Cigarettes thus can often pass Customs undetected, and make their way to the open market. The containers are unloaded directly onto container trucks to be distributed to the middlemen before reaching the retailers.

In cases where the cigarettes are brought in directly through Malaysian ports, they are similarly declared as goods in transit, bound for a third country. Transit goods are temporarily stored in bonded warehouses located within the free trade zone areas. Since these goods are not taxable, they are not required to be examined by Customs, unless Customs is suspicious of the claim.

Since these goods are recorded as “in transit”, the smugglers must load them onto a vessel and “export” them. They are indeed loaded onto a vessel and actually leave the port (country), seemingly bound for a third country. However, somewhere at sea, the cigarettes are quickly unloaded onto smaller vessels, and subsequently transported back (smuggled) into Malaysia without duties being paid. Alternatively, they are brought to private jetties and subsequently loaded onto smaller boats or right onto the waiting trucks, to be transported to hideouts or warehouses, where the smugglers can temporarily keep them until it is safe to distribute them. The elaborate actions taken to smuggle cigarettes are obviously meant to confuse the authorities.

It appears that cigarette smuggling is quite successful in Malaysia. Countless raids by Customs have proven unsuccessful, as if the smugglers knew when the raids were to be carried out. It is suspected that informers warn the smugglers of raids by the authorities. The informers are called “Tonto”, named after the right hand-man to the famous cowboy legend Lone Ranger. Tonto’s job is to get first-hand information from inside sources, so that he can inform the smuggling syndicate of a possible raid by Customs.
Economics of Tobacco: Cigarette Smuggling

The “business” arrangement of cigarette smuggling is of the “Ali Baba” type: a partnership between a Bumiputera (who is called Ali) and a Chinese (who is named Baba). Each partner plays a definite role, with the Bumiputera as the one who has to deal with the authorities if smugglers are caught. For his share in the business, usually 10%, he arranges for the release of the impounded cigarettes and of the smugglers, by paying appropriate taxes and fines. These middlemen seem to have the right contacts to obtain the release of both the cigarettes and the smugglers. At this point, there is no specific evidence of who the middlemen are, but they are suspected of being “inside” people who work for the smugglers. The weaknesses of the smuggling law make it easy for smugglers to evade punishment even if caught, suggesting that the law could be strengthened.

Estimates of smuggled cigarettes

Estimates of the amount of cigarettes smuggled into Malaysia vary. In 2003, the New Sunday Times published a report stating that smugglers were capitalizing on poor enforcement at the country’s major ports by bringing in contraband and counterfeit cigarettes that ultimately cost the Government about RM1.2 billion (US$315.8 million) in unpaid duties. However, the World Health Organization (WHO) has estimated that tobacco smuggling in Malaysia results in around RM760 million (US$200 million) in tax losses each year. In his latest estimates, the Director General of Customs indicated that Malaysia is losing around RM1.1 billion (US$290 million) of unpaid duty every year, mostly due to escalating smuggling activity.

According to the cigarette industry, contraband and counterfeit cigarettes accounted for 21% of the current market share. The industry’s findings reveal that smuggling has also increased from 9% of cigarettes sold in 1994 to 21% in 2002. In 2002 alone, the estimated value of the smuggled cigarettes confiscated by Customs was RM96,907,235 (US$25.5 million).

The discrepancies between the smuggling estimates of the media and of Customs officials may be due to the fact that the smaller amount of cigarettes confiscated by Customs does not represent the actual amount being smuggled each year, because Customs are not able to trace and prevent all smuggling attempts. The vast areas of the Malaysian shores where smugglers could land their goods make it impossible for Customs officials to be aware of every single attempt. Similarly, it would be difficult to examine every single container of non-taxable goods that passes the country’s ports.

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6 Bumiputera literally translates as “people of the land” to refer to the Malays who were originally born in the country as opposed to the Chinese and Indians brought in as immigrants.
7 Baba is the name given to the group of early Chinese who settled in Malacca, one of the states in Malaysia.
9 www.cdc.gov/tobacco/who/malaysia.htm
The situation in Sabah and Sarawak is worse than at the national level. The New Straits Times quoted one Cabinet Ministers as saying that 80% of the cigarettes sold in the two states are either contraband or counterfeit. Meanwhile, according to the tobacco industry, tax from legal cigarette sales in the two states amounts to about RM1.2 million (US$315,789) per year. Legal sales in the two states over the past decade have maintained a range between 17 billion and 20 billion sticks. Sales of smuggled cigarettes, by contrast, may have doubled in the past four years to over 4 billion sticks. DNP cigarettes represent roughly 12% of the total cigarette market. While the values indicated above originate at different time periods, they nevertheless demonstrate the seriousness of cigarette smuggling in these two states.

Limitations on hindering smugglers

The seizure of cigarettes does not necessarily mean that the smugglers themselves are arrested. The smuggled cigarettes may have been confiscated at illegal stores or unoccupied houses situated in palm oil plantations or in remote villages. Based on information that Customs received, officials have in the past stopped trucks suspected of carrying smuggled cigarettes; while the cigarettes are confiscated if there is insufficient evidence to show that relevant taxes have been paid, the truck driver cannot be arrested since he normally claims that he works under the directive of his owner. Even in cases where the truck drivers have been brought to court, Customs lost the case due to lack of sufficient evidence that the drivers are the smugglers. There have been only a few cases of arrests where Customs could provide sufficient evidence in court. The cigarettes were then confiscated and the trucks compounded, with the owners liable for fines up to the maximum of RM5,000 (US$1,316).

According to Customs, the amount of fines is insignificant to the smuggling syndicate, given the amount of money to be made when the smuggling operation proved successful. The odds are very much in their favor, and therefore they do not mind paying such small fines. If the smuggling is successful, everyone in the chain would make some money, and this is sufficient motivation for them to continue smuggling.

Measures to curb cigarette smuggling

One of the weaknesses in the present customs clearance system of cargo is the inability to examine every container that arrives at or leaves port, especially those declared as transshipment goods. These goods, by Malaysian law, need not be examined. For example, some imported materials for production are exempted from tax. The smugglers simply need to file a declaration that the goods are for

12 The New Straits Times, July 8, 2003
15 The Star, Monday, August 17, 1998
transshipment to a third country, or declare them as non-taxable items required for production. Iron bars for construction are cases in point.

The Customs dilemma is whether or not to examine each container that passes through the ports. A thorough examination of containers that are declared as materials for production would take a long time, and would cause an unnecessary delay to the manufacturers, who normally adopt the just-in-time inventory system. Smuggled cigarettes declared as goods in transit or materials for production will thus usually not be examined.

Because of growing pressure on Customs to examine as many containers as possible to reduce smuggling, the department has purchased scanning machines. According to Customs officials, these scanners are quite accurate in visually displaying the contents of containers, thereby giving them the authority to open containers that appear to contain taxable items such as cigarette cartons. By May 2004, twelve such machines were in use.  

An additional tool to fight smuggling appeared in May 2004. The banderol tax label system was introduced for imported cigarettes; at the same time, locally-produced cigarettes must carry security ink marks. Cigarette importers are required by law to append the banderol to each individual pack of cigarettes being imported into Malaysia, while Malaysian cigarette manufacturers must stamp security ink marks under Customs supervision on each pack of cigarettes manufactured. These systems enable Customs to establish if duties on particular cigarettes packages in the market have been paid. Customs officials are also required by the Government to examine the effectiveness of these systems from time to time to see if they have been abused.

Perhaps the first pro-active measure undertaken by Customs was to set up a Customs Intelligence Centre located at Customs Headquarters in Putrajaya. This would facilitate the interception and review of declarations made electronically at the country’s major ports. The intelligence unit would be able to detect Customs fraud such as falsified declarations as well as the involvement of Customs staff in smuggling activities; the department did not neglect the possibility that its own staff might be involved in smuggling.

Customs officials also plan to organize more information sessions and mount anti-smuggling campaigns to make the general population more aware of the dangers of smuggling. Information from the public is also sought and rewards offered if the information leads to the arrest of smugglers.

Customs officials admit that the fines for smuggling are far too small and insignificant to act as a deterrent. Measures are being undertaken to increase the fines until they are high enough to hinder smuggling; however, it is not known when increases in fines will be implemented.

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Southeast Asia Tobacco Control Alliance
In their latest effort to stop smuggling, Customs officials are targeting smokers themselves, especially those who buy and smoke smuggled cigarettes. “Under a new move by Customs Department to combat the smuggling of cigarettes, smokers could be fined RM100 (US$26) a pack if they are caught buying contraband. A further deterrent, they would be fined RM2,000 (US$526) for a second offence and charged in court if they commit the offence for a third time, with a fine and a possible jail term of up to two years.”

In addition, under the new law, Customs officials would go to public places like shops, restaurants and other food outlets, and entertainment places such as night clubs, to check for locally-manufactured cigarettes without security inks. Smokers would be arrested if they are found in possession of packs without either security inks (for domestic cigarettes) or banderols (for imported cigarettes).

Under the proposed law, smokers, distributors, suppliers, and retailers would be given a one-month grace period to dispose of cigarettes without identification and smuggled cigarettes. Compared to smokers, suppliers would face a heavier penalty of RM100,000 (US$26,316), which is ten to twenty times the amount of tax that should have been paid on the smuggled cigarettes, and/or be liable to be jailed up to three years.

Conclusions

An interesting finding of the research study is the role played by Singapore in Malaysian cigarette smuggling. While Indonesia has been implicated as the main source of illegal kretek, Singapore is implicated as playing a direct role in cigarette smuggling, by virtue of its being a transshipment port. This perhaps should not come as a surprise, given evidence from internal tobacco industry documents of the role of Singapore United Tobacco Ltd. (SUTL) in smuggling cigarettes throughout the region.

Despite a high level of awareness about cigarette smuggling, Malaysian authorities have not been successful in slowing the activity, much less in abolishing it completely. As for the recent measures undertaken by Customs, such as the use of scanners, their results will only be known in the coming years.

Customs officials are fully aware that smugglers are skilled at evading authority, and might counteract any measures taken by the government. They are likely to outsmart Customs, especially if they have the support of Customs insiders. Customs officials believe that part of the failure to curb smuggling is due to these insiders, who are believed to have been paid to give information to the smugglers. For example, Customs officers have been offered RM30,000 (US$7,895) per truck of smuggled cigarettes, if such information leads to successful smuggling. Such a high bribe is difficult for most to turn down. The Customs department has tried to

counter this through training and orientation programs, as well as through enforcement and stronger penalties for involvement in smuggling.

Since smuggling is illegal, allowing it to occur encourages crime. The payoff of Customs officials to tip off smugglers encourages corruption among government officers. The tobacco industry uses the fact of smuggling—and often its own inflated estimates of the prevalence of smuggling—to convince governments to keep their cigarette taxes low. Finally, the availability of smuggled cigarettes at low prices encourages youth and the poor to start and to continue smoking, and undermines tobacco control efforts by the authorities. It is thus of the greatest importance that efforts to counter smuggling be taken seriously, including greater police efforts directed at smugglers and at those who sell and purchase smuggled cigarettes, and stronger punishments (higher fines and lengthier jail sentences). Turning a blind eye, or relying on ineffective measures, to counter smuggling simply encourages the smugglers.

Finally, the evidence from internal tobacco industry documents and law cases concerning the direct involvement of the tobacco industry in smuggling makes it clear that the tobacco industry relies on smuggling as a way of penetrating otherwise closed markets and of convincing governments to keep taxes low. The role of the industry in perpetuating smuggling should not be ignored, industry estimates of smuggling and contraband should not be trusted, and where possible, attempts should be made to hold the industry directly responsible for its role in smuggling cigarettes.18

Bibliography


The Star, Monday, August 17, 1998


Southeast Asia Tobacco Control Alliance
www.cdc.gov/tobacco/who/malaysia.htm
Chapter 1-4: ASEAN Free Trade Area and Tobacco: A Regional Summary

Introduction

International trade is regarded by many as an engine of growth that allows countries to enjoy better economic welfare through specialization and economies of scale. However, to assist in reducing the balance of payments deficit and to protect domestic industries against foreign competition, many countries opt to limit imports through a variety of trade barriers, especially high tariff rates. The reasoning for this is that temporary protection may assist a young industry to develop strength before having to contend with foreign competitors. It also turns the terms of trade against agriculture and, therefore, maintains low manufacturing wages by providing cheap food for manufacturing workers. On the other hand, protection allows a domestic industry to be inefficient. In addition, because prices are distorted by protection, resources are redirected away from more productive uses.

The arguments in favor of free trade are not, however, applicable to tobacco and tobacco products, which are a major cause of early death among millions of smokers. Lower cigarette prices that follow the establishment of free trade areas would allow more cigarette consumption, of both locally produced and imported cigarettes. Consequently, the health costs of smoking and the number of tobacco-related deaths would rise, while tobacco tax revenue may be reduced. Thus the specialization that follows free trade does not necessarily provide social benefits, as is often assumed to be the case of other goods and services.

Many of the past studies on the economics of tobacco have focused on tobacco consumption and taxation. Some of these studies are included in the “Economics of Tobacco Control” sub-series of the Health, Nutrition and Population (HNP) Discussion Paper produced by the World Bank. The HNP Discussion Paper contains an economic analysis of tobacco control in many Asian countries, and provides estimates of the price elasticity of cigarette demand which are very important for any analysis of tax policies. In addition, other issues related to tobacco control measures are discussed in Jha and Chaloupka1, who examine a number of economic questions that must be addressed if policy makers seek to successfully implement tobacco control measures. The report shows that many of the touted adverse effects of tobacco control, such as job losses and tax revenue decreases that may follow an increase in tobacco tax, are not significant.

This chapter addresses the economics of tobacco from a different angle by examining the impact of the ASEAN Free Trade Area’s Common Effective Preferential Tariff (AFTA CEPT) scheme on the tobacco industry in three countries: Indonesia, the Philippines, and Thailand. To date, there has been no study that critically examines this important issue. Discussion in this report is drawn from the results of three

larger country reports. These countries differ in terms of their trade openness, the structure of their tobacco industries, population size, smoking prevalence, and the price responsiveness of cigarette demand. In terms of trade openness, they have all placed high tariff rates on the import of tobacco and tobacco products, although the degree of the tariff scheme impact also differs across them.

ASEAN Free Trade Area (AFTA)

In 1992, during the Fourth Summit in Singapore, ASEAN decided to establish an ASEAN Free Trade Area (AFTA). Member countries agreed to eliminate trade barriers on most goods and services among themselves, including tobacco and tobacco products, while continuing to apply barriers against the rest of the world. This was expected to increase the efficiency and international competitiveness in the world market of products from ASEAN member countries.

In order to achieve this objective, elimination of tariffs and non-tariff barriers was seen to be crucial. The Common Effective Preferential Tariff (CEPT) scheme for AFTA was developed to address the liberalization of all manufactured and agricultural products that contained at least 40% ASEAN content. The tariff rates levied on these products traded within the region were to be reduced to 0.5%, while non-tariff barriers would be eliminated. Originally, the scheme was scheduled to be completed by 2008.

The timetables for reducing tariffs and eliminating non-tariff barriers differed across products and member countries. The timetables were divided into four categories: Inclusion List (IL), Temporary Exclusion List (TEL), Sensitive List (SL), and General Exception List (GEL). Products on the IL were immediately liberalized. Except for the four new ASEAN member countries (Vietnam, Lao PDR, Myanmar and Cambodia), tariff rates should have been decreased to 20% by 1998 and 0.5% by 2002. The schedules for the ASEAN Four to reach 0.5% tariff rates were 2006, 2008, 2008, and 2010, respectively. Products could be temporarily excluded from the Inclusion List and placed instead on the Temporary Exclusion List (TEL); ultimately, however, they were to be put on the Inclusion List and liberalized. Unprocessed agricultural products were listed on the SL, the general timetable for which was extended to 2010 (for the four new members, the timetables were 2013, 2015, 2015 and 2017, respectively). There were also a number of products that were permanently excluded from the free trade area for the protection of national security, public morals, the life of humans, animals and plants, health, and articles of artistic, historic and archaeological value. These products were listed under GEL.

AFTA and tobacco

The status of tobacco products in the CEPT scheme differed across AFTA member

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countries. For Indonesia, the Philippines, Singapore, Vietnam, and Thailand, all tobacco products were included on the IL, while for Brunei 15 tariff lines of tobacco products were included on the GEL and 4 tariff lines were included on the IL. For Malaysia, all tobacco products were included on the SL and will be phased into the CEPT no later than 2010. In the case of Cambodia, on the other hand, tobacco products were included on the TEL. For Cambodia, manufactured and unprocessed products are supposed to be brought back into the liberalization process no later than 1 January 2007 and 1 January 2010, respectively. In the case of Laos, 6 of 9 tariff lines are on the TEL and should be on the Inclusion List by 1 January 2015. For the other 3 lines in SL, they were supposed to be brought into the process by 1 January 2005 and 1 January 2008, for manufactured products and unprocessed products, respectively.

Impact of tobacco trade liberalization

There have been a limited number of studies on the impact of tobacco trade liberalization. Using annual data from 42 countries over the period 1970 to 1995, Taylor et al. found that trade liberalization increased cigarette smoking.4 The authors indicated that this finding was more significant for low-income and middle-income countries than for high-income countries, as trade openness is positively related to economic growth, and the marginal effect of openness on growth decreases with increases in national income. Thus, the impact of trade liberalization on growth is larger in low-income countries, followed by middle-income and high-income countries. Since the income elasticity of demand for cigarettes is positive, trade liberalization has a larger impact on cigarette smoking in lower-income countries.

The impact of free trade on tobacco price reduction is also noteworthy. With reduced tariffs, domestic cigarette prices decline. The impact of these lower prices on demand depends on the degree of demand responsiveness to the change in price. Chaloupka et al. point out that research studies on tobacco consumption in low-income, middle-income, and high-income countries all reach the same conclusion: lower prices lead to increased tobacco consumption, but the degree of price responsiveness for high-income countries is found to be about half that of lower-income countries.5 Again, taking into account income and price impacts, the overall impact of trade liberalization on cigarette demand is largest in low-income countries.

The tobacco industry in four countries

Among all ASEAN member countries, Indonesia is the largest in terms of population and tobacco production and consumption. In 2003, Indonesia had a population of approximately 220 million and its smoking prevalence rate was around 60%. It was also the world’s fifth largest cigarette producer: in 2002, it had 250 large cigarette factories producing more than 220 billion sticks of clove cigarettes (kretek). The production of “white” cigarettes was insignificant in comparison to clove cigarettes. Of its clove and white cigarette production, 90% of its production of the former was for export (primarily Thailand and Cambodia), while 20% of its total cigarette export was of clove cigarettes. Indonesia’s cheap labour supply enabled it to become a favorite location for many multinational corporations that utilized the AFTA’s CEPT scheme to penetrate the ASEAN market. As a result, Indonesia has become a net exporter of cigarettes. Indonesia also imports a small quantity of “white” cigarettes from non-ASEAN countries, and trade in raw tobacco is conducted mainly with non-ASEAN countries.

The situation in the Philippines and Thailand differs from that of Indonesia: the total combined cigarette market of these two ASEAN countries is smaller than that of Indonesia. The implementation of AFTA has further reduced the domestic prices of imported cigarettes. Thus, there has been a huge decline in real tobacco prices in recent decades.

In the Philippines, the tobacco industry has played a relatively more important role than it has in Thailand, providing approximately 2 million jobs. Around 75% of tobacco production and 97% of cigarette production is for domestic use. Even though cigarette production grew at 1.2% over the past decade, the industry as a whole recorded a negative growth rate of 3.3% over the same time period, as smoking prevalence rates in the Philippines declined from 30% in the 1990s to about 25% in 2001. The majority of cigarette exports has gone to non-ASEAN countries, although the share of exports to ASEAN has increased continuously since 1995, with a notable increase in 2003.

Tobacco and cigarette production plays a very small role in the Thai economy. In 2003, the Thai population was slightly over 62 million and smoking prevalence was about 25%. There is only one state-owned cigarette factory, so Thailand has been a net importer of tobacco. The share of cigarette imports from AFTA member countries, very low in the pre–2000 period, has continuously increased and by 2003 represented nearly 81% of tobacco imports. At the same time, the price ratio between tobacco products and all other consumer goods has decreased as a result of Thailand’s commitment to the AFTA’s CEPT scheme. A similar story can be found in the case of raw tobacco imports.

Price policies
Price policies in the tobacco markets of these three ASEAN member countries are noteworthy. In Indonesia, the domestic prices of cigarettes are not market determined; rather, all producers must sell their products at prices not less than the
minimum retail prices decided by the government (although they can sell their products at higher prices if they choose to do so). The main purpose of this price regulation is tax revenue. The regulation divides cigarettes into three categories: machine-rolled clove cigarettes, hand-rolled clove cigarettes, and machine-rolled white cigarettes. It also sets higher minimum retail prices on cigarettes produced by larger-scale producers. In 1988, the minimum retail prices of the machine-rolled clove cigarettes were highest, while white cigarettes were the least expensive. Between 1998 and 2002, all prices increased continuously, although the prices of white cigarettes increased much more slowly; by 2003, the minimum retail prices of clove cigarettes were at least 35% higher than those of white cigarettes. The tax system also favors local tobacco growers and cigarette producers: the total tax on imported tobacco for local cigarette production is 17.5%, while the total tax on imported cigarettes is 25%. The CEPT scheme therefore allows local producers to lower the cost of imported tobacco (compared to the price of imported cigarettes).

Cigarette taxation in the Philippines consists of tariff, excise tax, and value-added tax. As mentioned above, tariff rates on tobacco and tobacco products have been reduced gradually, especially for imports from ASEAN. The government opts for an excise tax system that divides the net retail prices of cigarettes into four classes, namely very high prices, high prices, medium prices, and low prices. The excise tax rates are higher on more expensive cigarettes, while the value-added tax rate is 10% for all four classes of cigarettes. All rates are the same for both imported and locally produced cigarettes. Although the decreases in tariff rates have reduced the prices of imported ASEAN cigarettes and the production cost of local cigarettes, various smoking control measures have been implemented, including an increase in the excise tax rate. At least in part due to the above measures, the smoking prevalence rate declined from 30% in the 1990s to 25% by 2001. However, the effectiveness of excise taxation is limited by the fact that the taxation rates are based on the 1996 cigarette net retail prices; thus, despite the fact that the net retail cigarette prices have been increased many time since 1996, taxes on cigarettes remain unchanged.

Thailand also employs a policy similar to that of Indonesia, whereby the government determines cigarette retail prices and prices differ across brands. Generally, domestic cigarettes are less expensive than imported cigarettes. Tax revenue has always been one of the main purposes of tobacco taxation; taxes imposed on cigarettes consist of tariffs on imported tobacco leaves and cigarettes, excise tax, health tax, local tax, and the value-added tax. The applied tariff rates are ad valorem rates. The excise tax rate was 75%\(^6\) of factory prices or imported prices, including customs tariff and the excise tax. Since 7 November 2001, a health tax of 2% has been applied on all sticks of manufactured and imported cigarettes on top of the excise tax revenue. Local tax rates vary, and can be as high as 0.05 Baht per stick, while value-added tax rate is 7%. These rates are the same for both imported and locally produced cigarettes. For

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\(^6\) This was increased to 79 percent at the end of 2005.
many years, price policies through excise taxation, as well as many non-price measures, have been implemented in an attempt to reduce smoking.

**Tariff Reduction**

The three countries had placed high tariff rates on the imports of tobacco and tobacco products. Following the AFTA’s CEPT scheme, however, the rates have been reduced gradually, but the reduction rates differ across the countries. For Indonesia, the AFTA rate is applied to raw tobacco but not to tobacco products (including cigarettes). Tariffs on raw tobacco, imported from all AFTA member countries, will be reduced from 5% to 0%, while tariff rates on cigarettes imported from all countries is 15%. It should be noted, as mentioned above, that imported tobacco faces a tariff plus a 10% value-added tax and a 2.5% sales tax, while imported cigarettes face the same value-added tax but do not face sales tax. Thus, the total tax on imported tobacco is 17.5 percent (and is declining) while the total tax on imported cigarettes is 25 percent. Consequently, the tax system favors local cigarette producers.

For the Philippines, the government has progressively reduced tariff rates through the tariff reform program (TRP) since 1981. Under TRP, the tobacco tariff rates are basically the same for tobacco leaves, cigars and cigarettes, and tobacco manufacturing. The 50% rate of 1993 was reduced continuously to 20% in 1998, 10% in 2001, and 7% in 2003. Currently, the rate is 5%. However, under the CEPT scheme, tariff reduction was much faster: the tariff rate on tobacco leaves was reduced from 15% in 1999 to 10% in 2000, 6% in 2001, and 3.67% 2003. For cigars and cigarettes, the rate was reduced from 50% in 1995 to 11.67%, 8.33%, and 5% in 2000, 2001, and 2003, respectively. The rate on manufactured tobacco also decreased from 23.75% in 1995 to 7.75% in 2001 and 4% in 2003.

**Table 9:** Indonesia’s Tariff Rates on Cigarettes and Tobacco, 2003

<table>
<thead>
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<th>Tobacco (%)</th>
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<th>AFTA</th>
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**Table 3:** The Philippines’ Tariff Rates on Tobacco and Tobacco Products: 1988-2004

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<th>Year</th>
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<th>TRP Rate (%)</th>
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<td>Raw Tobacco</td>
<td>Cigar and Cigarette</td>
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<tr>
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<td>1998</td>
<td>NA</td>
<td>20</td>
</tr>
</tbody>
</table>

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7 Saad, 2006.
8 Austria, 2006.

Southeast Asia Tobacco Control Alliance
In Thailand, cigarette production has been controlled by a state monopoly and has been highly protected from international competition by high tariffs. Before 1996, the tariff rate was 60% on all types of tobacco and tobacco products. In 1998, under WTO, the rates were differentiated for different products: 22.5% on cigarettes and 45% or 60% on other tobacco products. Under AFTA, the rates have been reduced continuously since 1998, and the reduction was faster for imported cigarettes than other tobacco products. Since 2003, the tariff rates on imports of tobacco, cigarettes, and other tobacco products from ASEAN were reduced to 5%.

Table 4: Thailand’s Tariff Rates on Tobacco and Tobacco Products: 1988-2004

<table>
<thead>
<tr>
<th>Year</th>
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<th>Cigar &amp; Others</th>
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<th>Others</th>
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<td>Tobacco</td>
<td>Cigarette</td>
<td>Cigar &amp; Others</td>
</tr>
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<td>1998-99</td>
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Comparative Results: Impact of AFTA

Theoretically, the welfare impact of a free trade area consists of two parts. The first part, called “Trade Creation” in standard international trade textbooks, reflects the welfare gain from an increase in international trade between an importing country and other countries that results from tariff reduction or elimination of imports from these countries. The second part, Trade Diversion, measures the welfare change that follows the redirection of international tobacco trade from more efficient non-member countries to less efficient member countries. This results from higher tariff rates on non-member products that raise the domestic prices of imports from these countries above those of imports from member countries. Thus, because of cheaper

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9 Sarntisart, 2005. Where there are two rates, the first rate is applied on certain types of tobacco and cigarettes that are the majority of tobacco or cigarette imports of Thailand.
domestic prices, local consumers are encouraged to buy products imported from member countries.

However, the impact of including tobacco and tobacco products in a free trade agreement such as AFTA differs from that of other goods and services. As noted from past studies, for the tobacco industry, the CEPT scheme has two major consequences. First, overall tobacco consumption has risen. Rather than better economic welfare, more consumption leads to higher economic cost, i.e. health costs and the number of deaths caused by tobacco-related diseases, through decreases in domestic cigarette prices, increases in cigarette demand, and a change in tax revenue. Second, because of relative price decreases, imported cigarettes have become more popular and have gained more market share. However, as already discussed, these countries have different backgrounds in terms of income level, the share of AFTA trade in total imports, the share of total imports in total domestic demand, and consumption behavior. Thus, the degree of impact of the AFTA’s CEPT scheme differs across countries.

Despite the gigantic size of its cigarette market, the impact of AFTA on Indonesian smokers is limited because of smokers’ loyalty to clove cigarettes (popularly known as “kretek”) and the share of ASEAN tobacco and cigarettes in the Indonesian market. Clove cigarettes represent nearly 90% of the Indonesian cigarette market, while the share of ASEAN cigarettes among total Indonesian imported cigarettes (0.63%) and the share of imported cigarettes in total cigarette consumption (less than 0.15%) are very small. The share of ASEAN tobacco used in domestic production is also small, i.e. only 2.3%. Thus, tariff removal through AFTA implementation will not have any significant impact on domestic cigarette prices and demand. However, a simulation using a 10% decrease in cigarette prices shows that demand will increase by 6.1%. With the total number of smokers already more than 132 million, the number of smoking attributable deaths will be striking. Long term health costs will be as much as US$21 billion, much larger than for other ASEAN countries.

The Philippine analysis shows two alternative possibilities. First, the tariff rate reduction from 11.67% to 5% in 2003 will decrease cigarette prices by 5.45%. Consequently, demand will increase by 2.14% or 4.62 million packs. This in turn will lead to an increase in the number of smoking-attributable deaths in the next 20 years. A decrease in the tariff rate from 11.67% percent to 0% will have an even stronger impact: cigarette prices would be reduced by 9.54% and demand would increase by 3.74%, or more than 6.5 million packs.

Second, the government may decide to increase the excise tax, which will partly offset the impact of AFTA. If the tariff rate is reduced to 5%, but the excise tax is increased by 10%, there would be only a 4.1% decrease in price, and a 1.61% increase in demand (or less than 4 million packs). If the tariff rate is reduced to 0% and the excise tax increased by 10%, there would be an 8.19% decrease in prices and a 3.21% increase in demand (or around 6 million packs).
In Thailand, the impact of AFTA will also be significant, since its cigarette imports come mainly from ASEAN countries, especially Indonesia and the Philippines. Two possible scenarios were also investigated. First, the government may decide not to change cigarette prices and, consequently, demand will remain unaffected. Analysis shows that a decrease in tariff rates on tobacco and tobacco products would reduce the tax burden on importers and the local producer (the Thai Tobacco Monopoly or TTM), and adversely affect the revenues of the Thai government. In the case of imports, total government revenue would be reduced by approximately 11% of the pre-AFTA value or nearly 1,200 million baht, while cigarette importers would earn 12% more profit. For TTM cigarettes, total tobacco tax revenue would decrease by over 7 million baht.

If the government decided to lower the retail prices of both types of cigarettes, demand would increase. In this situation, imported cigarettes would gain more benefit and market share. Demand for imported cigarettes would increase by nearly 2.20% and demand for TTM cigarettes would increase by only 0.003%. Based on the most recent data in 2002, this is equivalent to around 89 million and 0.68 million cigarette sticks, respectively. Consequently, the government tobacco revenue would decrease by about 1,034 million baht. Over the longer term, there would be a negative subsequent impact in terms of smoking-related diseases and health costs. A very optimistic estimate shows that the enforcement of AFTA in 2003 would lead to an additional 134 tobacco-related deaths annually over the next 20 years. This would cost the Thai economy around 82 million Baht (more than US$2 million) in forgone future income in each year of the next 20 years. Those costs do not include the health care costs of all tobacco-related diseases. Estimates also show that the increase in cigarette demand would be greater among urban smokers than among rural smokers, especially those who are in lower income classes, and would also be stronger among middle-aged and child smokers.

Conclusions and implications for tobacco control

The above results point to many important conclusions and policy implications. First, evidence shows that the CEPT scheme relatively favors imported cigarettes. This is because of the import content of imported cigarettes, which is naturally higher than that of locally produced cigarettes. Thus, sooner or later, imported cigarettes will gain more market share. All parties should realize that future smoking control measures will face tougher resistance from foreign tobacco producers.

Second, the Indonesian case shows that loyalty to domestic brands protects local smokers from the adverse effect of the AFTA’s CEPT scheme. Indonesian smokers are loyal to local clove cigarettes. Although clove cigarettes do not have much benefit from AFTA through imported raw materials, there are other implications. With a population of more than 220 million and smoking prevalence at more than 60%, the Indonesian cigarette market is a target for foreign cigarette producers. If price reduction is sufficiently large, eventually Indonesian smokers will switch to

Southeast Asia Tobacco Control Alliance
imported white cigarettes. Free trade agreements (FTAs) with countries such as China and India are still a threat to Indonesia and, also, other ASEAN countries, as they can produce white cigarettes much more cheaply.

Third, price control will not generate a change in cigarette demand, but may have some adverse effects since the government’s foregone tax revenue will go to cigarette producers and importers in terms of more profit. This is the case especially for Thailand, and has some implications for Indonesia and other countries that opt for cigarette price regulation policies. The producers and importers may decide to use the additional profit for political lobbying, non-price promotion, and other activities that will offset various smoking control measures. Thus, policies are urgently needed to overcome this unfavorable impact.

Fourth, an increase in the rate of excise tax has been shown to be the best alternative to protect ASEAN smokers. Estimates from the Philippines and Thailand show that the raising of excise tax rates will reduce the adverse impact of the AFTA’s CEPT scheme. To some extent, higher excise taxes will reduce the decrease in prices, the increase in demand, and the subsequent increase in health costs and mortality. Moreover, as demonstrated by the Thai case, this will allow the government to gain back some or all of its foregone tobacco tax revenue adversely affected by the CEPT scheme. Thus, the government should step up the excise tax on cigarette at a higher rate than the fall in tariff rate to maintain or increase cigarette prices. Without such a policy, the main beneficiary of AFTA will be foreign cigarette producers who can make more profit. However, smuggling and “back door” production must be closely monitored.

Fifth, although rolling back the trade liberalization process by excluding tobacco from AFTA’s CEPT scheme is the best solution for all ASEAN countries, this move is difficult to implement and may not be feasible. The inclusion of tobacco in AFTA’s CEPT scheme is an important lesson for all countries and the mistake should not be repeated in FTAs with other countries, especially China and India. These two countries can produce and export much cheaper cigarettes, which may lead to an influx of imported cigarettes in all ASEAN countries. The same suggestion can be applied to other addictive products such as alcoholic beverages.

Sixth, a decrease in the relative prices of cigarettes over time is common in many countries, and leads to increases in smoking rates. The results of many studies suggest that governments should increase excise tax rates to offset this unfavorable change. Moreover, excise tax indexation with inflation can be an effective instrument that will keep the real cigarette prices and cigarette demand unchanged.
Bibliography

Austria, M.S., “The Economic and Health Impact of Trade Liberalization in AFTA: the Case of the Philippines,” A Research Report Submitted to the Southeast Asia Tobacco Control Alliance (SEATCA) under the support of The Rockefeller Foundation, and Thai Health Promotion Foundation (ThaiHealth), 2006.


Saad, I., “Likely Impacts of AFTA on Cigarette Consumption: Indonesian Case,” A Research Report Submitted to the Southeast Asia Tobacco Control Alliance (SEATCA), under the support of The Rockefeller Foundation, and Thai Health Promotion Foundation (ThaiHealth), 2006.


Sarntisart, I., “AFTA and Tobacco in Thailand,” A Research Report Submitted to the Southeast Asia Tobacco Control Alliance (SEATCA), under the support of The Rockefeller Foundation, and Thai Health Promotion Foundation (ThaiHealth), 2005.

Chapter 1-5: Health Costs of Tobacco in Thailand and Vietnam

Tobacco use is one of the most important contributors to premature death and avoidable morbidity in both low- and high-income countries. Research shows that cigarette smoking is an important risk factor for cancers, respiratory diseases, and cardiovascular and other diseases. The adverse impact of tobacco use on health and on the society as a whole was recognized by the 2004 resolution of the United Nations’ Economic and Social Council (ECOSOC), which also stressed the impact of tobacco use on the economy, the environment, and on efforts towards poverty alleviation. The economic impact of smoking is evident in Table 1, where these costs are expressed as a percentage of the GDP of several countries.

Table 10: Cost of Smoking as % of GDP

<table>
<thead>
<tr>
<th>Country</th>
<th>% of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>1.4</td>
</tr>
<tr>
<td>Canada</td>
<td>1.9</td>
</tr>
<tr>
<td>China</td>
<td>1.5</td>
</tr>
<tr>
<td>Japan</td>
<td>1.1</td>
</tr>
<tr>
<td>South Africa</td>
<td>0.7</td>
</tr>
<tr>
<td>US</td>
<td>2.0</td>
</tr>
</tbody>
</table>

The economic consequences of tobacco use are both direct in the form of higher health care costs and transportation to and from health care facilities, and indirect in the form of productivity losses due to morbidity and premature mortality. These costs are also categorized as public and private, based on who bears them. Public costs of smoking represent a burden for the state budget, while private costs of smoking impose a burden on households and reduce their spending power.

It has been estimated that the overall annual cost of healthcare in high-income countries attributed to smoking is between 6 and 15 percent of total healthcare costs. This percentage is usually lower in low- and middle-income countries. It has been hypothesized that the full effects of the large increases in male smoking are not evident, because the tobacco epidemic is, in many countries, still at its earlier stage. In addition, the level of medical care in these countries leads to an underestimation of the true costs of smoking. However, the role of both factors can be expected to diminish in the future, and these countries are likely to see their annual smoking-related healthcare costs rise. It has been predicted, for example, that China will experience a 120-137% increase in cardiovascular diseases between 1990 and 2020.

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compared to an increase of 30-60% in high-income countries.6

Research into the economic burden of tobacco use provides important information that can be used to inform political debate and raise public awareness. Studies in this area can assess the magnitude of the tobacco epidemic and quantify its impact. For policymakers, it is vital to know the extent to which these costs are borne by the public sector, because they represent a real loss of funds that cannot be used for other goods and services. For individual consumers, on the other hand, the key issue is the extent to which these costs will be borne by themselves or by others (insurance companies— which also represent costs to consumers when they purchase insurance—or government).

This chapter summarizes research on the issue of the health costs of tobacco from two studies. The first study, undertaken in Vietnam, estimated the social costs of smoking to evaluate the economic burden of smoking from the perspective of the whole society7. It focused on the economic consequences of hospital treatment for the three most common tobacco-related diseases, namely (i) lung cancer, (ii) respiratory system diseases (COPD), and (iii) cardiovascular diseases (ischemic disease). In undertaking the study, the researchers sought to provide evidence for policy makers in Vietnam on the magnitude of the economic impact of smoking on the whole society as well as on the extent of private and public expenditures so that appropriate action could be taken to reduce these costs in the future. The second study, undertaken in Thailand8, sought to provide policy makers with a long-term health care cost impact analysis comparing individual and government health care costs of smoking-related diseases to government tobacco-related revenue based on data collected from September 2003 to February 2004. The Health Systems Research Institute estimates that it costs 7 billion baht to treat tobacco-related diseases each year. Because the effects of smoking are long-term, more people become ill from the 27 smoking-attributable diseases every year, and medical costs continue to increase as the smoking population ages. Of particular note is the fact that cancer is now the leading cause of death in Thailand. To date, the health costs of tobacco have not been weighed against a total tobacco tax and Thai Tobacco Monopoly contribution of 39.2 billion baht to the national budget in 1997.9

8 Sathirakorn Pongpanich, Ph.D., College of Public Health, Chulalongkorn University, Bangkok, Thailand. “A Comparative Analysis between Present and Future Tobacco Related Health Care Costs in Thailand.”
9 Several earlier studies had examined the economic costs of tobacco, particularly related to lung cancer, chronic obstructive pulmonary disease (COPD) and coronary heart disease. However, they used different approaches and definitions, and as a result presented very different results. The full
Research objectives and methodology

The overall objective of the Vietnam study was to illustrate the social costs of smoking to assist policy makers in Vietnam to adjust their policies regarding tobacco tax and industry, and to form appropriate anti-smoking programs. The specific objectives of the study were to:

- measure costs of hospitalization for three smoking-related diseases,
- describe the cost structure for smoking-related diseases from a social perspective, and
- estimate the smoking-attributable fraction of health care costs for smoking-related diseases.

The researchers used two different methodological approaches to estimate the social costs of smoking in Vietnam. First, they estimated the social cost for one episode of hospitalization for three selected diagnoses using the cost of illness approach. In this estimate, they added costs borne by different sectors of the economy. Second, they employed a prevalence-based approach to estimate the costs of smoking for the entire country over the period of one year. They used the micro-level estimates of social costs of inpatient care obtained from the first part of the analysis together with macro-level data on hospitalization to estimate the smoking-attributable fraction (SAF) of total costs related to inpatient care.

In order to estimate the costs of inpatient care, the researchers collected data from three different sources: patients, hospital administrators, and the General Statistics Office. The original data collection was undertaken between January and June 2005, covering winter, spring and summer so that any seasonal variations in disease occurrence could be captured. Qualitative and quantitative approaches were used to produce a comprehensive overview of the cost structure of smoking-related diseases. Considering time and funds available, the researchers focused on three selected diagnoses that contributed most of the costs of smoking: lung cancer, selected respiratory system diseases (COPD), and cardiovascular diseases (ischemic disease).

Vietnam’s health care system has a referral structure providing health care at central, provincial, district, and commune levels. Since the analysis focused only on in-patient care (again due to limitations of time and funds), commune health centers were excluded from the analysis. Three specialized hospitals were selected at the central level for the study. One provincial and one district hospital were also selected. All patients in these hospitals diagnosed with one of the selected diseases during the data collection period were eligible to participate in the study. In the end, 390 patients agreed to participate.

The researchers adopted the cost of illness approach to estimating social costs of hospitalization. Figure 1 describes the classification of costs included in the

version of the Thai report presents a detailed literature review of these earlier studies.
In Vietnam, the government subsidizes hospital care by paying for capital investment and depreciation, providing salary for staff (doctors, nurses, etc.), and covering administrative and other operational costs except for costs of drugs and medical supplies, which are covered by user fees, which are paid either directly by patients or by insurance companies. The data for calculating the social costs of inpatient care were obtained from three sources: hospital financial records, patient’s exit interviews, and forms filled in by hospital staff. Hospital financial records (asset registry and hospital budget data) were used to determine operational hospital costs including depreciation for the year 2004. Annual cost of capital was determined using the direct depreciation method and a 3% discount rate. Staff costs from the hospital budget include both salary and fringe benefits.

Total staff costs were allocated to a specific diagnosis in two steps, using the number of inpatient days as the allocation basis. First, staff cost were allocated to departments; second, department’s costs were allocated to each patient’s diagnostic group. Two types of questionnaires were used to determine costs incurred directly by patients. Patients’ exit interviews determined the loss of time due to illness, transport costs, expenses for drugs bought outside the hospital, informal fees, and socio-economic data and smoking history. Forms filled in by hospital staff contained information from hospital records on costs of medical treatment (formal fees for treatment and drugs provided in the hospital, lab tests, X-rays and other procedures) paid either by patients or by health insurance companies.

Informal fees paid to health care providers were estimated based on patient’s information on additional expenses during the hospital stay excluding the costs of diagnostic procedures, medicines and transportation. Since collecting this information is very sensitive, we first asked about costs of hospitalization in addition to user fees such as medicines, food, travel and accommodation. The following question asked “How much did the patient and family spend on the hospital stay in addition to formal fees, medicines, food, travel and accommodation?” This allowed patients and their family to report the informal fee without explicitly reporting this payment. Patient’s opportunity costs and costs for family informal care were estimated based on number of inpatient days, average number of family member involved in patient’s care, type of profession and region-specific average incomes obtained from official statistical data.

The total cost of hospital treatment was calculated using the following formula:

$$C_t = C_i + C_f + C_o$$

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10 About 30% of the population is covered by health insurance.
11 Where $C_t$ are total costs; $C_i$ are costs borne by the patient and his/her family (formal fees, travel costs, cost of family informal care, informal fees, income loss, and other indirect costs); $C_f$ are costs born by government when it subsidizes hospitals (capital and operational cost including supplies,
To evaluate the impact of socio-economic status (SES) on cost of treatment, patients were categorized into several categories: age, gender, education, type of occupation, and coverage by health and/or social insurance. Patients who ever smoked were labeled as “ever-smokers”; patients with no smoking history were “non-smokers”. “Ever-smokers” were further divided into two sub-groups: current smokers (smoked during last six months) and ex-smokers (did not smoke for at least six months prior to the survey).

The researchers estimated the impact of smoking on the cost of inpatient care conditioned on being an inpatient with one of the selected diagnoses. First, they calculated odds ratios for each factor by diagnostic group. They then combined all diagnostic groups and assessed the impact of smoking on inpatient costs for the whole sample. Last, they applied logit regression to estimate the odds of belonging to the high-cost group as a function of the patient’s smoking status, health and social insurance status and other SES characteristics.

To estimate the smoking-attributable fraction of hospital care, the researchers first determined the social cost of one hospital episode for each of the selected diagnoses separately. Then they aggregated the individual-level costs across all episodes detected in Vietnam in the period of one year. However, only a fraction of these costs

salary for hospital staff, administration) and hospital care for vulnerable population; Co are costs born by health insurance agencies. These costs are either private (covered by private employees and individuals) or public (when government provides health insurance or covers part of the health insurance premium).
could be attributable to smoking, because smoking-related diseases occur also among non-smokers. The smoking-attributable fraction (SAF) of these costs was thus calculated in three steps: (i) by determining the percentage of smokers among those diagnosed with one of the diseases; (ii) by determining which of those would have gotten the disease irregardless of their smoking status; and (iii) including in costs attributable to smoking only the cost of the treatment in excess of the average health care cost. The final SAF of a particular disease was obtained by multiplying the percentages calculated in each of the three steps.

The overall objective of the Thai study was to provide policy makers with a long-term health care cost impact analysis comparing individual and government health care costs of smoking-related diseases to government tobacco-related revenue. Its specific objectives were to:

- estimate current and future individual and government expenditure (for the five-year period 2003-2007) on tobacco-related diseases (lung cancer, coronary heart disease, and chronic obstructive pulmonary disease),
- estimate the government tobacco-related revenue (for 2003-2007), and
- determine past trends (from 1999-2002), and current trends based on existing data, in order to project these into the future to determine potential government financial liability in the health sector.

The study design was both prospective and retrospective and included quantitative cost analyses (Direct and Indirect Cost Analysis) which studied primary data from surveys and secondary data from extant records from the Ministry of Public Health, Ministry of Finance, the Thai Tobacco Monopoly, public and private hospitals, academic institutions, foreign agencies, foundations, existing research and literature, among other sources. This study examined the past and projected future trends to determine potential government financial liability in the health sector. The study covered the government health care expenditure on tobacco-related diseases for the Thai population. At the same time, the government revenue which was generated from tobacco products and consumption was calculated and compared with the expenditure above. Data on cost of treatment of tobacco-related diseases, outpatient visits for tobacco-related diseases, disease-specific inpatient costs per day, outpatient costs per visit, and smoking-attributable fractions was used.

Questionnaires and interview surveys on individual out-of-pocket cost of treatment of tobacco-related diseases (lung cancer, coronary heart disease, and chronic obstructive pulmonary disease) were conducted in five regions around Thailand; in each region the survey was conducted in both government and private hospitals which can provide all the treatment services for these three diseases. Therefore, this study selected one of each of the biggest hospitals (in terms of number of beds) for both government and private hospitals in each region to represent and provide tobacco-related disease cost information for Thailand.

Survey participants for the purposive sampling study were selected based on
predetermined criteria, including: (i) patients who were ill with lung cancer, coronary heart disease, and chronic obstructive pulmonary disease with a history of tobacco smoking for the past 5-10 years and/or diagnosed by a physician that tobacco caused their diseases; (ii) regular outpatients in the last one year; (iii) age 25 and older; (iv) not handicapped; and (v) willing to participate in this study. In each region and each hospital, information was gathered for three categories of diseases (lung cancer, coronary heart disease, and chronic obstructive pulmonary disease) with the sample size of 30/disease/hospital. Therefore, one region consisted of 180 cases and the total sample size was 900 cases.

The questionnaire and interview survey, in each site, were conducted by local research assistants who collected information and interviewed patients. At the same time, the local researcher obtained additional information about each patient from medical records (in- and outpatient) for the past year. Medical staff of the hospitals assisted in identifying the actual cost of each visit to the hospital of each patient. All relatives who accompanied patients were interviewed after the patients had received services from both in- and outpatient departments. After collecting all of this information, the researchers analyzed and calculated the direct medical cost, direct non-medical cost, and indirect cost from both in- and outpatients of each disease by finding the mean values of each cost category and using that to calculate an estimated health care cost of each disease per patient per year.

The study also sought to analyze potential government financial liability by looking at the difference between individual and government expenditures on tobacco-related health care costs and government revenues from tobacco consumption. To do so, the researchers examined information on tobacco-generated revenue from the Thai Tobacco Monopoly, the Excise Department, the Ministry of Commerce and the National Statistics Bureau. They also reviewed existing literature, Thailand National Health Expenditure Accounts (for the years 1997-2002) and the sources described above (including direct and indirect costs of treatments). Quantitative analysis was used for the cost/income comparison analysis and cost analyses (direct and indirect) which were subsequently performed to show tobacco income in relation to smoking-related health expenditures and production losses. Finally, an economic analysis was done to determine present and future trends. In addition, the STATA statistical software package was used to analyze and predict the trends for this study.

**Results**

**Participant characteristics**

The researchers interviewed 390 patients who were discharged from a hospital between January and June 2005; of these 46% were lung cancer patients, 39% had COPD, and 15% suffered from ischemic diseases. The majority of lung cancer and ischemic patients were discharged from the three specialized national hospitals, while the district and provincial hospitals were treating mostly patients with COPD. In terms of length of stay, Table 2 shows that there were differences among the three
major smoking-related diseases, with lung cancer patients staying the longest (43 days on average). In fact, the average length of stay for lung cancer was almost four times longer than the other two diagnostic groups. There were no differences between men and women with respect to the length of stay.

The review of hospital records revealed that patients diagnosed with one of the smoking-related diseases selected for this study stayed in hospitals longer, compared to the average length of hospital stay in Vietnam.

On the other hand, the average age of lung cancer patients was significantly lower than the average age of ischemic and COPD patients (Table 3). However, there seemed to be no significant difference in the average age of ischemic and COPD patients. As other chapters in this book have shown, there are significant differences in smoking rates among males and females. Smoking is much more common among Vietnamese men, most likely due to social norms that make female smoking socially unacceptable.

The majority of patients in this study were either current or ex-smokers.

Table 2: Average length of stay in the hospital for the three smoking-related diseases

<table>
<thead>
<tr>
<th>Diagnostic group</th>
<th>Female</th>
<th>Male</th>
<th>Both (standard deviation)</th>
<th>T-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung cancer</td>
<td>46.45</td>
<td>42.35</td>
<td>43.21 (52.40)</td>
<td>0.5307</td>
</tr>
<tr>
<td></td>
<td>(52.40)</td>
<td>(29.88)</td>
<td>(35.69)</td>
<td></td>
</tr>
<tr>
<td>Ischemic</td>
<td>7.00</td>
<td>9.02</td>
<td>8.63 (3.32)</td>
<td>0.3501</td>
</tr>
<tr>
<td></td>
<td>(3.32)</td>
<td>(6.89)</td>
<td>(6.38)</td>
<td></td>
</tr>
<tr>
<td>COPD</td>
<td>12.24</td>
<td>11.64</td>
<td>11.87 (7.80)</td>
<td>0.6038</td>
</tr>
<tr>
<td></td>
<td>(7.80)</td>
<td>(6.34)</td>
<td>(6.90)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>23.74</td>
<td>26.67</td>
<td>25.86 (35.61)</td>
<td>0.3804</td>
</tr>
<tr>
<td></td>
<td>(35.61)</td>
<td>(26.83)</td>
<td>(29.5)</td>
<td></td>
</tr>
</tbody>
</table>

Table 3: Average age by patients’ diagnostic groups

<table>
<thead>
<tr>
<th>Diagnostic group</th>
<th>Mean</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung cancer</td>
<td>57.56</td>
<td>55.82</td>
</tr>
<tr>
<td>Ischemic</td>
<td>66.16</td>
<td>63.21</td>
</tr>
<tr>
<td>COPD</td>
<td>64.48</td>
<td>62.08</td>
</tr>
</tbody>
</table>
Gender distribution for three selected diagnoses is presented in Table 4. As expected, due to higher smoking prevalence, the majority of patients were men. Comparing gender distribution among diseases, the percentage of men was highest among ischemic patients and lowest among COPD patients. Forty percent of lung cancer patients are current smokers. Together with ex-smokers, this diagnosis seemed to be the most highly associated with smoking. Patients diagnosed with COPD were the least likely to be smokers, while, on average, lung cancer patients had smoked the most years and with the highest intensity.

![Figure 2: Distribution of patient by smoking history](image)

For the Thai surveys, the researchers recruited 300 participants with a history of smoking in the past five to ten years from five regions around Thailand who were currently ill with COPD, CHD, and lung cancer.

**Cost of hospitalization for three major smoking-related diseases**

The Vietnamese researchers examined the social costs of hospital treatment from the perspective of entities which incur these costs. Therefore, the total social costs were a summary of individual, government and insurance company costs (which could be either private or public costs as described above). Individuals incurred both direct and indirect costs, while government and insurance companies incurred only direct costs associated with smoking (governments do of course incur other costs when productive members of society die young, but those costs are beyond the scope of...
this article).

First, the researchers studied the costs to individuals. This information was collected via patient exit interview, with the exception of user fees, which was obtained from hospital records and recorded by hospital staff. Table 5 summarizes the different types of personal costs. On average, a patient and his/her family “lost” 5,115,900 VND per admission, 83% of which were out-of-pocket expenses and the remaining represented income loss due to hospitalization. The treatment costs (user fees) were highest for ischemic disease. Non-medical expenses included travel, food, accommodation for patients and accompanying family members as well as informal fees, and composed the largest part of total personal costs. The non-medical costs were highest among lung cancer patients, making this diagnosis the most expensive disease group studied under this project. Income loss was estimated based on length of hospital stay and average income for each patient’s professional group.

Table 5: Average personal costs (VND 000) per admission across 3 selected diagnostic groups

<table>
<thead>
<tr>
<th>Diagnostic groups</th>
<th>User fee</th>
<th>Out-of pocket expenses</th>
<th>Income loss</th>
<th>Total personal costs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Drugs bought outside</td>
<td>Non medical</td>
<td></td>
</tr>
<tr>
<td>COPD</td>
<td>358.2</td>
<td>17.0</td>
<td>433.7</td>
<td>809.0</td>
</tr>
<tr>
<td>Lung cancer</td>
<td>1,012.1</td>
<td>1,005.6</td>
<td>4,742.4</td>
<td>6,760.1</td>
</tr>
<tr>
<td>Ischemic</td>
<td>3,726.1</td>
<td>193.6</td>
<td>1,785.9</td>
<td>5,705.5</td>
</tr>
<tr>
<td>Average</td>
<td>1,152.2</td>
<td>499.1</td>
<td>2,620.0</td>
<td>4,271.3</td>
</tr>
<tr>
<td>%</td>
<td>23%</td>
<td>10%</td>
<td>51%</td>
<td>83%</td>
</tr>
</tbody>
</table>

Costs of all three economic entities involved in in-patient care are presented in Table 6. The costs incurred by the state budget were estimated from hospital financial records. Costs to insurance companies were provided by hospital staff based on hospital records. The average social cost per patient in the survey was almost 11,762,000 VND. The highest costs are associated with ischemic diseases: the social costs of this diagnostic group are almost ten times higher than for COPD. Patients and their family bore the largest proportion of the costs (43.5%) per admission. The second largest share of individual-level cost fell on the health insurance companies that cover 80-100% of formal user fees for insured patients. Their largest contribution is toward the costs for ischemic diseases, which is consistent with the highest user fee paid by patients themselves. Insurance company costs are either private or public, depending on who covers the insurance premium. Finally, government bore 18.5% of individual-level social costs of inpatient care for the selected diagnostic groups. Government expenditures included capital investments, staff salary and training, and costs of administration. These costs were allocated to each diagnostic group based on number of bed-days. As result, lung cancer patients represented the heaviest burden to the state budget since they have the longest hospital stays. Government also covers some portion of insurance company costs in cases where it subsidizes health insurance premiums or pays them completely.
Table 6: Average social costs (VND 000) per admission by diagnoses and payers

<table>
<thead>
<tr>
<th>Diagnosis groups</th>
<th>Government (state budget) (Cg)</th>
<th>Insurance companies (Cp)</th>
<th>Personal costs (Ci)</th>
<th>Total social cost (Ct)</th>
</tr>
</thead>
<tbody>
<tr>
<td>COPD</td>
<td>2,105.0</td>
<td>459.3</td>
<td>1,180.2</td>
<td>3,744.4</td>
</tr>
<tr>
<td>Lung cancer</td>
<td>2,764.6</td>
<td>1,405.7</td>
<td>8,187.9</td>
<td>12,358.2</td>
</tr>
<tr>
<td>Ischemic</td>
<td>485.8</td>
<td>24,934.9</td>
<td>5,979.0</td>
<td>31,399.8</td>
</tr>
<tr>
<td>Average</td>
<td>2,172.8</td>
<td>4,473.3</td>
<td>5,115.9</td>
<td>11,761.9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mean costs by payer</th>
<th>Government (Cg)</th>
<th>Insurance companies (Cp)</th>
<th>Personal costs (Ci)</th>
<th>Total social cost (Ct)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>18.5%</td>
<td>38.0%</td>
<td>43.5%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Figures 4, 5 and 6 demonstrate the distribution of individual-level social cost of the selected diagnostic groups among the three sectors. It is important to realize that this distribution may not hold on the macro level, since the total cost of smoking is also determined by the number of cases in each diagnostic group and by SAFs. As can be seen, the major portion of the social cost of lung cancer is borne by the patients themselves, while for ischemic in-patients the majority of the cost is borne by insurance companies, and for COPD the majority of the cost is borne by government.
Figure 5: Cost structure of COPD

The Thai study examined six categories of individual out of pocket costs: direct medical cost from both in- and outpatients, direct non-medical cost from both in- and outpatients, total direct cost, total indirect cost, total health care cost, and country health care cost. The latter category is discussed further below.

As seen in Tables 7 and 8, most of the expenditures related to COPD, CHD, and lung cancer are for drugs and medical goods; direct non-medical costs included food, travel cost and accommodations.

<p>| Table 7: Summary of Direct and Indirect Medical Cost from both In and Outpatients for COPD, CHD, and Lung Cancer |
|---------------------------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------|</p>
<table>
<thead>
<tr>
<th>Direct Medical Cost (Baht/year)</th>
<th>Patients with COPD (n=300)</th>
<th>Patients with CHD (n=300)</th>
<th>Patients with Lung Cancer (n=300)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Drugs/Medical Goods</td>
<td>7,398.12</td>
<td>41.04</td>
<td>25,710.62</td>
</tr>
<tr>
<td>X-ray Fee</td>
<td>48.66</td>
<td>61.20</td>
<td>469.21</td>
</tr>
<tr>
<td>Laboratory Test</td>
<td>104.50</td>
<td>99.96</td>
<td>642.95</td>
</tr>
<tr>
<td>Oxygen, Respirator</td>
<td>79.31</td>
<td>96.96</td>
<td>349.52</td>
</tr>
<tr>
<td>EKG Test</td>
<td>39.44</td>
<td>42.72</td>
<td>366.14</td>
</tr>
<tr>
<td>Doctor Fee</td>
<td>195.29</td>
<td>108.36</td>
<td>299.25</td>
</tr>
<tr>
<td>Other expenditures</td>
<td>49.86</td>
<td>88.68</td>
<td>390.17</td>
</tr>
<tr>
<td>Total Direct Medical</td>
<td>7,915.18</td>
<td>61.51</td>
<td>28,227.86</td>
</tr>
<tr>
<td>Food Expense</td>
<td>359.38</td>
<td>96.00</td>
<td>480.32</td>
</tr>
<tr>
<td>Travel Cost</td>
<td>554.69</td>
<td>83.52</td>
<td>1,241.96</td>
</tr>
<tr>
<td>Accommodations</td>
<td>500.31</td>
<td>15.00</td>
<td>-</td>
</tr>
<tr>
<td>Total Direct Non-medical</td>
<td>1,414.38</td>
<td>125.67</td>
<td>1,722.28</td>
</tr>
</tbody>
</table>
Table 8: Summary of Direct Cost from Both In- and Outpatients for COPD, CHD, and Lung Cancer weighted by % of out- and inpatients.

<table>
<thead>
<tr>
<th>Direct Cost (Baht/ year)</th>
<th>Patients with COPD (n=300)</th>
<th>Patients with CHD (n=300)</th>
<th>Patients with Lung Cancer (n=300)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Medical Cost</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outpatient</td>
<td>978.43</td>
<td>46.61</td>
<td>1,562.18</td>
</tr>
<tr>
<td>Inpatient</td>
<td>8,149.33</td>
<td>79.55</td>
<td>29,754.36</td>
</tr>
<tr>
<td>Total</td>
<td>6,017.41</td>
<td>60.32</td>
<td>28,310.44</td>
</tr>
<tr>
<td>Non-Medical Cost</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outpatient</td>
<td>895.68</td>
<td>109.35</td>
<td>875.44</td>
</tr>
<tr>
<td>Inpatient</td>
<td>1,568.22</td>
<td>90.69</td>
<td>1,952.34</td>
</tr>
<tr>
<td>Total</td>
<td>1,159.96</td>
<td>118.52</td>
<td>2,796.17</td>
</tr>
<tr>
<td>Total Direct Cost</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outpatient</td>
<td>1,874.11</td>
<td>65.97</td>
<td>2,437.62</td>
</tr>
<tr>
<td>Inpatient</td>
<td>11,591.66</td>
<td>52.61</td>
<td>31,106.61</td>
</tr>
</tbody>
</table>

The total indirect cost of each disease included income forgone from both the patients who did not go to work and relatives who had to leave work to take care of the patients (minimum wage times hours or days lost from work for patients and/or relatives). All relatives who accompanied patients were interviewed after the patients had received services from both in- and outpatient departments. The indirect cost of patients with COPD was 863.39 baht (mean, SD = 89.52) while the indirect cost to the patient’s relatives was 594.12* baht (SD = 141.84). Therefore, the total indirect cost of COPD was 1,457.51 baht (SD = 165.37). For patients with CHD, the indirect cost was 997.45 baht (SD = 595.20) while the indirect cost to patient’s relatives was 854.86 baht (SD = 507.72). Therefore, the total indirect cost of CHD was 1,852.31 baht (SD = 205.46). For patients with lung cancer, the total indirect cost was 29,956.43 (SD = 79.86) while the indirect cost to patient’s relatives was 9,742.16 (SD = 100.38). Therefore, the total indirect cost of lung cancer was 39,698.59 (SD = 107.45).

The total health care cost for COPD/ person/ year from this study consisted of the total direct cost plus the total indirect cost, which was calculated as 10,740.81 (SD = 79.35). For CHD, the total health care cost was calculated as 32,958.92 (SD = 63.52), while for lung cancer it was 101,328.88 (SD = 92.81).

Thus, the expenditure for one COPD patient from smoking in 2003 was

* All figures given are the mean amount.
approximately baht 10,740.81. The number of COPD patients who were 45 years old or above between 1999 and 2003 ranged from 360,000 to 960,000 (mean approximately= 660,000).\textsuperscript{12} The researchers thus applied the proportion of disease attributable to an exposure (PAR) to estimate the cost of smoking related to COPD.\textsuperscript{13} Therefore, PAR = (RR-1)PE/ 1+ (RR-1)PE, where RR= Relative Risk = 3.07 (for male and female\textsuperscript{14}); PE = Proportion Exposed (smoking prevalence) = %\textsuperscript{15}.

\[
\text{PAR} = (3.07-1).60/ 1+ (3.07 -1).60 \\
= 1.242/2.242 \\
= 0.55 \\
\]

Approximately 55% of COPD patients acquire COPD from smoking. Therefore, in 1986 figures, the total cost or expenditure of patients receiving COPD treatment was approximately equal to baht 10,740.81 X 660,000 X 55% or equal to baht 3,898,914,030 – in 2003 figures this equals baht 10,057,000.\textsuperscript{16}

Therefore, the total cost or economic loss of smoking-related COPD in 2003 was approximately 10,057+3,899 = 13.96 billion baht, which represents 0.24% of GDP for that year. In addition, it also accounted for 5.7% of total 2003 health care expenditure in Thailand.\textsuperscript{17}

Similar calculations were conducted for both CHD and lung cancer, looking at the number of CHD patients who were at least 30 years old between 1999 and 2003. The prevalence rate of coronary heart disease was 1.05%.\textsuperscript{18} In 2003, there were approximately 35 million Thais who were at least 30 years old.\textsuperscript{19} Using the PAR calculation, the researchers estimated that 25.6% of CHD patients acquire the disease from smoking. In 1990 figures, the total cost or expenditure of patients being treated for smoking-related CHD was approximately baht 32,958.92 X 25.6% (1.05%X 35,000,000), or baht 3,100,775,194 - or baht 17,065,000 for 2003.\textsuperscript{20} Therefore, the total cost or economic lost from smoking-related CHD in 2003 was approximately 3,100 +

\textsuperscript{12} Health Information Division, Bureau of Health Policy and Plan.
\textsuperscript{13} This study used relative risk from Taiwan for all three diseases since it was not available in Thailand.
\textsuperscript{14} Taiwan 2004.
\textsuperscript{15} MOPH, Thailand, 2003
\textsuperscript{16} The government expenditure on COPD was last studied by Janjareon Wattana in 1988, and her estimates for 1986 were equal to baht 4,400 million/ year. Using a constant average inflation rate of 5% (Ministry of Public Health and Bank of Thailand 2003), the researchers calculated the current value of government expenditure on COPD (2003) to be approximately 10,057 million baht/year.
\textsuperscript{17} National Health Account of Thailand 2003.
\textsuperscript{18} Chuprapawan, Health Information Division, Bureau of Health Policy and Planning.
\textsuperscript{19} National Statistics Office, 2003.
\textsuperscript{20} Government expenditure on CHD was last studied by Thiptaradol in 1990; estimates were equal to baht 7,829 million/ year. Using a constant average inflation rate of 5%, the researchers calculated the current value of government expenditure on CHD (2003) to be approximately 17,065 million baht/year.
17,065 = 20,165 million baht, which represents 0.33% of GDP for that year and 8.27% of total 2003 health care expenditure.\textsuperscript{21}

Finally, there were approximately 42,100 lung cancer patients aged 45 and older in 2003.\textsuperscript{22} About 48% of lung cancer patients acquired the disease from smoking. Therefore, for the year 2003, the total cost or expenditure for patients receiving treatment for lung cancer is approximately baht 101,328.88 X 42,100 X 48%, or baht 2,047,654,000. Information on government expenditure on lung cancer was available from the Health Statistics Department, Ministry of Public Health, which indicated that expenditure on lung cancer by the Ministry Hospitals in 2003 was approximately 4,500 million baht.\textsuperscript{23} Therefore, the total cost or economic loss attributable to smoking-related lung cancer in 2003 was approximately 2,047 + 4,500 = 6.547 billion baht, which represents 0.11% of GDP and 2.66% of total 2003 health care expenditure.

Factors affecting social costs of smoking related diseases

Since the Vietnamese social costs of smoking for the same diagnosis varied by patient, the researchers studied factors that could contribute to these differences. In their analysis, patients were divided into two groups based on the level of social cost. The lower cost group incurred costs lower than the median value of social cost for a particular disease. The other group was coded as the higher cost group. The cutoff points for assigning a patient to the low or high cost groups were 9,097,940 VND for lung cancer, 33,918,530 VND for ischemic diseases, and 1,887,150 VND for COPD.

Tables 9, 10, and 11 demonstrate the contribution of various socio-demographic factors and smoking status to the social costs of smoking. Since this is a retrospective study, we used odds ratio to express the degree of association between an individual factor and the level of social costs of smoking. Results presented in Table 9 show that being a smoker increased the odds of being in the higher cost category, but this as well as other results were not statistically significant, mostly likely due to small sample size.

\textbf{Table 9: Social cost of hospitalization for lung cancer and individual factors}

<table>
<thead>
<tr>
<th></th>
<th>Low-cost group (# of cases)</th>
<th>High-cost (# cases)</th>
<th>Total # patients</th>
<th>OR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>21</td>
<td>17</td>
<td>38</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>69</td>
<td>73</td>
<td>142</td>
<td>1.31</td>
<td>0.63</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\textsuperscript{21} National Health Account of Thailand 2003.

\textsuperscript{22} Settheetham-Ishida, S. \textit{et al}. 2004.

\textsuperscript{23} Ministry of Public Health, 2003.
Table 10: Social cost of hospitalization for ischemic heart disease and individual factors

<table>
<thead>
<tr>
<th></th>
<th>Low-cost group</th>
<th>High-cost group</th>
<th>Total</th>
<th>OR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>6</td>
<td>5</td>
<td>11</td>
<td>1.20</td>
<td>0.32</td>
</tr>
<tr>
<td>Male</td>
<td>23</td>
<td>23</td>
<td>46</td>
<td>1.00</td>
<td>0.46</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;63</td>
<td>7</td>
<td>9</td>
<td>16</td>
<td>0.32</td>
<td>0.21</td>
</tr>
<tr>
<td>&gt;63</td>
<td>22</td>
<td>19</td>
<td>41</td>
<td>0.56</td>
<td>0.30</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary education and &lt; primary education</td>
<td>39</td>
<td>27</td>
<td>66</td>
<td>1.55</td>
<td>0.72</td>
</tr>
<tr>
<td><strong>Occupation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Qualified</td>
<td>74</td>
<td>74</td>
<td>148</td>
<td>1.19</td>
<td>0.66</td>
</tr>
<tr>
<td>Non-qualified</td>
<td>16</td>
<td>16</td>
<td>32</td>
<td>1.00</td>
<td>0.46</td>
</tr>
<tr>
<td><strong>Health Insurance</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No health insurance</td>
<td>46</td>
<td>42</td>
<td>88</td>
<td>1.19</td>
<td>0.66</td>
</tr>
<tr>
<td>With health insurance</td>
<td>44</td>
<td>48</td>
<td>92</td>
<td>1.19</td>
<td>0.66</td>
</tr>
<tr>
<td><strong>Social Insurance</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No social insurance</td>
<td>86</td>
<td>90</td>
<td>176</td>
<td></td>
<td></td>
</tr>
<tr>
<td>With social insurance</td>
<td>4</td>
<td>0</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Smoking status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-smokers</td>
<td>22</td>
<td>17</td>
<td>39</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 11 presents results of the analysis of the potential association between COPD social costs and other factors. Results show that males were 127% more likely to be in the higher social cost group than females. In other words, the prevalence of higher social cost among males was greater than among females. In terms of age, the older the patient the higher the COPD social costs, but the result was only marginally significant. As with the other two diagnoses, COPD patients with a smoking history had a 169% higher probability to incur high social costs compared to non-smokers. Since this result was statistically significant, the researchers concluded that smoking increases COPD social costs.

<table>
<thead>
<tr>
<th>Primary education and &lt;</th>
<th>5</th>
<th>2</th>
<th>7</th>
<th>OR: 2.71</th>
<th>95% CI: 0.46 15.86</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; primary education</td>
<td>24</td>
<td>26</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Qualified</td>
<td>26</td>
<td>24</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-qualified</td>
<td>3</td>
<td>4</td>
<td>7</td>
<td>1.44</td>
<td>0.29 7.25</td>
</tr>
<tr>
<td>Health Insurance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No health insurance</td>
<td>9</td>
<td>2</td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>With health insurance</td>
<td>20</td>
<td>26</td>
<td>46</td>
<td>5.85</td>
<td>1.03 33.17</td>
</tr>
<tr>
<td>Social Insurance</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No social insurance</td>
<td>27</td>
<td>20</td>
<td>47</td>
<td></td>
<td></td>
</tr>
<tr>
<td>With social insurance</td>
<td>2</td>
<td>8</td>
<td>10</td>
<td>5.40</td>
<td>0.95 30.79</td>
</tr>
<tr>
<td>Smoking status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-smokers</td>
<td>10</td>
<td>9</td>
<td>19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smokers</td>
<td>19</td>
<td>19</td>
<td>38</td>
<td>1.11</td>
<td>0.37 3.38</td>
</tr>
</tbody>
</table>

Table 11: Social cost of hospitalization for COPD and individual factors

<table>
<thead>
<tr>
<th>Sex</th>
<th>Low-cost group</th>
<th>High-cost group</th>
<th>Total</th>
<th>OR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>37</td>
<td>22</td>
<td>59</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>40</td>
<td>54</td>
<td>94</td>
<td>2.27</td>
<td>1.15 4.50</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;63</td>
<td>37</td>
<td>25</td>
<td>62</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;63</td>
<td>40</td>
<td>51</td>
<td>91</td>
<td>1.89</td>
<td>0.97 3.67</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary education and &lt;</td>
<td>25</td>
<td>35</td>
<td>60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; primary education</td>
<td>52</td>
<td>41</td>
<td>93</td>
<td>0.56</td>
<td>0.29 1.10</td>
</tr>
</tbody>
</table>
Smoking increased the odds of being in the high cost group for all smoking-related diseases under the study, but only results for COPD were statistically significant. The low significance was caused by the small sample size. When all diagnostic groups were evaluated together, the odds ratio of being in a high cost group adjusted for different diagnoses was 1.81. This result was statistically significant. The researchers then employed logistic regression and estimated the probability of being in the high cost group for each diagnostic group separately while controlling for smoking status, gender, age, education, health insurance membership, and occupation. Smoking increased the odds of being in the high-cost group for COPD and lung cancer, but the result was statistically significant only for COPD. The statistically significant odds ratio for smoking in COPD may indicate that the health consequences of smoking are initially detected in COPD, and only later will they be more evident among heart disease and lung cancer inpatients. This finding would be consistent with the hypothesis that Vietnam is in the early stages of its smoking epidemic.

**Smoking attributable fraction of social costs related to three major smoking-related diseases**

The total number of hospital admissions, average costs per hospital admission, average health care costs, and smoking prevalence in Vietnam were obtained from official statistics of the Ministry of Health. The proportion of inpatients with lung cancer and COPD were available from research studies. The proportion of ischemic inpatients was based on statistics from the Bach Mai National Cardiovascular Institute. From these, the estimated number of admissions for the selected smoking-related diseases and key statistics for calculating the social cost of smoking on the macro level were determined.

Table 12 summarizes the main results of this analysis. SAFs for COPD, lung cancer and ischemic disease were 79.1%, 54.3% and 32.9%, respectively. Results for ischemic SAF were very similar to the recent WHO estimates for Western Pacific and

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Non-smokers</th>
<th>Smokers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qualified</td>
<td>47</td>
<td>30</td>
</tr>
<tr>
<td>Non-qualified</td>
<td>28</td>
<td>48</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Health Insurance</th>
<th>Non-smokers</th>
<th>Smokers</th>
</tr>
</thead>
<tbody>
<tr>
<td>No health insurance</td>
<td>26</td>
<td>51</td>
</tr>
<tr>
<td>With health insurance</td>
<td>29</td>
<td>47</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Social Insurance</th>
<th>Non-smokers</th>
<th>Smokers</th>
</tr>
</thead>
<tbody>
<tr>
<td>No social insurance</td>
<td>72</td>
<td>51</td>
</tr>
<tr>
<td>With social insurance</td>
<td>73</td>
<td>47</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Smoking status</th>
<th>Non-smokers</th>
<th>Smokers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smokers</td>
<td>75</td>
<td>78</td>
</tr>
</tbody>
</table>

---

Southeast Asia Tobacco Control Alliance
Southeast Asia regions. Overall, 72.5% of costs of related to the treatment of the three diagnoses can be attributed to smoking. This amounts to about 1,161,829 million VND (77.5 million USD using $1 = 15,000 VND exchange rate) annually, or about 0.22% of 2005 Vietnam GDP and 4.3% of total health care expenditure in Vietnam. Of the three diagnoses, smoking-related COPD is the most expensive, costing society 1,033,541 mil VND, followed by smoking-related lung cancer (78,143 mil VND) and by smoking related ischemic disease (50,145 mil VND). These costs fall most heavily on the government, which bears 51% of smoking-related costs. Families bear about 34% of these costs and insurance sector bears 15% of these costs, which are in fact a mixture of public and private costs since the insurance premium is subsidized by the government.

Table 12: Smoking attributable social costs (in VND) of inpatient care for selected diseases in Vietnam

<table>
<thead>
<tr>
<th># patients</th>
<th>Average hospitalization cost (x 1000)</th>
<th>Total admissions cost (x 1 mil)</th>
<th>Average health costs (x 1000)</th>
<th>% smokers</th>
<th>% smokers diagnosed due to smoking</th>
<th>Health care costs exceeding average health care cost</th>
<th>SAF</th>
<th>Total cost attributable to smoking (x 1mil)</th>
</tr>
</thead>
<tbody>
<tr>
<td>COPD</td>
<td>348,992</td>
<td>3,744</td>
<td>1,306,626</td>
<td>493</td>
<td>92.0%</td>
<td>91.3%</td>
<td>86.8%</td>
<td>79.1%</td>
</tr>
<tr>
<td>Ischemic</td>
<td>4,854</td>
<td>31,400</td>
<td>152,416</td>
<td>493</td>
<td>66.7%</td>
<td>50.1%</td>
<td>98.4%</td>
<td>32.9%</td>
</tr>
<tr>
<td>Lung cancer</td>
<td>11,645</td>
<td>12,358</td>
<td>143,909</td>
<td>493</td>
<td>78.3%</td>
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<td>96.0%</td>
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</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>7,075,360</strong></td>
<td><strong>1,602,951</strong></td>
<td><strong>1,161,829</strong></td>
<td><strong>72.5%</strong></td>
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Thai Government Tobacco-Related Revenue

The tobacco industry contributes to government revenue in two ways. First, the Thailand Tobacco Monopoly (TTM), the only cigarette producer, generally contributes around 3.5%-4.5% of government revenue. In 2003, this was slightly more than baht 38 billion. Nearly 70% of this was from the excise tax on cigarettes and other tobacco products, with another 16% in the form of returns to government ownership in TTM and 8.6% from the value added tax. The second part is tax revenue from imported tobacco and tobacco products, which has increased considerably over the past decade. Revenue from tariffs and the value added tax was not reported; based on the prevailing tax rates in 2003, tariff revenue should have been about baht 524 + 550 million, and revenue from the value added tax should be around baht 3,186 + 582 million. Thus, the Thai government’s dependence on tobacco revenue is fairly high. In 2003, the total government revenue from cigarettes was around baht 43 billion -- more than 5% of total government revenue.

From an economic perspective, tobacco taxes represent only a redistribution of existing resources. Therefore, taxes collected on tobacco could be collected on

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alternative products without reducing people’s spending power. Although the economic implications of alternative taxation sources are an interesting and important issue, they were beyond the scope of this study, which sough to show that government revenue from taxing tobacco consumption is not sufficient to cover the costs of all smoking-related disease (SRD). The information above was used to plot a graph to determine and compare potential government financial liability in the health sector and to demonstrate whether the government would have enough resources to cope with expenditures for smoking-related diseases.

It is important to note that the expenditures captured in this graph are attributable only to lung cancer, coronary heart disease, and chronic obstructive pulmonary disease, as these represent most the of illnesses from tobacco consumption. Studies in the U.S.\(^{25}\) indicated that expenditure on these 3 diseases accounted for most of health care expenditures attributable to smoking. Similar studies in Australia\(^{26}\) and Canada\(^{27}\) showed the same pattern as in the U.S. In fact, there are many more diseases that are caused by tobacco consumption and that should be included in the health care cost of smoking-related diseases. Also, the estimates in this report are conservative as they do not take into account future economic growth and advances in the medical field, which will lead to higher medical costs. Therefore, the cost calculated in this study should be considered as an underestimate. Even so, the graph clearly shows that the health care cost of these three diseases will become higher than the government revenue from tobacco by 2006. This study also considered partial social cost, which eventually will indirectly add more to the health care cost and societal expenses. The results from this study are also intended to encourage the government to try to earn more from tobacco-related revenue (taxation) and, at the same time, to pinpoint the financial problems that might occur from tobacco consumption. The information should help the government consider how to effectively enforce strong policy and planning for the future wellbeing of the Thai population.

**Discussion and conclusion**

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The results of the Vietnamese study confirm that smoking leads to large economic losses for the entire society and imposes a substantial burden on both government and households’ budgets. The survey data among inpatients diagnosed with three smoking related diseases (lung cancer, COPD and ischemic disease) in three selected hospitals in Vietnam revealed important facts for evaluating the costs of smoking in Vietnam. The majority of patients in this group were in their late 50s, primarily male (72%) and current or former smokers (66%). The costs associated with hospitalization of these patients were large. On average, a patient stayed in a hospital for 26 days; the average costs for one in-patient episode were 31,399,800 VND, 12,358,200 VND, and 3,744,400 VND for ischemic disease, lung cancer and COPD, respectively.

Smoking not only increases the likelihood of getting a smoking-related disease, it also increases the odds of incurring higher social costs when being hospitalized. The odds ratio of being in a high cost group adjusted for different diagnostic groups was 1.81, which meant that a smoker was 81% more likely then a non-smoker to incur high social costs of hospitalization. The cost of treating COPD patients was the most sensitive to smoking status. The researchers hypothesized that the health consequences of smoking were initially detected in COPD, and only later would they become more evident among ischemic disease and lung cancer inpatients. This finding would be consistent with the hypothesis that Vietnam is in the early stages of its smoking epidemic.

The social costs of smoking were shared by three different entities: government, insurance companies and households. However, the costs of insurance companies were either private (households) or public (government) depending on who covered the insurance premium. Each of the diagnostic groups differed by the percentage of costs covered by the three entities: cost of COPD were mostly covered by the government, the majority of lung cancer costs were paid for by patients and their families, and the insurance sector was most heavily involved in covering the costs of ischemic diseases.

The macro-level analysis revealed that about 72.5% of social costs related to the treatment of the three diagnoses in Vietnam could be attributed to smoking. The fact that the estimate of SAF for ischemic disease was very similar to the recent WHO estimate for the Western Pacific and Southeast Asia regions increases the credibility of those results. Vietnam spends about 1,161,829 million VND annually on hospital treatment of three smoking-related diseases. This represented about 4.3% of total health care expenditure and about 0.22% of GDP in 2005. This estimate of economic burden was lower compared to some higher-income countries.

Smoking-related COPD creates the greatest financial burden, costing society about 1,033,541 mil VND per year, followed by smoking-related lung cancer (78,143 mil VND) and smoking related ischemic disease (50,145 mil VND). These costs fall most heavily on the government, which bears 51% of smoking related costs. Families and the insurance sector bear about 34% and 15% of these costs, respectively.
The results of this study underestimate the total costs of smoking in Vietnam due to several study limitations. First, due to the scope of the analysis, outpatient costs were excluded, which may comprise 35-50% of total costs. Second, the study covers only three smoking related diseases: COPD, lung cancer, and ischemic heart diseases. There are many more smoking-related diseases that were not included, which certainly results in underestimating the total costs of smoking. Third, only one admission episode due to the study duration of six months was included. Subsequence episodes during the same year for the same patients were not included. However, for macro-level estimates of social costs, all admissions with the selected diagnosis during one year were included. Fourth, due to the limited technical capacity for treatment of cancer and ischemic disease at district and provincial levels, the majority of patients with these two diagnoses were usually admitted to the National Cancer Institute and the National Cardiovascular Hospital. Since the cost of treatment can be affected both by the diagnosis and the referral level, the researchers compared mean costs between smoker and non-smoker patients for the same diagnosis group to remove any impact of different costs at different referral levels. Other limitations relate to the quality of cost data and might also result in underestimating the total costs of smoking. The researchers used data from hospital budgets, which almost certainly underestimate the true cost of health care in Vietnam. This underestimation was exacerbated by the fact that they could not estimate costs of the (small) private health care sector.

Informal payment to hospital staff by patients is a common practice in Vietnam, but only the formal fee is included in official statistics. The researchers attempted to overcome this limitation by collecting data on informal payments among inpatients. In addition, patients’ opportunity costs might be underestimated to the extent that official income underestimates the true opportunity cost of time spent in the hospital. Finally, there can be some bias in the sample since the participation in the study was voluntary. However, since all patients selected for this study agreed to participate in our study, this bias may be minimal.

Despite the alarming results with respect to the economic burden of smoking in Vietnam, the researchers conclude that these costs are actually seriously underestimated. More research is needed to obtain a better estimate of the true economic burden of smoking on society. There is a pressing need for rigorous longitudinal epidemiological research that would determine the smokers’ relative risk to be diagnosed with various smoking-related diseases. Future studies also need to focus on the outpatient costs of smoking.

The Vietnamese study demonstrates that tobacco smoking has an enormous economic impact on Vietnamese society, imposing costs of at least 1,162 billion VND annually. The data indicate that Vietnam might be in the early stages of a tobacco epidemic, meaning that these costs will rise rapidly with economic growth and increased smoking rates among women. However, this threat can be avoided by
adopting strong tobacco control measures that will not only reduce suffering caused 
by smoking-related diseases, but also lead to better economic performance. The new 
tobacco control strategy developed by the Vietnam Committee for Smoking and 
Health (VINACOSH) could be a starting point for such a coordinated and 
comprehensive tobacco control effort. The strategy developed by VINACOSH is 
based on both local and international research evidence and includes measures such 
as higher tobacco taxes, public health information campaigns, pictorial warnings, 
enforcement of the advertising ban and introduction of smoke-free public places and 
workplaces. The adoption and enforcement of these measures could do much to 
reduce the economic burden that smoking currently imposes and will impose on 
Vietnamese society.

Similarly, the Thai study demonstrated that government revenue from the tobacco 
industry is not enough to finance the cost of SRD. Therefore, the government needs 
to increase the tobacco tax and, if it is still not enough, it may need to increase 
revenue by taxing other products to supplement tobacco revenue to pay for these 
differences. This means that instead of spending the new revenue realized on some 
other useful activities, it will have to be dedicated to paying for SRD. If one assumes 
total tobacco cessation, government revenue from tobacco would be zero, but costs 
of SRD would be 0 also, therefore saving government resources. Such an 
assumption, however, is unrealistic given that although use of tobacco products 
decreased between 1992 and 2002, this decline has stopped in recent years. Therefore, 
government tobacco revenues will continue to increase, particularly when tobacco 
taxes are increased, but SRD costs will also continue to increase.

The policies that have been proven to reduce tobacco consumption are high taxes, 
complete bans on advertising and other promotion, health information and counter 
advertising, smoking restrictions and (when effectively enforced) bans on sales to 
youth. Thailand has some of the world’s strongest anti-tobacco legislation, but lacks 
enforcement. For example, although cigarette sales to children younger than 18 years 
have been prohibited in Thailand for almost ten years, this was shown in one study 
only to be known by a small proportion of shopkeepers.28 The Thai government 
needs to strengthen its enforcement mechanisms, educate police and citizens, enact 
stiffer penalties, and publicize enforcement results.

The primary recommendations of the Thai study are:

- Educate, encourage, and stimulate government, police, and the Thai people to be 
  aware of the problems caused by tobacco consumption and the need to enforce 
  existing laws and policies. At the same time, the Thai people should be 
  empowered with accurate and up-to-date information regarding smoking. Strong 
  enforcement should be accompanied by strong punishment.

- Policymakers could consider a national health campaign to coincide with a sharp

rise in the rates of tax on cigarettes and other tobacco products. Public information and high prices can do much to deter new smokers and encourage established smokers to cut back or quit.

- The government should require insurance providers to increase the premiums of users of tobacco products. To make this effective, the government should make health insurance for all users of tobacco products mandatory and should subsidize some of the cost of this for the poor through allocations from current tobacco income.

- Finally, the Thai government should establish a permanent mechanism to track tobacco-related health care costs and income. The government (MOPH) needs to coordinate this effort with the finance ministry and health care providers nationwide in order to plan realistic future policies and ensure adequate health resources for the entire system.

Bibliography


Health Research: Essential Link to Equity in Development. Commission on Health Research For Development.


Janjareon, W.S., Economic Loss in cancer patients. Research report submitted to the Department of Medical Services, Bangkok (in Thai).


Naddao N., Treatment costs of alcoholism in Thanyarak Hospital. Research report
submitted to the Faculty of Economics, Chulalongkorn University, Bangkok, 1999.


Pattamasiriwat, D., A study on pattern of consumption expenditure from national income account. Chulalongkorn journal of economics, 1(2):244 64, 1989 [in Thai]

Pham Ngoc Thach National Hospital for Tuberculosis and Pulmonary Diseases, 2005.


Theera L., *Cigarette smoking-lung cancer: life and economic loss*. Research report submitted to the Faculty of Medicine, Siriraj Hospital, Mahidol University, Bangkok, 1994 [in Thai].


“Tobacco Taxation: Turning the Economic Tables in Favour of Health.” Available from


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Section 2: Epidemiology of Tobacco

In many parts of the world, smoking among young people is a serious problem and a major public health concern. In the short term, smoking damages the respiratory system of the young, causes nicotine addiction, and increases the risk of use of other drugs. Most young people who smoke regularly continue to smoke throughout adulthood, and this reinforces the long-term health consequences of youth smoking.

The tobacco industry continues to have great success in enticing the young to smoke by ensuring that tobacco remains a seemingly highly affordable commodity especially to the young, and by promoting a positive image of smoking through their advertising, marketing and promotion.

One of the primary goals of tobacco control is to prevent further increases in youth smoking uptake as well as to encourage quitting among those already addicted. Development of effective strategies and action to reduce tobacco consumption among young people in countries in the Southeast Asia region requires information on tobacco use prevalence and consumption patterns. Epidemiological studies on smoking provide answers to several key questions that enable a public health response to this problem. These questions include:

- What is the prevalence of smoking behaviors?
- What are the nature and pattern of smoking behaviors?
- What are the characteristics of smokers?
- How do smoking trends look over time and what impact do the characteristics of smokers and smoking behaviors at any point in time have on these trends?
- What socio-cultural, psychological, physiological and genetic factors influence the initiation of tobacco use, progression to nicotine addiction and smoking cessation?
- What protective factors are associated with non-smoking?
- What are the social, behavioral, biomedical, psychological and economic impacts of smoking on individuals, families, communities and society?
- How does tobacco industry’s advertising, marketing and promotion of tobacco products influence smoking uptake among young people?

Findings from these studies are important as a background for national and local strategies for prevention, treatment and control of tobacco use among specific target populations. Epidemiological studies provide data for initial assessment as well as continuous monitoring of tobacco consumption and the harm of tobacco use and the impact of tobacco control efforts.

This section addresses these issues by summarizing recent research in Vietnam, Malaysia, Thailand, and Cambodia. The main aim of these studies was to determine the prevalence of smoking among specific groups of people, and to identify important smoking patterns as well as social, demographic and psychological factors
associated with their smoking. The first chapter, *Epidemiology of Tobacco: Socio-demographic and Psychological Trends of Youth Smoking*, presents three research studies conducted in Thailand, Vietnam, and Malaysia. The second chapter, *Knowledge, Attitudes, and Practice: Tobacco Use among Health Professionals and Monks*, highlights key findings from two research studies addressing smoking prevalence among influential figures in society: medical students and health professionals in Vietnam and Buddhist monks in Thailand. The third chapter, *Analysis of Smoking Behavior in Cambodia*, seeks to provide policymakers and planners with current and reliable data on smoking and tobacco chewing prevalence and other economic, social and health information that could be used for making comparisons with other countries in the region, as well as for formulating strategies to address high smoking rates in Cambodia. This section includes the following papers:

Chapter 2-1: Socio-demographic and Psychological Trends of Youth Smoking

Introduction

In 1999, the World Bank estimated that between 14,000 and 15,000 children and young people initiated smoking daily in high-income countries. For middle- and low-income countries, the estimated numbers were many times higher, ranging from 68,000 to 84,000. This meant that every day, approximately 80,000 to 100,000 young people around the world became addicted to tobacco. Individuals who avoid smoking uptake in adolescence or young adulthood will most likely never smoke. One in four students tries their first cigarette by the age of 10. Eight out of ten begin in their teens. In developing countries, most smokers start by the early twenties, but the current trend is toward younger starting ages.

The above statistics are concrete evidence of tobacco industry’s success in recruiting new smokers among increasingly younger populations. Since studies demonstrate that most smokers begin before the age of 18, it is only logical that the industry will continue to market and promote cigarettes to young people.

Globally, approximately 14% of youth between the ages of 13-15 years old currently smoke. In Southeast Asia, smoking rates among adolescents and young people differ between countries in the region. In 1999, 24% of the Thai population 11 years and older smoked. The prevalence of smokers among those aged 15 to 24 increased approximately 3% between 1999 and 2004 to 13.5%. In Vietnam, more than 70% of men and 5% of women smoke, and smoking prevalence is 30% among high school students. The adult smoking rate (25%) remains high in Malaysia. More than half (54%) of adult males are current smokers. Although the rate among females is low (4%), there is clear evidence that this is increasing, particularly among young teenagers. About 25% of youths aged 13 and 15 years old smoke. Male smoking rates in Cambodia declined from 53.2% in 2001 to 43.3% in 2004. Rates for females decreased from 7.6% to 4.0% over the same period. About 9% of adolescents 13-15

3 Ibid.
years of age smoke (11% boys and 3.4% girls)\textsuperscript{9}. Smoking rates among the same age group is 21\% in Indonesia\textsuperscript{10} and 11\% in Singapore\textsuperscript{11}.

Epidemiological studies on youth smoking are needed to determine smoking prevalence and factors that increase the risk of smoking uptake. These findings aid in developing effective measures to prevent smoking initiation, to encourage quitting, and to eventually reduce overall smoking rates. One of the primary goals of tobacco control is to prevent further increases in youth smoking uptake as well as to encourage quitting among those addicted.

Recent studies

The Southeast Asia Tobacco Control Alliance funded several studies on smoking among in-school adolescents in Thailand\textsuperscript{12}, Vietnam\textsuperscript{13}, and Malaysia\textsuperscript{14} The aims of these studies were to determine the prevalence of smoking among each of these specific groups, and to identify important smoking patterns as well as social, demographic and psychological factors associated with their smoking.

Except for the Malaysian study, which was a qualitative study, the research studies were cross-sectional surveys of randomly selected groups of study subjects within each country. The Thai study covered 13,511 in-school adolescents aged 12 to 19 years old, randomly selected from both rural and urban areas in the northern, northeastern, southern, central, and Bangkok regions.\textsuperscript{15} The Vietnamese study included 1,200 male students from two high schools and one technical school in Hanoi city and Phu Ly town. In addition, 10 focus group discussions were conducted to elicit a more detailed understanding of smoking behaviors of young males.\textsuperscript{16} In Malaysia, a qualitative study using focus group discussions was used to examine the impact of advertising among schooling adolescents from the states of Penang and Kelantan.\textsuperscript{17}

This paper highlights key findings from these research studies. It also discusses the implications of the findings for smoking prevention among young people and for tobacco control in the region.

\textsuperscript{13} Vu Pham Nguyen Thanh et al., Perceptions of tobacco and smoking among male youth in Vietnam.
\textsuperscript{14} Foong, K, and Khor, YL. Tobacco Advertising and Smoking amongst Adolescents: A Qualitative Study in Malaysia. 2004.
\textsuperscript{15} Vichit-Vadakan N., Aekplakorn W., Tanyanont, W., and Poomkachar, H., Op Cit.
\textsuperscript{16} Vu Pham Nguyen Thanh et al.
\textsuperscript{17} Kin, F. and Khor, Y.L.. Op Cit.
Smoking among adolescents

Smoking prevalence

Rising smoking rates among young people were observed in Thailand, Vietnam, and Malaysia. The Thai study of secondary and vocational school children aged 12 and 19 years found a smoking prevalence of 6.8% in 2003. Smoking rates among 15 to 19 year olds doubled between 1999 (6.35%) and 2003 (15.6%). Substantial increases were found among both sexes. Smoking rates were significantly higher among males, older age groups, those residing in rural areas, and in the Northern, Northeastern, Southern and Central regions (between 11 to 18%).

The study of 1,200 Vietnamese male students aged 16 to 23 years old in Hanoi and Phu Ly found that 43.2% of young people had experimented with smoking. One in three males smoked at least one cigarette daily.

Smoking patterns

Most young people initiated smoking while still in their teens. Thai in-school youth began smoking between the ages of 14 and 15, while male Vietnamese students reported a slightly older age of initiation, at 16 to 18 years of age. In Malaysia, students who participated in focus group discussions reported having started smoking at the young age of 13 years.

Two in three Thai students had smoked for one to three years. Medical students in Vietnam reported an average of 8.5 years of smoking, while most health professionals had smoked for more than 10 years.

Most Thai and Vietnamese students smoked less than 10 cigarettes daily and preferred local brands. On average, the smokers spent about US$0.50 per day. Smoking among friends and in public places was common. Some respondents even reported smoking in school despite school smoking bans.

Reasons for smoking

The reasons given for smoking among young people in Thailand, Vietnam and Malaysia were very similar. Peer influence and curiosity were the most frequently reported reasons for smoking uptake. To quote a Malaysian youth, “I started to smoke because my friends smoke, I want to follow my friends”. Smoking initiation often occurred while socializing with friends. Some Malaysian students described their experiences: “My friends invited me to smoke”, and “My friends offered me cigarettes”.

Imitating adults such as parents, older siblings, and teachers were often cited. Several Malaysian students who participated in focus group discussions mentioned: “When I observe my father smoking I too feel like trying. So I bought myself cigarettes and started to smoke”. “My older brother taught me how to smoke, I watch my brother smoke and I am attracted to it”.

Smoking as a means of relaxation was commonly perceived by the students. Believing that smoking enhanced one’s image and that it controlled body weight
were additional reasons cited by young people who smoked. For example, male youth in Vietnam mentioned that they smoked when they were bored, during social gatherings, and when they were stressed. Female students, on the other hand, were more likely to smoke when they experienced family problems and were influenced by their male friends.

*Access to cigarettes*

Most adolescent smokers in each of the three countries purchased their own cigarettes and were never refused by sellers. Cigarettes were sold as loose sticks in most places.

*Use of narcotic substances*

One in three adolescent smokers in Thailand had tried cannabis.

*Knowledge on health effects of smoking*

Generally, knowledge about the harmful effects of smoking was high. More than 80% of the Thai, Vietnamese, and Malaysian youth involved in these studies were aware that smoking was harmful to the health of both smokers and non-smokers, and that smoking was addictive. While knowledge that smoking causes lung cancer, bronchitis, and other respiratory ailments was high, the studies revealed that among the younger students there was less awareness that smoking causes heart disease and stroke.

*Perceptions of and attitudes about smoking*

Thai adolescent smokers perceived that smoking reduces stress and tension. They tended to have a positive image and favorable attitude toward smoking. They also perceived that smoking enhanced maturity and masculinity, and made teens look more attractive and cool.

Malaysian adolescents who smoked also held similar attitudes toward smoking. An adolescent smoker mentioned that he “feels mature, free and like an adult” when he smoked. Another female smoker said that “smoking makes me feel calm, and avoid thinking about problems”.

Some Vietnamese adolescents said that “smoking made them have more friends” and helped them to “increase communication with other people”. Most of these male students, however, had a negative image of female smokers.

*Exposure to cigarette advertising*

Exposure to both direct and indirect tobacco advertising was high among young people in Thailand, Vietnam and Malaysia. In Thailand, 70% of adolescents reported having seen cigarette advertising in stores, while 25% had noticed such advertising in newspapers and/or other printed media. Almost all Vietnamese students had seen characters smoking in movies.

Exposure to cigarette advertising was also high among Malaysian youth. A majority
of those participating in the study could recall with ease advertisements and images associated with specific cigarette brands. They could associate the Lucky Strike brand with motorbike racing, Winston with eagles, Salem with snowy mountains, and so on. When asked to describe images projected by various tobacco advertisements, most Malaysian youth who participated in the focus group discussions could recall slogans of the most commonly advertised premium brands, such as “Dunhill quality, excellence” and “Salem cool planet”.

Direct cigarette promotion was also widespread in each of the three countries. Approximately 3% of Thai smoking adolescents had received free cigarettes from the tobacco industry, while 11% owned goods emblazoned with cigarette brand names (compared to 4% of non-smokers). Seventeen percent of Vietnamese male adolescents possessed and used products that contained a cigarette brand logo. Some Malaysian youths also owned such items.

*Exposure to anti-smoking messages*

Three in four Thai adolescent study participants reported having seen warning labels on cigarettes. Posters carrying anti-smoking messages were seen by 58% of non-smoking and 55% of smoking adolescents. Most had also participated in anti-smoking programmes. In Vietnam, 80% of the male students surveyed had seen anti-smoking messages in the last month. Television was the most popular media channel, followed by print media and radio. Malaysian youth were exposed to anti-smoking messages through posters put up in schools, health clinics, and other public places, as well as through health talks and exhibitions on the adverse health effects of smoking.

*Predictors of smoking*

Various demographic, social and psychological factors that were found to be associated with adolescent smoking were identified in these studies. The study among adolescents in Thailand found several significant predictors of youth smoking. Older adolescents above the age of 19 years old were more likely to smoke compared to younger adolescents; males were approximately 17 times more likely than females to smoke. Having friends who smoked was a very important predictor of smoking; adolescents with smoking friends were five times more likely to smoke. Thai adolescents with family problems, poor academic performance, poor relationship with parents, who were school violators, and/or who had smoking adults in their environment were more likely to smoke than youth who did not face any of these issues.

*Discussion*

Smoking was found to be more related to demographic characteristics than to any other causal factors. Prevalence of smoking was significantly higher among males and older students. Youth smoking was also higher in rural areas.

Knowledge, attitude and practice are conceptually interrelated in human behaviour.
However, findings from the above studies showed that knowledge about health effects bore little relationship to smoking by young people. Health knowledge did not appear to influence behavior. It was evident from the study results that having the right knowledge did not translate into the right attitude and practice. In both Thailand and Vietnam, although smokers were aware of the harmful effects of smoking, they did not necessarily have a negative attitude towards smoking. On the contrary, most young smokers possessed a positive attitude toward smoking and believed that peers have influenced their smoking behavior. Thai adolescent smokers were found to have lower self-esteem and a more positive image of smoking such as being mature, masculine, attractive and cool.

Significant predictors of smoking among young people identified in the Thai study included age, gender, family problems, poor performance in school, and smoking among friends, teachers, parents and family members.

The results of these studies are consistent with those of earlier studies on youth smoking. A study of adolescents in Chiang Mai, Thailand also found that family conflict, poor school performance, and having a smoking friend were positively associated with smoking. Other studies in Malaysia have also found socio-demographic factors (age, rural status), parental smoking, and academic performance to be associated with smoking.

Studies in non-Asian countries have also revealed these same factors to be important in youth smoking initiation. Morello and others have reported that smoking behavior among high school students in Argentina was associated with having a best friend who smoked, having positive attitudes and beliefs towards smoking, and having a positive intention to smoke within the next year. Factors such as availability of cigarettes, the perception that tobacco use is the norm, and lack of parental support were associated factors in other Western countries.

In addition to the above factors in the immediate environment and other personal and psychological features, factors in the broader social and physical environment such as accessibility to tobacco products as well as advertising and promotion of such products were also likely to have contributed to the pervasiveness of youth smoking. The studies of adolescent smoking in Thailand, Vietnam and Malaysia...

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demonstrated that adolescents were highly exposed to cigarette advertising, for example through the movies and points of purchase. Malaysian adolescents indicated a high recall of tobacco ads and brand slogans. Indirect advertising through brand stretching was prevalent in all three countries. Some adolescents reported ownership of items that have a cigarette brand logo. Other forms of product promotion and marketing such as offering of free samples were common. A very small number of study participants had received free samples from the tobacco industry.

The tobacco industry has repeatedly denied that they target youth through intensive marketing and advertising. However, evidence revealed that the industry has very successfully created a positive image of tobacco use among adolescents. Messages conveyed by advertising images appealed to this young population. Adolescents in the Malaysian study as well as those surveyed in Thailand believed that smokers are more mature, stylish, attractive to the opposite sex, and macho. This suggests that cigarette advertising has most likely increased the perceived social value of smoking among young people and was likely to have influenced the rate of adolescent smoking.

Tobacco advertising has a powerful effect in influencing the perceptions, attitudes, and smoking behavior of youth. Studies have shown that tobacco promotional activities are causally related to the onset of adolescent smoking and that exposure to cigarette advertising is predictive of smoking among adolescents.

Easy access and widespread availability of cigarettes significantly contributed to the high rate of smoking among adolescents. Despite the presence of legislation that regulates access to cigarettes among minors in both Thailand and Malaysia, evidence from studies in both countries revealed the inadequate enforcement of such regulations. A majority of adolescents from Thailand and Malaysia could easily purchase cigarettes.

Implications for tobacco control

The high and increasing prevalence of adolescent smoking clearly indicates the need to intensify control efforts that target youth specifically. The above research findings have wide implications for intervention and policy development. Knowledge about health effects has little relationship to smoking by young people. While knowledge seems to be generally accepted as important, it does not appear to be sufficient to influence behavior. Therefore, knowledge of health effects alone does not appear to

offer protection against smoking. As such, Flay has suggested that interventions need to be multifaceted rather than narrowly focused on only one or two factors.\(^\text{26}\)

Adults are role models that children emulate; thus, cessation programs targeting adult smokers would indirectly influence the likelihood of smoking among children and adolescents through reduction in negative role models.

Findings show that broader environmental factors such as cigarette advertising and easy access to tobacco products may have also contributed to the high rates of youth smoking. Thus comprehensive advertising bans including point of purchase advertising and rigorous enforcement of illegal tobacco sales to minors are necessary to change the overall environment that induces smoking uptake among adolescents. Expansion of smoke-free areas through legislation is another strategy to adopt. All the above measures that denormalize smoking are important to enhance negative perceptions about smoking, that is, that smoking is not widespread and that it is not socially acceptable to smoke.

Tobacco control programs should address school as well as family environments associated with adolescent smoking. Preventive education programs should aim to address important familial and peer risk factors. School- and community-based interventions should aim to reduce the influence of such factors.

Lantz and others have conducted a review and assessment of smoking prevention and control strategies aimed at reducing youth cigarette smoking in the United States.\(^\text{27}\) The authors have recommended several strategies that should be given due attention. They are similar to those recommended by the US Centers for Disease Control concerning “best practices” for comprehensive tobacco control programs, including:

- Design media campaigns that are multi-year and use a strong social marketing approach;
- Develop teen cessation programs that target adolescents before addiction to nicotine begins;
- Implement comprehensive advertising bans;
- Expand and enforce smoke-free areas;
- Rigorously enforce bans on tobacco sales to minors;
- Increase cigarette prices;
- Implement school- and community-based programs that adopt a social influence model, that also targets familial environments; and
- Conduct program evaluation of preventive and control measures.

The above control efforts reinforce and complement each other in a synergistic


fashion. Evidence available on the effectiveness of current youth smoking prevention programs suggests that they are often ineffective. Policy analysts have suggested that the focus of public policy should be to reduce teenage smoking initiation rates. Price increase has a significant impact on reducing youth smoking, particularly in preventing moving from lower to higher stages of smoking uptake.

Ross and others found youth access laws to have a significant and negative effect on moving to higher stages of smoking uptake continuum. Likewise, Tauras and Chaloupka’s study to evaluate the impact of state-level tobacco control spending and various tobacco control policies on adolescents’ attitudes and beliefs about cigarette smoking found that increased state spending on tobacco control, stronger clean indoor air laws, youth access laws and higher cigarette prices are effective in changing adolescents’ attitudes and beliefs toward smoking. By changing youth’s attitudes and beliefs toward tobacco, stronger tobacco control policies are likely to reduce cigarette consumption by youth, which in turn is likely to translate into a decrease in the future burden of tobacco nationally and globally.

Bibliography


Evans, N., Farkas, A., Gilpin, E. et al., Influence of tobacco marketing and exposure to smokers on adolescent susceptibility to smoking. Journal of the National Cancer Institute 1995; 87:1583-45.

Flay, B.R., Youth tobacco use; risks, patterns, and control. In: Orleans CT, Slade J., eds.


29 World Bank, Op Cit.

30 Ross, H. and Chaloupka, F., Youth smoking uptake progress: price and public policy effects. 2003 http://repositories.cdclib.org/tc/reports/y03

31 Ibid.

32 Tauras, J.A. and Chaloupka, F, Impact of tobacco control spending and tobacco control policies on adolescents’ attitudes and beliefs about cigarette smoking. Evidence-based Preventive Medicine 2004; 1(2) 111-120.


Kin, F. and Khor, Y.L., Tobacco Advertising and Smoking amongst Adolescents: A Qualitative Study in Malaysia. 2003


Ross, H. and Chaloupka, F., Youth smoking uptake progress: price and public policy effects. 2003 http://repositories.cdclib.org/tc/reports/y03


Tauras, J.A. and Chaloupka, F., Impact of tobacco control spending and tobaccocontrol policies on adolescents’ attitudes and beliefs about cigarette smoking. Evidence-based
Preventive Medicine 2004; 1(2) 111-120.


Chapter 2-2: Knowledge, Attitudes, and Practice: Tobacco Use among Health Professionals and Monks

Introduction

This chapter highlights key findings from two research studies addressing smoking prevalence among influential figures in society: medical students and health professionals in Vietnam\textsuperscript{1} and Buddhist monks in Thailand\textsuperscript{2}. The aim of these studies was to determine the prevalence of smoking among these specific groups of people, and to identify smoking patterns and behaviors, and smoking knowledge, attitudes and perceptions. The chapter also discusses the implications of the research findings for smoking prevention among these particular demographic groups and tobacco control in the region.

Of great concern is the high prevalence of smoking among male medical students and health professionals in Vietnam, despite high levels of knowledge of the harms of smoking. While smoking rates are higher in those with less knowledge or a more positive attitude towards smoking, high knowledge and a negative attitude do not protect people from smoking. Clearly the environment has a large role to play, with smoke-free health services being essential to reduce smoking among this influential group. As the medical students and professionals surveyed themselves suggest, they have an important role to play in persuading patients not to smoke—but can only do so if they themselves do not smoke.

The study among Thai monks draws attention to the need to continue programs to address this group. While it appears that rates of smoking may have declined significantly among Thai monks, many continue to smoke despite the ban within temples (wats). It is still a common practice to offer cigarettes to monks, yet Buddhist teachings could be used to encourage monks to play an active role in health promotion, including in smoking prevention.

The studies are also a reminder of the need to address specific target groups in assessing the effectiveness of tobacco control, rather than relying solely on national prevalence figures. This is particularly important with influential groups in society, whose continuing high smoking rates may to some extent counter the positive effects of strong laws and policies for tobacco control.

Smoking among medical students and health professionals

The cross-sectional survey of 4,701 medical students and 2,151 health professionals from the North, Central, and South regions of Vietnam found high smoking rates among both medical students (25\%) and health workers (13\%). Rates among males in these two categories were significantly higher than in females, at 45\% and 36\%\textsuperscript{.} A

\textsuperscript{1} Huy, N.V., et al., Tobacco use among Vietnamese medical students and health professionals. 2003


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larger percentage of older medical students, doctors and dentists smoked compared to the younger students and nurses.

Smoking behavior

Health professionals reported that they had starting smoking at an older age (average of 22 years), compared to a much younger age among the medical students. The average duration of smoking among medical students was 8.5 years. Neither groups were heavy smokers, smoking on average less than 10 cigarettes daily. Medical students estimated that they spent an average of USD 3.60 per month on cigarettes, about 10% of their total cost of living.

Quitting behavior

Three-fourths of the medical students had tried to quit smoking at least once. Approximately two-thirds of them had intentions to quit smoking within the upcoming 12 months. Health professionals did not show much success with quitting. About 70% of them had tried (unsuccessfully) to quit for one week. Only 25% of the health care providers expressed an intention to quit smoking within the next 6 months. Only a very small percentage (6%) had successfully quit.

Knowledge of harmfulness of smoking

More than 85% of the medical students participating in the study expressed awareness that smoking was harmful to the health of smokers. Belief that secondhand smoke was harmful to other people’s health was even higher (91%). Health care providers (99%) also had a very high awareness of the hazards of both active and passive smoking. An interesting opinion expressed by health professionals concerned the role doctors and nurses could play in motivating smoking cessation among patients: four-fifths of the health care providers believed that patients’ ability to quit would increase if they were advised by their health care providers to do so. The reverse would happen if health care providers themselves were smokers.

Relationship between knowledge, attitude and smoking behavior

Medical students who did not believe in the harms of smoking were nine times more likely to smoke. Similarly those with a positive attitude towards smoking were four times more likely to smoke. Knowledge about the health hazards of smoking, on the contrary, did not necessarily deter smoking behavior; that is, despite a high level of knowledge that tobacco is harmful, many medical students still smoked. Similarly, health professionals who were not aware of smoking hazards were seven times more likely to smoke.

Social influence and smoking

The study of medical students revealed other social factors that were associated with smoking. Father and peer smoking were important predictors. Students who were exposed to family members who smoked daily were five times more likely to smoke.
Those exposed to non-family members who smoked daily were about twice as likely to smoke.

*Exposure to anti-tobacco information*

Television was the most common source of anti-tobacco information. Billboards, posters, and leaflets were the next popular media, followed by other print media such as newspapers, magazines and books. Answers varied across geographical regions.

*Health providers’ suggestions for tobacco control*

Several recommendations for tobacco control were provided by the health providers. Most were interested in being trained in tobacco control methodologies. They recommended a comprehensive approach that would include health education, legislative policy, a law banning smoking in all health facilities, and training in anti-tobacco measures. Other policies such as tobacco tax increases and warning labels on cigarette packages were not mentioned as frequently.

*Discussion*

Smoking is more prevalent among Vietnamese medical students than among health professionals. Male smoking rates were higher than those among women. The rate of smoking among male medical students in Vietnam (45%) was higher than in other Asian countries such as China (21%) and Malaysia (18%)\(^3\). Male smoking rates (36%) among health care providers in Vietnam were relatively low compared to rates among male Chinese physicians (61%) and comparable to those in the Czech Republic (38%), and the Netherlands (37%).\(^4\,5\,6\) While smoking among males is common in Vietnam, smoking among female medical students and health care providers (2%) is a new phenomenon. The traditional barriers to female smoking, including the social non-acceptability of this behaviour, seem to have weakened.

Findings from this study reveal that knowledge of the risks of tobacco use is not a deterrent among those medical students who smoke, and does not influence beliefs and attitudes towards smoking.

*Implications for tobacco control*

Health professionals, including medical doctors, nurses, pharmacists, dentists and public health practitioners, have a crucial role to play in reducing the tobacco pandemic. The Makati Declaration for Health Professionals made on 3 December

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\(^4\) Ibid.


2004, urges health professionals to:

- Adopt and promote the WHO Code of Practice for Health Professional organizations.
- Commit to advance national tobacco control policy and cooperate nationally for tobacco control advocacy activities.
- Actively support the ASEAN governments in their efforts to speed up ratification and implementation of the WHO Framework Convention on Tobacco Control.
- Actively support effective tobacco control legislation, particularly increases in tobacco taxes, comprehensive bans on tobacco advertising and promotion, prominent graphic health warnings and strong comprehensive smoke-free policies.
- Urge governments to appropriate dedicated tobacco tax or funds from the general budget to fund tobacco control and health promotion efforts.
- Actively promote and provide cost-effective smoking cessation programs.
- Urge health institutions and educational centers to include tobacco control in their health professionals’ curricula through continued education and other training programs.
- Refrain from accepting any form of tobacco industry support or association with the tobacco industry and its associates.
- Include tobacco control in the agenda of all relevant health-related conferences.
- Actively participate in the tobacco-control activities of health professionals’ networks locally, regionally and globally.

However, the findings from this study provide further evidence that knowledge of the health risks of tobacco, even among health care professionals, is not sufficient to change attitudes and beliefs that are crucial elements for behavioral change. The rate of smoking among Vietnamese medical students and health providers, as well as among health professionals in other countries, clearly shows the addictive power of nicotine. One would expect all health care providers to be role models by adopting pro-health behavior; however, this is not the case.

In Vietnam, there is an urgent need to establish a national policy of smoke-free health facilities. This would immediately deter all health professionals from smoking within the health facilities and also encourage quitting among those who smoke.

The researchers provided several suggestions that may help reduce smoking among medical students. These suggestions include conducting evidence-based health education campaigns to raise awareness about tobacco control at medical universities. However, while this can provide further boosters to prevent smoking uptake, it is more relevant to consider greater emphasis on cessation efforts, since most medical students are established smokers when they begin their university education. Therefore, as noted in the previous chapter, tobacco control activities focused on youth, combined with policies such as high taxes and comprehensive advertising bans known to be effective at reducing youth smoking, are clearly crucial.
to ultimately reducing overall tobacco consumption.

Smoking prevalence among Buddhist monks in Thailand

A cross-sectional survey of 6,213 monks throughout Thailand was undertaken in 2003 to determine smoking prevalence among Buddhist monks, as well as their knowledge, perceptions, and practices concerning tobacco use. Ninety percent of the surveyed monks were from public wats (temples). Half were between 10 and 24 years old, while another 30% were between the ages of 25 and 44 years. Less than half of the monks were novices; most were full-fledged monks. Approximately 60% had partial or full secondary education.

Smoking prevalence and characteristics of smokers

One quarter (25%) of the monks were current smokers. Another 19% were ex-smokers. Smoking prevalence was found to be higher in the Eastern, Central, and Southern provinces and in Bangkok. Monks from these areas were older and non-novice; they tended to be heavier smokers. At the same time, however, they demonstrated greater awareness of the smoking laws, of diseases related to smoking, and of the public’s negative view of smoking among monks.

Smoking patterns

Ninety percent of current monk smokers initiated smoking prior to entering monkhood. Three-quarters of the monks who smoked had initiated smoking at the age of 17 and had become established smokers by the age of 19. Two-thirds had smoked for ten years or longer. Three-quarters of the smoking monks smoked daily; most smoked between 6 and 10 cigarettes a day. Monks from the higher prevalence areas were more dependent on tobacco, i.e., had their first cigarette within 30 minutes of waking, and were more likely to report stress as a reason for smoking.

Several reasons were reported for smoking. They included, in order of importance cited by the monks: to reduce stress, experimentation, to relieve boredom, social reasons, and to look cool. Almost all monks reported purchasing their own cigarettes, with only 17% reporting being offered cigarettes.

Knowledge related to smoking

Less than half of the monks were aware of the rules about smoking in their wat. One-third of the monks knew about the law banning smoking in religious places in Thailand. Experimenters and never-smokers were more knowledgeable about these regulations than were current and ex-smokers. Approximately 90% of the monks were aware that secondhand smoke causes diseases and that quitting smoking would reduce health risks. Less than two-thirds (60%) knew that smoking posed a major morbidity and mortality risk for monks. Current smokers had significantly lower knowledge of health risks related to smoking.

Opinions regarding smoking among monks

More than 82% of the surveyed monks felt that people should be told not to offer
cigarettes to monks. Slightly more than half (57%) felt that monks should refuse cigarettes offered to them and that non-smoking monks had a better public image and acceptance than monks who smoked.

The majority (80%) of monks surveyed indicated that they would support a campaign to educate the public against offering cigarettes to monks. An even larger percentage (91%) said that they would implement a quit-smoking program for monks. In general, monks who smoked were accepted by their peers although experimenters and never-smokers tended to express their non-acceptance of fellow monks who smoke. Smoking within the temples was common.

Quitting smoking

Three-quarters of current monk smokers said that they wanted to quit and half had attempted to quit within the previous 12-month period. Lack of will to quit and poor knowledge of cessation methods, as well as absence of advice, were some reasons reported for failure to quit. Nonetheless it is encouraging to know that a sizeable number of monks had successfully quit after just one or two quit attempts. Most had quit during monkhood and have been abstinent for less than five years. Other monks, lay persons, and health professionals had successfully influenced them to quit.

Factors associated with smoking

Smoking was found to be associated with older age, non-novice status, longer period of monkhood, temple residence, and lower education.

Discussion

ASH Thailand and the Ministry of Public Health have made concerted efforts to reduce smoking among monks. The first campaign aimed at discouraging the Thai public from offering cigarettes to monks was conducted in 1986. Another initiative by ASH Thailand in 2001 attempted to raise awareness of the legal smoking ban in Buddhist temples and the terrible toll smoking was having on Buddhist monks. Since 2002, the Thai Education Ministry has taken action to address the increasing health burden of smoking among monks.

The current study of smoking behavior and related knowledge, attitudes, and perceptions among monks in Thailand provides evidence of the current situation as well as some indication of the effectiveness of measures taken so far. Although past national smoking rates specifically for monks are not available for comparison, estimates reported by earlier studies in specific cities or towns may provide some indication of past smoking rates. For example, a comparison of the current smoking rates among monks in Bangkok with that of a previous study7 undertaken in 1986

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7 Bowonwatananuwongs et al., Smoking rates for doctors, teachers, and Buddhist monks - all influential opinion leaders in Thai society. Poster presented at the 6th World Conference on Tobacco or Health. 1987, Tokyo.
indicated a substantial decline in smoking rates (29.7% versus 54%). Earlier studies in Chonburi in 1988 and Rajburi in 1993 reported smoking rates of approximately 55% among monks. The current study has found reduced smoking rates in the Eastern (41%) and Central (40%) regions. This may suggest a slight decline in smoking prevalence among Thai monks; to some extent this may be attributed to efforts invested in tobacco control activities aimed at reducing the prevalence of smoking among these religious figures.

Buddhist monks play an important role in setting normative activity patterns among Thai males and community values for healthy living. Thus, adopting a no-smoking policy in wats and among monks generally is vital to efforts to reduce male smoking in the general population. Monks in the current study supported public education programs that would emphasize refraining from giving cigarettes to monks. They have also requested cessation services.

This study demonstrated that many situational and personal factors influenced smoking among monks. Most have initiated smoking prior to entry into monkhood. A policy of non smoking wats would facilitate novices to quit smoking and further education within the wats should help to reinforce the health, social, and religious benefits of remaining abstinent.

Several recommendations were made in the study to reduce smoking among monks:

- Involve monks in developing tobacco-control programs for both fellow monks and the public;
- Continue education to raise awareness of smoking laws in religious places, incorporating other tobacco control messages;
- Encourage monks to take an increasing role in tobacco control advocacy since Buddhist values are consistent with many of the public health and ethical principles of tobacco control;
- Provide cessation services for monks and the public, starting in selected wats;
- Incorporate tobacco control into Buddhist educational programs both at the national and local levels.

**Conclusion**

High rates of smoking among influential groups in society, such as Thai monks and Vietnamese medical students and health practitioners, are a matter of concern in tobacco control. Efforts to understand the reasons for the high smoking rates will assist in programs to achieve a reduction. The authors of the studies particularly suggest specific practical measures such as making health care facilities throughout Vietnam smoke-free and involving monks in tobacco control advocacy. Ongoing research and evaluation will be important for ensuring continued reduction in

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smoking rates of key groups and their greater involvement in health promotion.

**Bibliography**

Bowonwatananuwongs et al., *Smoking rates for doctors, teachers, and Buddhist monks - all influential opinion leaders in Thai society.* Poster presented at the 6th World Conference on Tobacco or Health. 1987, Tokyo.


Chapter 2-3: Analysis of Smoking Behavior in Cambodia

Introduction

This paper, focusing on recent research\(^1\), sought to gain a better understanding of smoking behavior in Cambodia. The Analysis of Smoking Behavior was the first survey undertaken in Cambodia to focus only on smoking behavior. It was undertaken by the National Institute of Statistics (NIS) and was designed not only to obtain information about the smoking prevalence of Cambodians, but to gather more detailed information on issues related and contributing to smoking behavior, such as health, economics, and allocation of resources (income and earnings).

The principle objective of the survey was to provide policymakers and planners with current and reliable data on smoking and tobacco chewing prevalence and other economic, social and health information that could be used for making comparisons with other countries in the region, as well as for formulating strategies to address high smoking rates in Cambodia. This type of information, and the inter-relationship between these various factors, had not been addressed in Cambodia prior to this study.

Methodology

After analyzing data collected through previous studies\(^2\), a survey was conducted that sampled 4,200 households in 300 sample enumeration areas (villages) distributed across all 24 Cambodian provinces. The survey addressed households in both urban and rural areas, including single person households; the number of households sampled from each enumeration area was restricted to 14. The survey used two questionnaires, including one to make a list of households in each selected enumeration area, and a second to collect demographic and socio-economic information from each selected household. The household questionnaire contained 40 questions and the interview period took about 1.5 hours per household.

Thirty-three enumerators and supervisors were recruited and trained by the NIS, Ministry of Planning. The survey was undertaken between June 11 and July 15, 2004. A complete list of every household in each enumeration area was prepared, from which 14 sample households were randomly selected in each area. All members of sampled households were enumerated. Demographic questions were completed by the head of each household (or any eligible adult member), while tobacco-specific questions were asked of each individual household member over the age of five years. Editing and coding the questionnaires was completed manually at NIS. Manual processing verified questionnaire completeness, correctness, and consistency of the entries, while data entry, verification of the data captured, checking, correction

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\(^2\) Cambodian Socio-Economic Survey 1999; Cambodian Demographic and Health Survey (CDHS) 2000; National Center for Health Promotion and the Adventist Development and Relief Agency (ADRA) KAP studies.
of inconsistencies, and final tabulation of survey results was completed by using the Census and Survey Processing System (CSPro) of the United States Bureau of Census. Preliminary tables were generated and the data validated until accurate.

Survey results

Smoking prevalence

Compared to statistics from the 1999 CSES, smoking prevalence among men over 20 years old appeared to have declined over the five year period 1999-2004 from 58.7% to 53.9%, and among women of the same age from 7.2% to 6%. This is not, however, a strictly valid comparison as the questions used for prevalence were not exactly the same. It should also be stressed that prevalence among men remained very high compared to other countries in the region. The apparent decline in prevalence may have been a result of new anti-smoking campaigns conducted over the last five years.

In general, among women in Cambodia, the lower prevalence of smoking reflects social, cultural, and traditional barriers that possibly prevent women from smoking. Smoking rates were generally higher in rural than in urban areas (45.9% versus 32.9% respectively for males and 5.2% and 4.3% respectively for females). The prevalence rates of female smoking in the age groups 50-54 and 60-64 for urban areas seem to be higher than other age groups. This may have been the result of a small number of observations (small number of female smokers) in each age/region specific cell. However the smoking rate among urban women in the 65+ age group is noticeably lower than that in rural areas.

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3 Findings related to economics and tobacco expenditures are found in Chapter 1-1.
4 In 1999, prevalence was based on the question “Do you smoke regularly?” and in this survey, “Do you currently smoke?” It may be argued that the latter question would result in a higher estimate of prevalence which strengthens the evidence of a decline.
The NIS survey also collected information on smoking prevalence among the Cambodian employed population aged 18 years and over by each major occupation. About 50% of the population aged 18 and up is employed in Cambodia. Occupations were grouped to be consistent with previous national surveys conducted by the NIS. However, the sample size in each occupational group was not large enough to reliably determine smoking prevalence except within the occupational group “skilled agricultural and fishery workers”. Therefore, the apparently high smoking prevalence noted among legislators, senior officials and managers is unlikely to be representative of those professional groups, especially considering other evidence that people with higher education levels are less likely to smoke.

Table 1: Smoking Prevalence of Employed Population Age 18 Years & Over

<table>
<thead>
<tr>
<th>Major Occupation</th>
<th>Urban (%)</th>
<th>Rural (%)</th>
<th>Cambodia (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Legislator, Senior Officials and Managers</td>
<td>31.7</td>
<td>64.7</td>
<td>59.1</td>
</tr>
<tr>
<td>2. Armed Forces</td>
<td>41.1</td>
<td>52.3</td>
<td>47.9</td>
</tr>
<tr>
<td>3. Elementary Occupations</td>
<td>33.0</td>
<td>36.4</td>
<td>35.6</td>
</tr>
<tr>
<td>4. Skilled Agricultural and Fishery Workers</td>
<td>32.4</td>
<td>30.1</td>
<td>30.2</td>
</tr>
<tr>
<td>5. NGO Staff</td>
<td>29.9</td>
<td>28.7</td>
<td>29.3</td>
</tr>
<tr>
<td>6. Technicians and Associate Professionals</td>
<td>25.5</td>
<td>31.3</td>
<td>29.1</td>
</tr>
<tr>
<td>7. Plant and Machine Operators and Assemblers</td>
<td>32.7</td>
<td>22.8</td>
<td>24.9</td>
</tr>
<tr>
<td>8. Craft and Related Trades Workers</td>
<td>13.5</td>
<td>26.2</td>
<td>23.7</td>
</tr>
<tr>
<td>9. Professionals</td>
<td>8.1</td>
<td>25.0</td>
<td>19.2</td>
</tr>
<tr>
<td>10. Service and Shop and Market Sales Workers</td>
<td>11.2</td>
<td>14.2</td>
<td>13.3</td>
</tr>
<tr>
<td>11. Clerks</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>25.0</strong></td>
<td><strong>29.3</strong></td>
<td><strong>28.8</strong></td>
</tr>
</tbody>
</table>

In terms of educational level, smoking prevalence was much higher among both men (67.4%) and women (11%) who had not attended school. Smoking prevalence decreased gradually from lower to higher educational levels for both sexes and in both rural and urban areas. The correlation coefficient between educational attainment and the probability of smoking was -0.253, confirming previous study results showing a negative association between education and smoking.

Age of smoking initiation

The mean age of smoking initiation among Cambodian males was 20.5 years in urban areas and 19.2 years in rural areas. In both areas, female age of initiation was slightly later, at 25.8 years and 20.8 years, respectively. Although there was not a significant difference between male initiation rates in urban versus rural areas, the same was not true for females: in rural areas they started to smoke much earlier than in urban areas. It is worth noting that 12% of all smokers began smoking before the age of 15 years. More females than males began smoking before the age of 15 (18.5% versus 11%); again, this percentage is much higher in rural areas, for both sexes, than it is in urban areas.

The researchers noted that there were variations in mean age of smoking initiation
by education levels. As shown in Table 2, the mean age of smoking initiation by educational levels was different for males and females. Less educated males started to smoke earlier than did more educated males. The result for females was based on only a few observations and therefore it was not possible to generalize the results.

Table 2: Smoking Prevalence of Employed Population Age 18 Years & Over

<table>
<thead>
<tr>
<th>Educational Level</th>
<th>Male</th>
<th>Female</th>
<th>Both Sexes</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Schooling</td>
<td>18.1</td>
<td>20.5</td>
<td>18.7</td>
</tr>
<tr>
<td>Preschool</td>
<td>19.1</td>
<td>28.1</td>
<td>20.6</td>
</tr>
<tr>
<td>Primary School (1-6)</td>
<td>19.3</td>
<td>22.1</td>
<td>19.6</td>
</tr>
<tr>
<td>Secondary School (7-9)</td>
<td>20.4</td>
<td>20.6</td>
<td>20.4</td>
</tr>
<tr>
<td>High School (10-12)</td>
<td>20.7</td>
<td>15.9</td>
<td>20.6</td>
</tr>
<tr>
<td>Higher (12+)</td>
<td>19.4</td>
<td>23.0</td>
<td>19.5</td>
</tr>
</tbody>
</table>

Desire and attempts to quit smoking

The researchers sought to assess the level of desire to stop smoking among current smokers. According to the results, almost half of the urban and rural current smokers desired to stop smoking tobacco. More female smokers (48.1%) than male smokers (32.1%) indicated that they were not interested in quitting smoking. As well, more rural female smokers were not interested to quit than urban females. The percentage of those who indicated a desire to quit smoking now was quite low compared with quitting at some point in the future or not at all. The survey results also demonstrated that the desire to quit smoking was much higher among the younger smokers and among those living in urban areas. This may be related to better access to information on the dangers of smoking among these groups.

The survey asked current smokers “If you had to do it over again, would you start smoking or not?” This question was asked to assess smokers’ attitude towards their personal smoking habits. If they felt that they would smoke again, the surveyors assumed that they (the smokers) did not understand or place importance on reasons to stop smoking. Rural females (51%) demonstrated the highest desire to re-start smoking after quitting, while urban females showed the lowest (32%). The results were quite different among the male smokers: 40% of the rural smokers and 42% of the urban smokers said they would start again. Thus, the female current smokers had a higher rate of both "wanting to restart smoking (if they started over)" and "not wanting to stop smoking" compared with male smokers in Cambodia. Almost half of the male smokers reported that they regretted that they had started smoking; this is an interesting finding that differs from developed countries, where more than 90% of smokers indicated regret that they smoked.5

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The survey also assessed the distribution of the current smoking population aged fifteen years old and over who had tried to quit smoking. For both sexes, approximately two-thirds of current smokers had tried at some point to quit smoking. Consistent with the previous results, females in rural areas had tried the least to quit smoking.

Table 3 shows the relationship between reported desire to stop smoking and the actual behavioral response in terms of quit attempts. Column “yes” captures respondents who have tried to quit and looks at their current desire to quit smoking. Column “no” reflects respondents who reported a current desire to quit smoking but who had never made a quit attempt. Column “total” examines desire to quit smoking irrespective of any previous attempt to give up smoking. Almost 97% of current smokers who reported a current desire to stop smoking and 87% of current smokers who desired to stop smoking at some point (sometime) had attempted to do so, but had not succeeded. There is almost no reported difference between urban and rural areas in this respect. Providing cessation services may be a very effective way to help these smokers.

**Table 13**: Percentage of smokers who desired to quit and those who attempted to quit

<table>
<thead>
<tr>
<th>Desire to Stop Smoking</th>
<th>Have you ever attempted to give up smoking?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Urban (%)</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Not at all</td>
<td>20.9</td>
</tr>
<tr>
<td>Sometime</td>
<td>85.0</td>
</tr>
<tr>
<td>Like to quit now</td>
<td>97.5</td>
</tr>
<tr>
<td>Others</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>66.9</td>
</tr>
</tbody>
</table>

**Smoking patterns**

The researchers assessed smoking intensity levels by geographic location, income level, sex, and age. In both urban and rural areas, about 92% of male smokers and 85% of female smokers smoked cigarettes daily. There was little variation across the urban and rural areas for occasional smokers (those who smoked at least once per week): among female smokers the rate was 14.5% and 10.8%, respectively, and for males it was 4.8% and 5.2%, respectively. When compared against age groups, on average 92% of smokers (both sexes) were daily smokers across all age groups. The only significant variation was among the urban 15-19 year olds, who reported only a 49.5% daily smoking rate. Occasional smoking was much more prevalent among the lower income groups. This finding corresponds to the hypothesis that the poor are more price sensitive and therefore smoke less frequently than do the rich.


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Table 4 shows the mean number of cigarettes smoked daily by urban/rural location and by sex. It shows that, on average, both sexes in both locations smoked 13.9 cigarettes per day. There was very little variation between urban and rural smokers; males tended to smoke three more cigarettes per day than did females. These consumption rates did not vary much across different age groups.

Two-thirds of current smokers reported preferring “light” or “mild” products. This preference was based on the smokers’ beliefs that light/mild products were less harmful to their health (a dangerous misconception) and that they had a better flavor/nicer smoke.

Knowledge about harmfulness of tobacco smoke

Survey respondents reported a relatively high awareness of the dangers of smoking to their health. Approximately 83% of all respondents (across both sexes and both geographic areas) indicated being aware that smoking tobacco caused either “a great deal” or “a fair amount” of harm to their health. Awareness levels were lowest among those in rural areas, which might signify that less information was reaching them or that the information was not being presented in a way that they understand.

Exposure to tobacco advertising

The survey collected information about exposure to tobacco advertising and related media during the past month and the past six months. Radio advertisements were noticed by 84% of respondents within the previous month, followed by television advertisements (82%) and billboards and/or posters (44%). Within the past six months, about 10% of the respondents reported being exposed to one or more of the following: being given free cigarette samples, being involved in competitions linked to cigarettes, or being given a free gift that contained cigarette advertising. In terms of exposure to tobacco advertising by age group, the 20+ age group reported more exposure than did the 5-19 age group (12% versus 7%). It is important to study exposure to tobacco advertising, because research shows that a comprehensive set of tobacco advertising bans can reduce tobacco consumption. Interestingly, 75% of the survey respondents felt that that cigarette advertising should not be allowed in Cambodia.

Exposure to anti-tobacco campaigns

The survey collected information about the respondents’ exposure to anti-tobacco campaigns, which provides an indication of how effective these campaigns might be.

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in disseminating information against tobacco use. Most (78.8%) of the respondents indicated being exposed to an anti-tobacco campaign in the past six months; there was little difference between urban and rural respondents. Among those reporting exposure, Table 15 shows the specific campaigns most commonly observed by urban/rural status.\(^7\)

The national media campaign launched by the Women’s Media Center (WMC), ADRA Cambodia, and National Center for Health Promotion (NCHP) was the most commonly observed, having been seen by 81% of those exposed to any campaign (60.7% in urban areas, 84.6% in rural areas). Exposure to the campaigns did not vary greatly across age groups.

**Chewing tobacco products**

Unlike cigarette smoking, tobacco chewing was more common among women than among men, reported at 9.3% and 0.7%, respectively. Moreover, more than 34% of women in the 45+ age groups chewed tobacco. Chewing tobacco in this age group was more than twice as popular in the rural areas than in the urban areas. When compared with the results of CDHS 2000, this survey indicated a slightly higher prevalence of tobacco chewing. The negative correlations noted between education level and chewing tobacco in the CDHS 2000 remained consistent with this survey: almost 22% of females with no education in rural areas chewed tobacco compared to only 1.5% among highly educated females in urban areas.

**Perceptions of women’s tobacco use**

Perceptions of women’s tobacco use were measured across sex and age groups. “Positive” or desirable perceptions of women’s smoking and tobacco chewing included being “modern” or “attractive”, and “releasing stress”. The “negative” or undesirable perceptions related to having “bad manners” and causing “health damage.” Very few respondents reported viewing women’s tobacco use positively. Less than half of respondents within the 5-17 age group perceived that women who smoked and chewed tobacco had “bad manners” (44%) and would damage her health (34.9%). Among both the 18-44 and the 45+ age groups, almost half thought it was bad manners and slightly more than one-third thought it caused damage to

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\(^7\) A limitation of the data collection for these questions was that respondents reported just the most common campaign that they were exposed to, rather than all campaigns they were exposed to. It is possible that they were exposed to more than one campaign. This makes it impossible to determine total exposure to any one particular campaign.
health. Younger people are very slightly less likely than older people to consider women’s tobacco use as bad manners. Similarly, men are slightly less likely to consider it bad manners than women.

Conclusions and Recommendations

Evidence from this and other studies indicate that, overall, the prevalence of smoking among both men and women in Cambodia has decreased slightly since 1999; however the ability to draw conclusions about this was limited by there having been slightly different questions used across the different surveys. Smoking prevalence among men remains very high and there is no evidence yet that total consumption has declined. Further analysis of the complete data set of the CSES 2003-04 will be required to make a more useful and valid comparison.

Among the current smokers, more than two-thirds reported an attempt to quit smoking. These statistics seem promising, but further understanding of the Cambodian tobacco epidemic is necessary.

Women’s tobacco use is currently still much lower than it is for men. This reflects the social, cultural, and traditional beliefs that discourage them from smoking. Although this seems like a protective factor against a woman smoking, the evidence in this study is not all positive. The results of this report show that women who smoke are slightly less likely than men to be daily smokers; they also smoked less and spent less on tobacco per day. However, women were also less likely than men to regret that they had started to smoke or to want to quit. Women are far more likely than men to chew tobacco, especially in rural areas. Another matter of concern was that the acceptance levels for women smoking or chewing tobacco was slightly greater among the younger than the older age groups. This was a small percentage and by far most young people indicated that they did not accept women smoking. Nevertheless, this may indicate a change in some of the traditional Cambodian values that deter women smoking.

More than 75% of the respondents, (both sexes in rural areas, urban areas, and in Cambodia overall) felt that cigarette advertising should not be allowed in Cambodia.

There was a high level of exposure to anti-tobacco campaigns in the past six months, with the media campaign produced by the Women’s Media Centre Campaign reported as the most commonly recognized. Limitations in the data collection meant that the researchers could not calculate total exposure to the various campaigns, but it was clear that mass media is an effective way of sending a message to the Cambodian population.

These survey results quantified and described tobacco use in Cambodia that is, and will continue to be, a serious threat to public health. This information can be used to take action, and will also lay the groundwork for future research projects. The findings from this research study will also contribute to comparisons of smoking prevalence rates with previously collected information, and will contribute to the

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development of tobacco control and poverty reduction policies by the Royal Government of Cambodia.

Further studies need to be completed on this topic in Cambodia. The 2004 survey questionnaire sample size was determined based on a pre-defined budget. This necessarily limited the sample size. A future tobacco control study should extend its sample size and economic information. This would be extremely helpful in explaining the relationship between poverty and smoking.

Recommendations

- Government should give serious consideration to strategies aimed at reducing tobacco use, especially policies and regulations that became obligatory under the Framework Convention on Tobacco Control, such as:
  - Increasing taxes and prices on all tobacco products;
  - Banning all forms of tobacco advertising, promotion and sponsorship;
  - Requiring tobacco packaging to include strong health warnings, and banning misleading terms such as “light” and “mild”;
  - Making workplaces and public places smoke-free.
- Research on tobacco use should be undertaken regularly in Cambodia, at least once every three to five years, in order to measure trends in smoking prevalence, consumption, spending, and attitudes.
- Standardized methods in surveys, data analysis and reporting should be used so that all surveys produce comparable results, allowing for more accurate monitoring of trends.
- Tobacco control research capacity should be strengthened by building human capacity and skills in tobacco control.
- Anti-tobacco campaigns should be extended through all media types to reduce the appeal of tobacco use, to make people aware that tobacco use is an important contributor to the development of disease and death, and to highlight its contributions to the loss of family income (through spending on tobacco and treatment of tobacco-related diseases). Such campaigns should aim to prevent an increase in women’s tobacco use.

Bibliography

Cambodian Socio-Economic Survey 1999; Cambodian Demographic and Health Survey (CDHS) 2000; National Center for Health Promotion and the Adventist Development and Relief Agency (ADRA) KAP studies.


Saffer, H., “Tobacco Advertising and Promotions” in: Jha, P., Chaloupka, F., Tobacco
Section 3: Women and Tobacco

As women worldwide generally use tobacco at much lower rates than men, they are often overlooked in tobacco control research and work. However, women are in fact an important target for tobacco control: rates of tobacco use among women will not necessarily always remain low, women may for biological reasons be even more vulnerable to tobacco-related diseases, and women globally are subjected, particularly in their own homes, to the secondhand tobacco smoke that causes untold numbers of deaths and disabilities. Exposure to secondhand smoke is particularly a problem in Southeast Asia, where rates of smoking among men are often ten times higher than among women. In addition, women’s economic condition is affected by their own and particularly their male family members’ expenditures on tobacco, which limit funds available for basic needs such as education, health care, and food. As targets of tobacco industry advertising, women are told that to be self-confident, popular, slim, attractive, and elegant, or to reduce stress, they should smoke.

Although rates of smoking among women in many Southeast Asian countries are still quite low, we cannot be entirely confident that rates will remain low. Different surveys in various countries report widely different rates of tobacco use among women, suggesting that the overall rate may be higher than we believe, or at least higher among some particular sub-groups of women. The problem of women’s exposure to secondhand tobacco smoke is often neglected, despite the known health risks; and learning what attracts young women to smoking will help us avoid an epidemic of smoking among women in the future.

This section addresses these issues by summarizing recent research in Cambodia, Vietnam, Malaysia and Thailand. The first chapter, Women and Tobacco: Smoke-free Homes, presents research conducted recently in Cambodia and Vietnam that suggests that while women can have some impact on their husband’s smoking behavior, successfully making changes is not easy, and wives may not actually be the best group to target as agents of change for men’s indoor smoking behavior. The second chapter, Women and Tobacco: Reasons for Use and Prevention Strategies, addresses four recent research studies in Cambodia, Malaysia, and Thailand on patterns of women’s use of tobacco and possible tobacco control strategies. This section includes the following papers:

2. Ms. Soreach Sereithida, Women’s Development Association (WDA), Cambodia. “Intervention Study to Develop Culturally-Acceptable Messages or Strategies for Women to Take Action at the Household or Community Level.”
3. Dr. Farizah Hairi, Dr. Anwar Suhaimi, Dr. Noran Naqiah Hairi, Nur Azhana Hairi, Dr. M. Rohaizad Zamri and Teoh Li Ying, University of Malaya, Malaysia.

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“Developing Culturally-acceptable Messages Towards a ‘Smoke-free Home’ Through Young Women”.

4. Dr. Chhea Chhordaphea and Dr. Koeut Pichenda, National Centre for Health Promotion (NCHP), Ministry of Health, Phnom Penh, Cambodia. “Health Knowledge and Gender Attitudes Related to Women and Tobacco Use in Kratie Province, Cambodia.”

5. Boosaba Sanguanprasit, Oranuch Pacheun, and Lakana Termsirikulchai, Faculty of Public Health, Mahidol University, Thailand. “Knowledge and Attitudes Related to Women and Tobacco among Young Thai Women.”


Chapter 3-1: Women and Tobacco: Smoke-free Homes

Can women play an effective role in making their homes smoke-free? Given that in many Southeast Asian countries rates of smoking among women are still quite low, but quite high among men, one important way to protect women from the health impacts of tobacco is to encourage them to make their home smoke-free. But how much power do women actually have in influencing their husbands or other family members to refrain from smoking indoors? How can we support women to be effective in making their homes free of tobacco smoke?

Research conducted recently in Cambodia, Vietnam, and Malaysia suggests that gender norms and traditional values make it difficult for women to influence tobacco use among male family members i.e. fathers, husbands, sons, or even males in the wider community. Women may fear a hostile backlash if they try to “advise” family members or request a smoke-free environment. Yet women are considered “guardians of the family’s health”. How much influence do women have in families in relation to tobacco use? What strategies might be effective in overcoming obstacles from traditional values? Is it possible to design messages that will achieve the goal of smoke-free homes but not have negative consequences for family harmony?

The three research projects\(^1\) addressing this subject used a combination of semi-structured individual interviews and focus group discussions to gather information from men who smoke and their wives, and to create model messages.

The research revealed important information about the level of knowledge of women and men about the dangers of smoking (both active and passive), their attitudes towards smoking and quitting, and receptivity of men to receiving advice from their wives about smoking outdoors or quitting.

Background on Cambodia, Vietnam, and Malaysia

In Cambodia, male smoking is considered both normal and culturally acceptable, while female smoking is generally less socially acceptable. Smoking is considered to demonstrate or prove masculinity. At the same time, since men are usually the income earners, family decisions are generally their prerogative, with women having little decision-making authority or power. It is thus very difficult for a woman to persuade her husband to change his behavior, particularly related to smoking, even if it may be causing her harm.

The situation is similar in Vietnam. Smoking is socially acceptable for Vietnamese

\(^1\) Ngo Le Thu, Vietnam Steering Committee on Smoke and Health (VINACOSH) and Nguyen Thac Minh, Vietnam University of Commerce, “Creating smoke-free homes”; Soreach Sereithida, Women’s Development Association (WDA), Cambodia, “Intervention study to develop culturally-acceptable messages or strategies for women to take action at household or community level”; Dr. Farizah Hairi, Dr. Anwar Suhaimi, Dr. Noran Naqiah Hairi, Nur Azhana Hairi, Dr. M. Rohaizad Zamri and Teoh Li Ying, University of Malaya, “Developing culturally-acceptable messages towards a ‘smoke-free home’ through young women".
men, and offering cigarettes to another person is considered hospitable behavior. Vietnamese women have little say in their families, especially in rural areas, so it is difficult for them to persuade their husbands to quit smoking or to smoke outside to protect their and their children’s health. Data from the Vietnam National Health Survey 2001-2002 showed that smoking prevalence was high: male smoking rates were 56.1% overall, with the highest male smoking rates, at 72.2% and 69.8%, among those aged 35-44 and 25-34, respectively.2 According to a Vietnam national prevalence of smoking survey, 90% of current smokers usually smoked at home.3 Therefore, although female smoking rates remain low at 1.8%, because the majority of Vietnamese adult men smoke, at least half of all women and children are exposed to secondhand smoke in their homes.

Almost 50% of adult Malaysian males are cigarette smokers, and therefore many women and children are exposed to the harmful effects of secondhand smoke. Furthermore, the smoking habits of primary adults in the household have been shown to increase the risk of smoking initiation and uptake among children.4 The Malaysian Global Youth Tobacco Survey (GYTS) reported in 2003 that among school-going adolescents aged 13-15, the susceptibility to initiating smoking by ever smokers was 21.9% among males and 12.3% among females. There is an increasing trend of young females to smoke. Since most girls stay with their parents until the average marriage age of 25 years, having a smoke-free home will hopefully address the problem of tobacco use among young women as well.

Methodology

The Cambodian study sought to develop effective messages for women to use to persuade their husband to quit or to smoke outside the house. To do so, the researchers sought first to gain insight into a range of perceptions among women about their husbands’ indoor smoking behavior, to explore women’s experiences with or perceptions about how married male smokers would receive such advice from their wives, to explore a range of perceptions among married male smokers about receiving such advice from their wives, to identify obstacles and supportive factors for women in persuading their husband to smoke outside the home, and to

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test the designed messages and strategies and assess their effectiveness on a small scale. Five communes were chosen in Saang District, Kandal province of Cambodia, as the sites for the survey on attitudes of men’s smoking and the experiences of women who attempted to persuade their husband to quit smoking or to smoke outside the house.

In order to develop effective messages, the survey used two different tools: semi-structured interviews (SSI) to collect quantitative data, and two focus group discussions (FGD) to collect qualitative data. One focus group discussion was conducted with eight women aged 35-40 who lived with husbands who smoked to gather information and share experiences about their experiences in attempting to persuade their husbands not to smoke or to smoke outdoors. One focus group discussion was conducted with eight married men aged 38-45 who smoked (not the husbands of the women interviewed above) to gain an understanding of their attitudes about smoking and their feelings when their wives (non-smoking) tried to persuade them to change their smoking behavior. Semi-structured individual interviews were also held with 20 men (aged 38-45) and 20 women (aged 35-40).

Based on the results and information from the FGD and SSI, the researchers conducted follow-up FGDs with women who were living with husbands who smoked and with married men who had non-smoking wives in order to develop effective messages to persuade smokers to quit smoking or to smoke outside the home. These messages were developed with the participation of women who had experience trying to persuade their husbands to quit/smoke outside, as well as with the target group of married men who smoked.

The overall objective of the Vietnamese research study was to develop effective messages for women to convince their husbands not smoke at home and to assess the effectiveness of this intervention on a small scale. To do so, the researchers first sought to investigate women’s perceptions of their husbands’ indoor smoking behavior and to explore obstacles and supportive factors for women to take on a persuading role; to design messages for women to persuade their husbands to smoke outside their houses; and to assess the effectiveness of non-indoor smoking messages on a small scale.

The research project was undertaken in several stages. First, the researchers undertook a literature review to assess information currently available about secondhand smoke (passive smoking) and smoke-free homes, and women and tobacco use, particularly related to Vietnam. The second stage of the study was action research. The researchers used qualitative approaches to identify potentially successful messages and strategies for women to persuade their husbands not to smoke inside their homes. Qualitative methods were also employed to make an initial assessment of the effectiveness of the identified strategies and methods and to record informants’ experience of using those messages. After questionnaires were pilot tested with a group of married women in Hai Phong and modified, the
researchers undertook two focus group discussions (FGDs) with women aged 30-45 who were married to smokers and four semi-structured individual interviews (SSIs) with men aged 38-50 who were current smokers and married. Information collected during the FGDs and SSIs was analyzed to assess informants’ perceptions and attitudes towards smoking and passive smoking. Of particular interest were obstructive and supportive factors implied in the participating women’s successes and failures in persuading their husbands to change their smoking habits. Various communication materials related to persuading skills were also reviewed through secondary data analysis to ascertain necessary skills and strategies for women to persuade their husbands to stop smoking indoors. The third stage of the study included intervention and assessment.

The researchers met with communication experts to draft potential messages based on the key findings of focus group discussions and in-depth interviews and on communication materials related to persuading skills and adverse health effects of smoking and secondhand smoke. A leaflet with messages and strategies was then produced and given to a group of 15 women whose husbands were current smokers for comment. Messages were modified based on the informants’ comments, and final versions of the leaflet produced and distributed to the same 15 women, who also received training to use the persuading strategies/skills and new messages. After two months of intervention, the researchers met with the group of women to share their experiences in using the messages. The researchers also interviewed three husbands who had received messages from their wives to learn about their attitudes towards and responses to their wives’ advice.

The overall objective of the Malaysian study was to develop culturally-acceptable messages for use by young women seeking to create a smoke-free home. Specifically, the study sought to gain insight into a range of perceptions among young women about their father’s indoor smoking behavior; explore young women’s current or previous experience of persuading their fathers to smoke outside the house; explore a range of perceptions among smoking fathers about receiving such advice from their daughters; identify obstacles and supportive factors for young women to take on a persuading role; and design messages and develop strategies to help young women to persuade their fathers to smoke outside.

Twenty-six young women aged 16-18 were recruited from two districts in the state of Selangor: two urban schools in the district of Petaling and one rural school in the district of Hulu Langat. A preliminary briefing session was held in each of the selected schools to explain the general aims of the study and to invite interested volunteers. Five initial focus group discussions (FGDs) were conducted. Four additional follow up focus groups with twenty-one young women were held to try out simple “smoke-free home” messages.

Fathers who were smokers were invited to participate in the research through these young women volunteers. Two FGDs with twelve fathers who were smokers were
conducted, including several in-depth interview sessions. All of the participating fathers were employed, either in the private or public sector. The majority had been smoking for more than ten years.

All of the focus groups were conducted between February and August 2005. The focus groups ranged in size from five to six participants each. A semi-structured approach was adopted, with the questions presented in both English and Malay. Sessions were audio-taped and transcribed verbatim. All transcripts were reviewed for accuracy. Two independent researchers coded the transcripts and organized data according to theme.

Key findings

Knowledge about the harmful effects of active smoking

Of the twenty Cambodian study participants who lived with smoking husbands, all were aware of the harmful health effects of smoking. Each of the women knew that smoking was the cause of their husbands’ coughing and other symptoms of lung disease, and were concerned that smoking could cause other health problems such as pneumonia. The women also expressed concern about their husbands’ other unhealthy habits such as drinking alcohol. The reasons cited by these women for their husbands’ smoking included addiction, habit, imitating a friend, and stress reduction.

Cambodian women married to smokers were concerned about the money their husbands spent on smoking. For instance, while one woman explained how much money her husband spent on cigarettes each day, another put it this way: “The sum that my husband spends on cigarettes each week could buy 7-8 kg of rice.” The concern was greatest among the lower-income families, while some of the other women felt that their husbands had the right to spend money as they wished, and that they could not control all of their husband’s expenditures. While many Cambodian women objected to or were concerned about their husband’s smoking, some sympathized with it, perhaps feeling it was a privilege of manhood.

The twenty Cambodian male smokers, all married to non-smoking women, said they were aware of the negative effects of smoking. When asked where they smoked, 38% reported that they smoked inside the house, 24% outside the house, and 38% “wherever I please”.

Both Vietnamese men and women were aware that smoking is generally harmful to health, but few were aware of specific harmful effects. Women participating in the Vietnamese study mentioned that smoking could cause lung diseases including lung cancer, stomachache, asthma and skinniness. They wrongly believed that smoking water pipes was less harmful than cigarette smoking. Vietnamese men knew that smoking causes lung cancer and other lung and respiratory diseases, and that smoking decreases disposable household income. Neither men nor women in Vietnam knew that smoking could also cause cardiovascular diseases.
Both men and women in Vietnam at higher income levels were less concerned about their spending on tobacco, feeling it was men’s “right” as wage-earners to spend money as they pleased, while lower-income men realized that their spending on tobacco represented a significant decrease in their ability to fund other household expenditures. For instance, one man figured that his tobacco spending amounts to about 200,000 VND a month (about US$13), and another said that one pack of a common cigarette cost the same as two kilograms of rice.

All of the Malaysian rural young women participants perceived that smoking was harmful to the health of the person who smokes. They knew that smoking could cause diseases affecting the respiratory system, and gave examples of lung cancer, tuberculosis, pneumonia, difficulty in breathing, excessive cough, and asthma. More than half thought that smoking could cause cardiovascular diseases such as heart failure, acute coronary syndromes and hypertension. Some also said that smoking was associated with stroke. Other health conditions believed to be linked to smoking included peptic ulcer, dry skin, and infertility. Interestingly, the young urban women seemed to be less aware of the harmful effects of smoking. They were aware that smoking could cause lung cancer and affect a fetus; they were also able to relate smoking to coughing and nicotine staining on the teeth, which they described as having yellow teeth. However, they did not know that smoking could decrease their life expectancy.

According to the young women, the amount of money their fathers spent on tobacco, varied from as low as 5% to as high as 65% of the total household expenditure. One participant expressed that she thought the amount spent on tobacco was insignificant because her father did not smoke “if he does not have enough money to spend on buying cigarettes.” Almost all of the female Malaysian participants were worried that the money spent on tobacco would reduce other essential spending such as for food, health care, and education. They thought that buying cigarettes was a waste of money and that the funds spent on cigarettes could be better used for other essential expenditures. The opinion of one young woman was that “spending part of the family’s income on tobacco is a selfish act.” Surprisingly, there was one participant who was not worried at all, because all the essential expenses for daily needs were being managed by her mother, and the money spent on tobacco was allocated separately from those expenditures.

All participants expressed concern about their father’s smoking, knowing that it would have adverse effects on their fathers’ health, their own health, as well as other family members’ health. Most of the fathers participating in the study agreed that smoking is harmful, except for a few who insisted that smoking did not cause any harm to one’s health. Most did not think about the cost of smoking in terms of the family budget. When asked what they would like to purchase if they did not buy cigarettes, there were many things that they wanted to do for their family depending on what was most needed at that time.
Knowledge about the harmful effects of passive smoking

All of the Cambodian women participating in the research believed that exposure to secondhand smoke was harmful to their health and were afraid that they would get the same diseases as their husbands who smoked. Eighty-five percent of the women indicated that their husbands smoked regularly in the home; 80% had requested “at least sometimes” that their husbands smoke outdoors. The other 20% had never talked to or advised their husbands about smoking because they felt that their husbands would not accept their advice since they (the women) were not the household head and did not earn income for their family. Although 95% of the men interviewed expressed an awareness that smoking was harmful to non-smokers who were exposed to smoke, 85% indicated that they were addicted to tobacco and so continued to smoke in the home, while another 15% said they did so either out of habit or because they forgot (to smoke outside).

Vietnamese women participating in the study not only did not understand about the harm of passive smoking, some were not even sure what was meant by passive smoking. As one woman said, “passive smoking is smoking because of being invited to smoke by others”. Neither Vietnamese men nor women could specify any diseases caused by passive smoking, nor did they know the severity of such diseases. One Vietnamese male smoker suggested that cigarette smoke just makes others feel uncomfortable. Vietnamese men were aware that cigarette smoke could have a negative impact on children’s health. However, nearly all the water pipe smokers felt that pipe smoke was harmless to the health of passive smokers, since pipes take very little time to smoke and the smoke is minimized by the water in the pipe. Most of the women participants indicated that their husbands usually smoked in the home; however, although they felt uncomfortable with this behavior, some actually sympathized with their husbands’ smoking (he does so because of a “hard and stressful work and life”, etc.).

The term “passive smoker” was also not familiar among the young rural women in Malaysia. Nevertheless, the harmful effects of tobacco on passive smokers were understood, as the majority of respondents stated that individuals who did not smoke but who were exposed to tobacco smoke could also suffer from the negative effects of smoking. Most of the rural female participants thought that exposure to tobacco smoke could cause lung problems such as difficulty in breathing, asthma, lung cancer, tuberculosis, and even stroke. Some of the urban young women also had never heard about passive smoking or did not know the exact meaning of the term. Others understand the danger of secondhand smoke, and even said “this kills those who are exposed faster than the smoker himself”.

Only a minority of the young female participants indicated that their fathers usually smoked at home. Others said that their fathers smoked only occasionally at home. One person noted that her father did not smoke in the home. The majority of the young female participants also expressed anger and frustration at the sight of guests
who smoked in their home, as they felt it to be very improper for the guests to do so.

Of the Malaysian smoking fathers, most believed that smoking was also bad for the health of those people around the smokers. Similarly, among those who denied the negative effects of smoking, none agreed that the health of passive smokers is at risk.

Women’s advice to their husbands/fathers about smoking

Most (80%) of the participating Cambodian women had tried to advise or persuade their husbands not to smoke in the home, saying they had tried to explain the problems/issues of smoking, including wasting money to buy tobacco, the bad health effects of smoking, and so on. Almost 70% noted that some changes to smoking behavior had been made (although these changes were not specified). Few indicated that they had been successful in convincing their husbands to actually quit. The most common times women made the request to smoke outdoors were after meals (38%), every time he smoked (23%), or at night (31%). Only 4% tried to persuade their husband after work, suggesting that men were generally stressed and unwilling to listen to advice when returning from work. Interestingly, the Cambodian men appeared to be fairly receptive to receiving advice from their wives (although that advice did not appear to be particularly effective); 75% of male smokers said that they were not angry (25% expressed “happiness”) when their wives advised them to stop smoking or to smoke outside the home. By contrast, only 32% of the women stated that their husbands accepted their request to smoke outdoors at the time the request was made, and 63% indicated that their husbands had either become angry or ignored them (i.e., became quiet).

Most of the women participating in the Vietnamese study said that they had asked their husbands to quit smoking, but that their husbands had not heeded their advice. The women tried many different arguments to convince their husbands, which could roughly be grouped into broad categories dealing with health (diseases caused by smoking), economics (pointing out what could be purchased if men bought food instead of cigarettes), or family responsibilities (how early mortality from smoking would harm the family or the importance of being a role model for the children).

Since women experienced little or no success convincing their husbands to stop smoking entirely, some tried simply to convince their husbands not to smoke inside the home, using arguments such as “Your indoor smoking harms our children’s health,” “Our small child cannot bear your cigarette smoke,” or “Go out and smoke outside, then you can hold your child.” Some of the women attempted to select “suitable” moments to give advice to their husbands about smoking, while other raised the issue whenever they could or when they felt angry. The women attempted to persuade their husbands to quit smoking in bed before sleeping, when the television was broadcasting a tobacco control program, when the husband felt relaxed or after having a meal, when the husband was actually smoking, or when the husband was just back from a long day working. A few women asked their guests not to smoke inside their homes.
Despite the fact that the Vietnamese men were aware that their smoking harmed the health of others, most of them still smoked inside the house. Reasons for smoking indoors included a lack of knowledge about the diseases caused by smoking and/or their severity, the culture of inviting guests to smoke, being invited to smoke by guests, being tired and/or bored, and being preoccupied by problems. Although some cigarette smokers had started to avoid smoking inside the home, all of the pipe smokers continued to smoke indoors, presumably due to their belief that it would not harm others. The smokers in general did not mind their wives, children, and other family members advising them not to smoke. As one 43-year-old man said, “I know it’s a fault that I smoke.” All of the smokers said that their wives had tried to persuade them to quit smoking.

In giving advice, it becomes evident that the wives were more worried about their husband’s health than about their own, as most focused on persuading their husbands to quit, rather than asking him to smoke outside the house. As one man said, “My wife does not object when I smoke beside her.” Some wives did, however, ask their husbands to go out to smoke, so that their and other family members’ health would not be affected by the smoke. In particular, mothers of small children often asked their husbands to smoke outside, as they were afraid that the children could easily catch respiratory diseases. This argument was apparently quite successful, suggesting that concern about the health of their small children can be a strong motivator for fathers.

Only half of the young Malaysian women participants had tried to advise their father to smoke outside the house. Some had tried to advise their father regarding practicing a healthy lifestyle, such as exercising, consuming a balanced diet, and hand-washing before eating and after using the toilet. They noted several possible factors that they believed contributed to the failure of changing their fathers’ behavior. The main barrier was the age factor: their father thought his daughter was too young to understand the reason he smoked. Second was the status factor, that is, the father did not like to be advised by someone younger. Another reason given was the “inappropriate ways used to give the advice”, although this was not explained. Finally, the fathers’ addiction may have hindered any advice attempts, no matter how appropriate or sound they were. The personal attitude of the smokers who blamed stress, curiosity, and boredom as the cause of their smoking habit, as well as those who were reluctant to make changes in their lives, also contributed to their failure to heed their daughters’ anti-smoking advice.

The Malaysian fathers reported that they usually smoked whenever and wherever they wished, especially after meals. Most of them lit up their cigarettes in the toilet too, in order to avoid being seen by their wife or children, as well as to avoid having

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5 Editor’s note: Of course the possibility also exists that the smokers were being more polite than honest in answering the question!
the bad smell circulate into other rooms in the house. The majority of the fathers admitted that they smoked because they were addicted to nicotine. Interestingly, the places where they indicated that they refrained from smoking were inside the mosque and designated non-smoking public areas. They did not smoke in the mosque because “it is a place to worship God and must be respected”, whereas at the designated non-smoking areas, they felt that it was the right of the non-smokers to breathe clean air. In many cases, this same right did not extend to their own home. All of these fathers said that at one point in time they had been advised by their daughters to smoke outside the house. One even mentioned that his daughter would persistently talk about the ill-effects of smoking every day, trying very hard to make him stop smoking. Others usually received advice once in a while after dinner, or whenever they were relaxing at home.

Most of the fathers said that they listened to their daughters when given the advice, which was usually while they were smoking. Others acted calm and cool, and even pretended to be more knowledgeable than their daughters. Some claimed that they did not pay attention to their daughters’ advice and would just leave the room quietly. Some of the fathers admitted that they were actually thankful for their daughters’ advice against smoking. Some heard the advice with an open mind, as well as an open heart. One father said, “… baguslah dia menasihati saya (supaya berhenti merokok) […] it is good that she (daughter) advise me (to stop smoking)…].” Some fathers responded positively towards their daughters’ advice, saying, “… ayah akan cuba (berhenti merokok) […]I (father) will try (to quit smoking)…],” whereas others just kept quiet or pretended they did not hear their daughters and sneaked out quietly. Some fathers agreed with their daughters that they should not smoke in the home.

**Giving advice**

The Cambodian and Vietnamese women tried many different methods of advising their husbands to quit smoking or not to smoke in the home. The Cambodian study reported only whether women requested their husbands to smoke outside using a “peaceful” method (76%) or an “impolite” method (24%).

The Vietnamese study provided more details on the methods women had been using. These included repeating the advice many times, giving the advice when their husbands were cheerful, and giving the advice while expressing love and caring. Moments chosen for giving advice included in bed before sleep, when tobacco control messages were broadcast on TV, when the couple was relaxed, after a meal, or when the husband was smoking. In order to strengthen their position, women sometimes sought the help of their children or other family members, such as their husband’s mother or brother. Women also tried “bribing” their husbands with candies or salted dried apricots; some took ashtrays away, and some hid their husband’s tobacco pipe. Some women asked their guests not to smoke inside their home, explaining, “My husband is trying to quit. He may smoke again if you smoke.” Some hid away ashtrays and explained, “My husband has quit smoking.” The women’s
attempts to convince their husbands not to smoke at home were often unsuccessful; several possible reasons were given: lacking a resolute attitude, sympathy with the husband (as one woman said, “It’s difficult for my husband to quit because he usually has to work at night”), failure to involve other family members in their attempts, and lack of strong and specific arguments on the harm of direct and passive smoking.

Women used various arguments to convince their husbands to quit smoking, including “Smoking makes you thin”; “Smoking makes you catch diseases”; “Mr. A become healthier after quitting”; and “Mr. B got sick because of smoking”. The women’s arguments aimed at getting their husbands not to smoke inside the house focused on the fact that smoking would cause harm to their small children and other family members. Children usually advised their fathers whenever a tobacco control program was broadcast on TV. Children learned in school that smoking damages the health of smokers and passive smokers alike, and explained this to their fathers, convincing some of them to try to quit. One adult son bought candies for his father to replace cigarettes.

Similarly, when advising their fathers to smoke outdoors, the young Malaysian women emphasized the negative effects of smoking. Some of the phrases used while persuading included: “Abah, janganlah merokok. Merokok tu tak elok…”[Father, don’t smoke. Smoking is not good….]”; “Pergilah rokok kat luar, busuklah bau dia [Go and smoke outside, it smells disgusting]”; “Abah, berhentilah merokok. Nanti membahayakan kesihatan [Father, stop smoking. It is harmful to health]”. In addition, while saying those phrases, the young women said that their facial expression would appear worried, full of sympathy and enthusiasm. They usually gave such advice when their father was smoking, after meals, or when they were resting with their father at home. One participant said that she advises her father in a polite manner at home almost every day. Others advised their father when there was someone around, usually their mother, for reassurance and support.

The young women said that they felt they could be most successful if they were to explain the adverse effects of smoking to their fathers and explain the steps needed to stop smoking. Strategies used must be gentle and loving when giving the advice and full moral support should be offered. Some suggested hiding their father’s cigarettes.

The reaction of most fathers to the advice was that they became silent and did not show any response. These young women thought that their fathers were not comfortable with the advice. Nevertheless, some participants said that they were unsure of their father’s feeling at that moment. Two of the participants reported that they had been successful in convincing their fathers to actually change their indoor smoking behavior after having repeatedly given advice.

The majority of the fathers agreed that their daughters would spontaneously tell them not to smoke indoor in a very simple manner. Some even pleaded in a polite and caring way. Examples of the phrases used were: “Tolong berhenti...
merokok...[Please stop smoking...]”; “...hisaplah di luar, asap rokok boleh menjelaskan kesihatan orang lain...[...please smoke outside, smoke can cause ill-health towards others...]”; “…tak dengar ke perdana menteri kata "TAK NAK”...[ ...have you not heard that the prime minister said “NO” (to smoking) ...]”. However, some admitted receiving sarcastic remarks from their daughters too.

Most convincing reasons to quit smoking or to stop smoking inside the house

Some male Vietnamese smokers who had previously tried to quit gave various reasons for their quit attempts, including declining health (for example suffering from a serious illness, bad cough, fatigue, or upset stomach), concern about their children’s health, and persuasion by their children. Those who had never been seriously sick often felt no such motivation to quit. Several smokers realized that smoking had no benefit, and thus tried to quit. For example, one man said, “It damages health and costs money.” Another smoker explained that he had tried to quit because “a smoking father may be a bad example for his sons.” Few smokers tried to quit because of their wives’ advice, suggesting that men are reluctant to listen to what their wives tell them.

For those who had tried to quit one or more times, but had failed, the following reasons were given: daily contact with other smokers who invited them to smoke, challenges in their lives or stress at work, anger with their wives about something, causing them to decide not to listen to their wife’s advice; and being provoked by other smokers. The men suggested that their wives should give advice to quit either in the evening, when a positive mood prevailed between the couple, or when having a close conversation with friends. The men said they preferred gentle advice. Although the men mentioned close conversation with friends as a good time, they also said they hated to be asked to quit smoking in front of their friends—perhaps here referring to male friends exclusively—as they were afraid of gaining a reputation for being henpecked.

The results of the Cambodian study were similar: when asked what might be motivations to quit smoking, 70% of the smokers stated that the most valuable thing in their life was their family’s health, 20% their own health, and 5% their job. In response to the question of what their wife should do or say to persuade them not to smoke inside the house, half (50%) said the women should persuade them with sweet words.

When asked why they still smoked at home, the Malaysian fathers gave a number of different responses. One said that his home was not a “gazetted” non-smoking area, while another said that he just felt like smoking there, and another admitted that he was addicted to nicotine. However, the majority had actually tried to quit smoking at some point but had failed. Some said that if there were a proven program for smoking cessation, they would consider quitting for good.

The fathers were also asked about what they thought their daughters should do or
say, to successfully persuade them to stop smoking inside the house. The main response given was that the daughters should focus on the fact that quitting smoking would be good for the health of everybody in the family, and that passive smokers could become very ill from the effects of indirect smoking. Nevertheless, they said, the daughters could only give advice, and that it was up to them (the fathers) to evaluate and choose whether to smoke outside the home, or better yet, to stop smoking altogether.

Challenges faced

Although the majority of the young Malaysian women disagreed with their fathers’ smoking habits, one accepted the fact that her father smoked because she said that it was “his right” to do so. The majority attributed their fathers’ smoking habit to peer pressure, while others suggested that smoking relieved tension or that their fathers smoked because of addiction. Other reasons given were to relieve fatigue, to appear mature, and to appear more masculine. All of the rural young women sympathized with their fathers’ smoking habit.

Most of the young women had not been successful in encouraging their fathers to smoke outdoors or to quit altogether (although one urban young woman noted that she had been successful only after her father had suffered a heart attack). Otherwise, other participants commented that they had failed to persuade their fathers because they (the fathers) wrongly believed that they were not capable of quitting or that it was too late to do so. Peer influence was noted as being very strong in Malaysian culture. Some fathers were not willing to listen to their daughter’s advice, but rather told them that they did not know anything about this matter. Another reason given for the lack of success was that perhaps the young women lacked confidence in expressing their dislike towards smoking to their fathers. Thus, in their opinion, their fathers had the right to smoke and children should be given advice, not giving advice. Lack of support from other family members, especially from their mothers, often made the young women feel that their efforts were meaningless. In their opinion, the best method was the smokers’ own self-motivation and determination to quit.

When persuading their fathers, these young women had mixed feelings, the majority feeling little confidence, unsure, and even afraid that their father would not listen to their advice. One participant felt that it was difficult to persuade her father to stop smoking as she was the middle child in her family; she had no courage to even ask her father why he smoked. Even her mother never advised her father to quit smoking. The reasons given for not being confident including being afraid of being scolded and of disrupting the enjoyment of their fathers, feeling that their fathers would not want to listen to their advice, and knowing that in Malay culture, it is impolite, improper, and not acceptable for a younger person to give advice to the elderly. Young women are also generally perceived or seen as lacking confidence, being soft, and having a weak character. One young woman claimed that her father
just brushed her away or merely listened when she gave advice. Other factors that contributed to the failures of persuading included the age of the child, and inappropriate methods and facial expressions when giving advice. Male smokers also tended to assume that young women did not understand anything about smoking.

On the contrary, other participants expressed confidence because they very much wanted their fathers to stop smoking and had evidence to support their arguments by showing pamphlets about the harmful effects of smoking on health. Participants believed that the main factors that contributed to success in persuading their fathers to quit smoking included support from other family members, the power of love shown by the daughter towards her father, and the sincere words of advice that could “awaken him to realize the truth”.

Findings on IEC materials

Following the preliminary focus group discussions, the Cambodian research team worked with women who had experience trying to persuade their husbands to quit/smoke outside and with married men who had non-smoking wives to develop messages that would successfully persuade smokers to quit smoking or to smoke outside the home. The message developed reflects the comments made by the married men that the most effective messages would use “gentle persuasion” and would focus on the man’s responsibility to his family.

The messages elaborated by the Vietnamese research team included a combination of proven medical facts about smoking (including that tobacco smoke contains thousands of toxic chemicals, that the majority of people who die from lung cancer are smokers or exposed to tobacco smoke, etc.), information about passive smoking, and information about the harmful effects of tobacco smoke on children in particular.

The Vietnam research also suggested ways to increase the effectiveness of women’s advice and to build their skills, confidence, and assertiveness to persuade husbands to stop smoking inside the house. Skills/tools women should use to persuade their husband to stop smoking inside the house were noted as:

- **Choose appropriate moments to give advice**, such as when your husband is smoking and wants to hold his daughter/son; when both of you feel happy with each other, feel comfortable after a meal, or feel relaxed when going to bed; when a tobacco control message is being broadcast on TV or radio; when someone advises your husband not to smoke/not to smoke at home; or when your husband is suffering a bad cough or any disease which might be related to smoking.
- **Be patient!** If your husband does not change his behavior immediately, keep persuading him until your goal is reached. This may take a long time.
- **Be determined and strong**: Ask your husband never to smoke inside the house. He
should smoke outside only. If your husband already smokes outside only, ask him to promise that he will quit smoking. Don’t let anyone smoke inside your house.

- **Encourage your husband’s effort to stop smoking inside your house.** Use encouraging words such as, “Since you no longer smoke inside, the atmosphere has become fresher in our house and our children seem healthier.”

- **Things that should be avoided:** giving advice in a stressful way; giving advice or lectures in front of guests; hurting your husband’s pride; trying to give advice when your husband looks unhappy or when he has just come home from work.

- **Strategies to try with your family’s guests who smoke:** say, “I am sorry that there is no ashtray inside my house. My husband does not smoke indoors, in order to protect our family’s health;” “Don’t smoke, please. My husband is trying to quit. He may relapse if he is invited to smoke.” Express your ideas politely and show your need for the guests’ help; hang a “No smoking” sign in your sitting room.

The Malaysian young women noted they had received information or resources on the harmfulness of secondhand smoke from anti-smoking campaigns. They had access to these resources through newspapers and reading materials at home and school. Some admitted, however, that these materials were insufficient. Nevertheless, the participants were optimistic and identified several opportunities to persuade their fathers to stop smoking or at least smoke outside the house. Some of the strategies are as follows:

- **Encourage a greater degree of openness when communicating at home:** It would be easier to persuade their fathers to stop smoking if the atmosphere at home was conducive, the father-daughter relationship was good, and they could communicate freely and openly without barriers.

- **Supportive members in the family or among friends:** The urban young women felt that a smoker’s loved ones, especially his wife, were capable of guiding and persuading him to stop smoking. For brothers who smoked, parental guidance and advice should prove to be effective, although this usually did not completely stop them from smoking. One of the participant’s brothers had tried hard to stop smoking after being advised by his mother. Girlfriends might also be helpful in persuasion.

- **Health education and health promotion activities:** Most of the information received about the dangers of smoking was through the mass media, i.e. newspapers and advertisements on television. The participants felt that with more “horrifying photos” and a list of all the toxic chemical substances contained in the cigarette, their fathers might become more aware of the dangers of smoking. Some preferred pamphlets that provided an explanation of the causes of cancer, information about quit methods, and suggestions on how to overcome the need to smoke. One participant relayed her experience in placing a “No smoking” sticker in her family’s living room, noting that it had not been useful in stopping...
her father’s bad habit. According to one of the participants, a sign reading “Thank You for Not Smoking” was quite effective as her visitors, upon seeing this sign, smoked outside her house.

*Mass media:* The anti-smoking concept could be interwoven with movies or documentary clips to gain the attention of the public, as these are capable of great influence. Some of the urban young women believed that the smoking trend began when the public was exposed to the unhealthy behavior through popular movies.

*Results of using the IEC leaflet (Vietnam)*

All of the participating women tested the leaflets to determine their effectiveness. Some used all of the messages provided in the leaflet, while others used only those messages with which they felt comfortable. All of the women told their husbands about the harmful effects of tobacco use on the health of both smokers and passive smokers.

The frequency with which the women used the messages varied. Most used the messages approximately three times per week; one only used the messages in the first ten days, then her husband quit smoking at home and she did not repeat the messages again. The ways in which the messages were delivered also varied. The women indicated that they found that it was easier and more comfortable to give advice to their husbands during TV-broadcasted tobacco control programs and in alliance with their children. The women encouraged their children to talk to their fathers about the harmful effects of tobacco and to advise them then to quit smoking to “*keep healthy and bring me to examinations.*” Some women actively gave advice when their husbands had finished their dinner and were in the process of lighting a cigarette. One participant noted that she rewarded her husband with chicken porridge when he did not smoke inside the house.

Some women reported that they sometimes forgot the skills/tools that they had been provided with, and continued to use strategies that should be avoided, such as asking the husband not to smoke inside the house right after he had returned from work. The women admitted that this strategy did not work. All of the women felt confident when communicating messages about the health status of smokers and the danger of tobacco smoke to their children’s health. Although the researchers had handed them leaflets with designed messages and strategies, some of the women simply gave the leaflets to their husbands, as evidence that “you should not smoke.” Although this method had not been recommended, it did have some positive impact.

Most of the participants reported that they could not prevent guests from smoking inside their houses. One woman hid ashtrays, hoping that her guests would not smoke without ashtrays, but hesitated to speak directly with them about the harmful effects of tobacco, feeling afraid that to do so would be inhospitable and would make her husband lose face.

The women reported that their husbands’ responses to their strategies varied. Over
half of the women indicated that their husbands did not react with anger and had followed their advice to smoke only outside their houses and to decrease the number of cigarettes smoked. One woman said that her husband completely stopped smoking inside their house after her advice. Some woman reported that their husbands justified their smoking behavior by saying: “Uncle Ho was a smoker you see,” or “Many non-smokers also die young,” or “Smoking makes my mouth smell sweetly after eating fish.” Even some of these men, however, still went outside their houses to smoke and reduced the number of cigarettes smoked per day. However, another man refused to improve his smoking behavior and even felt annoyed when his wife gave him advice. One woman said that her husband went outside their house to smoke only in the first several days; after smoking inside during a visit with guests, he relapsed and continued his habit of smoking indoors. Some husbands had a habit of smoking right after coming home from work and were very testy when the wives reminded them not to smoke at home.

In short, most of the husbands respond positively to the designed messages and strategies. But they preferred to listen to their children rather than to their wives – perhaps to save face in a traditional way: following their children’s advice meant loving their children, but following their wife’s advice meant being afraid of their wife. As a result, most of the participants believed that they had the easiest time advising their husbands when they worked together with their children or when the television was broadcasting a tobacco control program/message. This gender problem may prove a challenge to women in convincing their husbands, and suggests that targeting only women in smoke-free home programs may not be successful. Most women felt less confident in asking their husband to smoke outside when they had guests. This is because an invitation to smoke between male guests and hosts is a traditional reflection of hospitality in Vietnam, especially in rural areas. This presents a further challenge for women, and is a major reason for men to smoke inside and to relapse after quit attempts.

The men reported that they felt that messages about passive smoking harming children particularly affected them, and caused them to change their behavior. Men also repeated other messages they heard from their wives, such as, “I can’t stand the smell of your smoking”, and “Smoking cost money and harms health”. The men reported receiving advice from their wives many times, and some said that such advice caused them to stop smoking inside. The men noted that their wives should remind them any time they were about to smoke inside. Men also indicated that a key reason to change their behavior was concern about their children’s health and about being a bad role model for them.

While men mentioned receiving information on tobacco from TV and radio, they remembered very little of what they had heard. While they knew that “smoking harms health”—precisely the warning on cigarette packs in Vietnam—they could not remember exactly which diseases are caused by smoking. They found the
information to which they are exposed too brief, without any explanations of why smoking harms health. Finally, the men emphasized the importance of using gentle advice and appropriate moments to give advice. “My wife gently advised me while having a cup of tea or talking in the evening,” commented one husband.

Feasibility of developing culturally-acceptable messages (Malaysia)

According to the young rural Malaysian women, there are two main angles that could be used to design culturally-acceptable messages to create a smoke-free home. These were to develop the messages in line with Muslim religious issues and to do so according to the Malay Muslim norm. The majority indicated a preference to include a religious element in the pamphlets. They felt that it has been a good start to conduct anti-smoking campaigns during the fasting month of Ramadan. However, they felt disappointed that there is no continuity during the subsequent months. During Ramadan, all participants claimed that their fathers only smoked at night, thereby reducing the number of cigarettes smoked during that one month. Some participants were aware that smoking is considered haram or a forbidden act according to fatwas in certain Malaysian states. In general, according to the Islamic law, whatever causes more harm than good is forbidden. Therefore, one young woman suggested that by citing the exact Quranic verses on this matter, messages would highlight and show evidence that smoking is in fact haram.

The urban young women agreed that it is considered haram for a Muslim to smoke; however, they felt that in this era people who were aware of the law still smoked even though they never let go of their faith. These young women claimed that none of them were truly religious and, thus, religious messages would have little impact on the behavior of smokers.

Conclusion and recommendations

The Cambodian research shows that while all women married to smokers worry about their husbands’ smoking, and most of them advise their husbands to quit or to smoke outside only, their advice is generally unsuccessful. This is due in part to the women’s low status in the home, with men being used to making decisions rather than taking their wives’ advice.

The research from Vietnam points out various strategies that may make it easier for women to persuade their husbands not to smoke indoors, or to quit smoking. The research also discovered many obstacles which made it quite difficult for women to succeed in convincing their husbands. The lack of in-depth information about the problems of smoking suggests the need both for better mass media campaigns, and also for stronger warnings on cigarette packs. Men’s reluctance to hear advice from their wives suggests that women may not be the best target group for changing their husband’s behavior, despite the women’s strong motivation. Finally, the concern men feel for their children indicates that school programs could recruit children as motivators to convince fathers not to smoke, or at least to avoid smoking indoors.
The Malaysian research provided insight into how young women could influence and persuade their father to reduce or stop smoking. Unfortunately, while most of the fathers interviewed realized the hazards of smoking and the benefits of cessation, they found quitting difficult or undesirable.

Knowledge about the harm of active and passive smoking was limited among both men and women, in Cambodia, Vietnam, and Malaysia. In the former two countries, many could not specify diseases caused by smoking or inhaling the smoke of others, nor their severity; for instance, very few knew that smoking could cause cardiovascular disease. In Malaysia, knowledge about the harm caused by smoking was higher, although even here there was a general lack of understanding of “passive smoking.” This suggests that messages—including those on cigarette packs—should specify diseases and their seriousness, for both active and passive smokers. Since men were more aware and concerned about the effect of passive smoking on their children than on their wives, messages about passive smoking should include the harm to grown women, and not only for pregnant women.

Some smokers mistakenly believed that smoking water pipes is far less harmful than smoking cigarettes, both for themselves and for those exposed to the smoke. *Messages should thus make clear that smoking water pipes harms active and passive smokers as much as smoking cigarettes.*

The main reason that men gave for not smoking inside the home was concern that smoke could harm their children’s health, as well as the pressure to not do so by their children. *Messages designed should remind smokers about their vital role and responsibility in protecting their children’s health, and should use children as allies in persuading men not to smoke indoors and to quit smoking.*

Concerns men had about smoking included the consequences to their and their family members’ health, to the household living standard, and to their image in their children’s eyes, as well as belief that men should play a positive role in the family. *Messages designed should highlight the role of fathers in setting a good example for their children, and the importance of the well-being of parents—and how avoiding tobacco use is critical to that well-being.*

Men indicated that they were open to receiving advice, but preferred to be persuaded at the right time, in the right place, and in gentle ways. Their pride would easily be hurt if their wives used less gentle methods or attempted to persuade them not to smoke in front of guests. *When approaching smokers on the subject of their smoking, women should be encouraged to use their children as allies, to use gentle persuasion, be cautious about their husbands’ pride, and to link their advice to tobacco control programs on TV.*

Men were concerned about their health, though they may not have believed that smoking would hurt them until they had direct experience, such as their own illness or that of an acquaintance. *Women can use examples of smokers who became healthier after*
their quit, or who continued smoking and then became ill, in order to increase the personal dimension of the advice to quit smoking.

The high level of concern for the health of children means that this may be the most convincing argument for men to stop smoking inside the home. In fact, some men explained that they only smoked outside when their children were in the home—that is, their concern did not extend to their wives, suggesting that people need more education about the harmful effects of passive smoking on women as well as on children.

An effective method to persuade a smoker to quit his bad habit is to experience directly or indirectly the consequences of smoking, such as having a heart attack. This is not to suggest that families wished their husbands/fathers to have a heart attack, but rather highlights the fact that friends who are ex-smokers may be the best persons to provide advice to current smokers, especially if they have suffered any smoking-related illnesses.

The Ministry of Health Malaysia has produced a Quit Smoking Guide which apparently is not widely distributed and/or made known to smokers. The majority of the fathers and their daughters had not seen the guide. For medical practitioners, a Clinical Practice Guideline (CPG) on Treatment of Tobacco Smoking and Dependence was published by the Ministry of Health Malaysia and Academy of Medicine in 2003 as a reference for doctors to treat patients who are addicted to nicotine, and most government health centers have established quit smoking clinics. Unfortunately, none of the fathers interviewed knew of the existence of the quit smoking clinics and the services offered to help them overcome their nicotine addiction. Therefore, the current smoking cessation program needs to be enhanced, especially in terms of publicity. The majority of fathers tried to quit smoking but were unsuccessful. If these fathers are really determined, with the services offered in the health clinics, they have a better chance of overcoming their smoking habit.

In sum, creating a smoke-free home requires a three-pronged approach, i.e. preventing the initiation of tobacco use (in homes where there are no smokers), promoting quit attempts among the young and adults (in homes with smokers), and eliminating non-smokers’ exposure to secondhand smoke (also in homes with smokers). Creating smoke-free homes requires commitment from many parties—young women, their fathers, the family, health care providers, anti-tobacco advocates, and policymakers.

Bibliography


Chassin, L., *Parental smoking, behaviors, and attitudes may be associated with adolescent smoking*. Pediatric Psychology, September, 2002.


Fisher, P.M., Krugman, D.M., Fletcher, J.E., et al., *An Evaluation of Health Warnings in...


Ministry of Health Malaysia, National Health and Morbidity Survey II; 1996.

Ministry of Health Malaysia & International Islamic University, Malaysia. Youth Smoking Survey, 1999.


Chapter 3-2: Women and Tobacco: Reasons for Use and Prevention Strategies

Background

This chapter addresses four recent studies on the issue of women and tobacco: tobacco use by older women in villages in a northeastern province of Cambodia\(^1\), reasons for tobacco use among young urban women in Thailand\(^2\) and Malaysia\(^3\), and use of young female students as peer educators for tobacco control in Thailand\(^4\).

In Cambodia, 47% of men and 6% of women over age 15 use tobacco. A higher prevalence exists among the older population, at 72% of males and 10% of females aged over 40 years, including 9% of the urban female and 12% of the rural female population. Tobacco use among women is as high as 21%-53% in the country’s northeastern provinces. Qualitative research from a northeastern province, Kratie, is highlighted here to better understand (i) the attitudes and perceptions of women toward smoking, (ii) their level of knowledge about tobacco’s impact on health, (iii) the current social norms and beliefs about tobacco use among women and men, and (iv) their exposure to pro- and anti-tobacco activities.

The research in Cambodia, conducted among women aged 40 years and above, consisted of four in-depth interviews with tobacco users and four with non-users, and six focus group discussions with users and six with non-users, with a total of 108 participants. The research also included observations of tobacco-related activities such as farming, selling, forms of tobacco use, and pro- and anti-tobacco media campaigns and activities in the community (including billboards, posters and community education or meetings). The minimum age of 40 was used as most Cambodian women do not begin tobacco use until they are considered “old”.

As in most Southeast Asian countries, smoking prevalence among the female population in Thailand is less than that of males, although smoking prevalence among female youth (15-24 years) has been increasing in recent years. The low smoking prevalence among females can be attributed to the fact that smoking is not socially acceptable in Thailand and, perhaps, due to data collection methods, since there is evidence from other studies of higher smoking prevalence among female

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\(^1\) Dr. Chhea Chhordaphea and Dr. Koeut Pichenda, “Health Knowledge and Gender Attitudes Related to Women and Tobacco Use in Kratie Province, Cambodia.” National Centre for Health Promotion (NCHP), Ministry of Health, Phnom Penh, Cambodia.

\(^2\) Boosaba Sanguanprasit, Oranuch Pacheun, and Lakana Termsirikulchai, “Knowledge and Attitudes Related to Women and Tobacco among Young Thai Women.” Faculty of Public Health, Mahidol University, Thailand.


\(^4\) Nuntavarn Vichit-Vadakan, Dr.P.H., “Peer Communicators: Bridging Communication Gaps in Tobacco Control Among Female Youth.” The College of Public Health, Chulalongkorn University, Thailand.
students. The research on smoking among Thai women looked at reasons for young Thai women to use or not use tobacco, in order to provide guidance to tobacco control programs targeting young women. A total of 482 self-administered questionnaires were collected from female fourth year students at three Bangkok universities.

The smoking prevalence within the Malaysian female adult population is significantly lower (3.5%) than that of the male population (25%). However, it is projected that the rate of smoking among women, particularly young women, will continue to increase if nothing is done about it. A good opportunity exists for preventing uptake and future premature deaths while tobacco use is still relatively low among women and girls. Obtaining an understanding of factors influencing tobacco use among young women would facilitate the development of effective interventions to prevent smoking initiation, as well as to assist established smokers to quit smoking. The research described here examined factors associated with tobacco use among young women in Malaysia, and consisted of a cross-sectional survey of university and college students carried out to obtain information on factors affecting the decision to use or not to use tobacco among female college students. Two focus group discussions were conducted prior to the development of a structured self-administered questionnaire in Kuala Lumpur. A group of smoking and non-smoking female students (a total of eight within a group) from a public and private university/college were carried out.

The Thai study on using female students as peer educators was based on the fact that peer approaches have been successfully adopted for various health and education programs. Seeing through the eyes of young adults may provide better insights into their thinking, which would form a better basis for the development of appropriate and effective messages for tobacco control. Moreover, peer communication brings the level of communication to an equal level, without generational, social, and other barriers. In essence, peer communicators may serve as a natural conduit in effectively disseminating tobacco control messages. The overall objectives of this study were (1) to mobilize secondary school students as peer communicators in an effort to reduce tobacco use among their peers, (2) to develop a model peer communicators program which could be expanded to other schools and settings, and (3) to empower the secondary school students in peer communication.

The study chiefly employed participatory research. A core group of students participated in the research as co-researchers, and were involved in the study from the planning through the evaluation stage. The first phase involved the selection and training of the student core team, consisting of fourteen girls in grades 7-12. The second phase included a baseline survey of 630 students of the same age as those in the student core team, using a questionnaire. The third phase used eight focus group discussions (involving a total of 68 students) to generate information about the factors influencing tobacco use; this information was then analysed using qualitative
methods. The fourth phase involved the development of messages and strategies in tobacco control by the core team. The fifth and final stage of the research study was an evaluation of the effectiveness of the messages and strategies developed in the fourth phase, on students and parents.

Results

Prevalence of tobacco use

The study in Cambodia, being qualitative, did not attempt to assess smoking rates; rather it selected a sample (older women in the northeastern province of Kratie) in which smoking rates were already quite high. The relatively small sample sizes of the other surveys also mean that the results may have limited statistical significance.

The study of Thai female university students found that a fifth (19.8%) of the young women had ever smoked, with the current smoking prevalence at 3.1%.

Among the Malaysian young women interviewed, one-fifth (21%) had tried smoking, and 4.3% were current smokers. Six percent of the female students had smoked more than ten cigarettes in their lifetime. Half (54.8%) of the female smokers who smoked in the last seven days prior to the study were light smokers, smoking ten or fewer cigarettes a day.

The prevalence of ever smoking among the younger Thai female students (grades 7-12) was 13.4%, of which 5.1% were current smokers. Half of the smokers smoked six to ten cigarettes/day, while 34.5% smoked one to five cigarettes/day.

Knowledge about the dangers of tobacco use

Levels of knowledge about tobacco use varied widely across the studies, with the women in Cambodia being the least informed. The results, however, are not comparable, as the Cambodia research focused on rural women and was not a survey, whereas the studies in Thailand and in Malaysia involved surveys of urban students.

In Cambodia, all non-tobacco users were aware that there are some health risks associated with smoking, such as cough and tuberculosis. A small number of respondents were aware of other risks of smoking, such as lung disease, stomach disease, and harm to the heart, brain and blood vessels. A few perceived economic risks like losing money due to buying tobacco, while a few women could not state any risk caused by tobacco use. None of the Cambodian women knew that chewing tobacco could cause disease. Many tobacco users participating in the Cambodian study did not express much concern about what could happen to them as tobacco users.

None of the Cambodian women understood how tobacco makes people sick; they just assumed there were risks involved as they saw smokers become ill or heard about it from somewhere. Knowledge about the harm caused by tobacco was too weak to prevent them from taking up smoking or to motivate them to try to quit.
However, some respondents did know that those exposed to secondhand smoke, especially children, could feel ill as a result of the exposure. Upon probing, they said that secondhand smoke could affect the health of non-smokers, such as by causing dizziness or nausea when non-smokers smelled cigarette smoke.

Among Thai university students, most (64.2%) did not know about the health effects of light cigarettes, and half (49.4%) thought that smoking could ease their stress.

Among the students in Malaysia, both smokers and non-smokers knew that light/mild cigarettes are just as harmful as regular cigarettes. The majority of respondents knew that smoking caused disease. However, far fewer smokers knew that smoking leads to stroke (77.4%), and to lung cancer (88.7%) in non-smokers as compared to that knowledge among non-smokers (94.1% and 97.4% respectively). Knowledge level was significantly higher among students specializing in medical-related fields.

Cambodian women held many misconceptions about traditional tobacco use. Both women smokers and non-smokers believed that hand-rolled cigarettes were safe to use, because it has been a common practice in Khmer society for a long time, and because they believed that such homemade products used genuine substances without chemicals or harmful substances. The Cambodian women interviewed believed that brand name cigarettes are more harmful than local products, as they were imported or produced by industries that would “put anything in their products in order to get people addicted”.

The economic burden of tobacco use emerged as an issue among young Thai students and older Cambodian women. When Cambodian women started to analyse costs related to tobacco use, they were surprised to learn how much money their family loses, and the young Thai students mentioned harm to the nation’s economy from tobacco use.

**Attitudes towards tobacco use and users**

Cambodian women said that tobacco use was very common in their community, especially among men. In general, women who did not use tobacco did not like the practice and wanted help for tobacco users to quit. Tobacco users felt that tobacco use was normal, and that the practice was part of their ancestral heritage. Among both users and non-users, no strong negative attitudes were expressed towards tobacco use among “old” women, whether they smoked or chewed tobacco. But tobacco use, particularly smoking, was seen as absolutely unacceptable among young women aged 15-25 years.

Non-tobacco users in Cambodia mentioned several reasons for disliking smoking, limited to minor problems such as bad smell and short-term health-related impacts such as cough and respiratory infection. Women participants did not raise the issue of long-term health risk or economic impact caused by tobacco as the reason for disliking smoking. A few non-smoking women seemed to accept the practice of old
women smoking, feeling that once women reached a certain age (over 30 or 40), they were mature enough to make their own decisions.

Some of the Cambodian women who smoked said that they enjoyed smoking, and felt that now that they were older, they should have the right to choose what to do. But for others, it was less a question of liking smoking than of continuing due to addiction. Interestingly, almost all the women who smoked expressed regret that they had chosen to smoke, and they did not like young women to start smoking.

Despite being well aware of the health hazards caused by tobacco consumption, Thai university students did not strongly oppose female smoking. Most (71%) thought that smoking was an individual’s right, and a third (34%) either were not sure or disagreed with the statement that female smoking was not acceptable to Thai society. However, most disagreed with the following statements: smoking was a symbol of maturity (95.2%), smoking would make them acceptable to their friends (96.2%), modern teenage girls must smoke (89.9%), teen smoking would not cause any health problems (84.2%), smoking could relieve their suffering or frustration (87.0%), smoking symbolized gender rights (75.7%), and smoking women looked good (88.9%). Almost all agreed with the following statements: the university should be a smoke-free place (92.1%) and anti-tobacco campaigns are the right thing to do (93.5%). However, they did not think badly of women who smoke. Although most did not think that women who smoke had self-confidence (90.0%), far fewer felt that women smokers had a weak personality (33.9%), that women smokers looked like commercial sex workers (57.6%), and that no one wanted to be friends with teenage girls who smoked (42.5%). About half of the respondents thought that smoking could help them cope with stress, and only 35.7% of them correctly understood that light cigarettes were as harmful as regular ones.

Most Malaysian students disagreed with the statements that male smokers looked more attractive and masculine, and most agreed that men who smoke smell bad. The majority of both non-smokers and smokers prefer men who do not smoke. However, more non-smokers than smokers expressed strong attitudes against smoking. Medical-related students, those who have fewer close friends who smoke, and those whose older sister and father do not smoke tend to have higher pro-health attitudes.

Most Malaysian non-smokers and smokers did not agree with the statements that women who smoke look sophisticated and attractive. Both non-smokers and smokers agreed that women smokers looked unfeminine and were perceived negatively by society. However, once again non-smokers tended to express stronger pro-health attitudes than smokers. This was most marked in terms of preference for women who did not smoke (75.4% of non-smokers versus 19.4% of smokers). More smokers (61.3%) than non-smokers (10.9%) agreed that smoking was acceptable for women. Only about 27% of smokers felt that smoking was a disgusting habit, as compared to 84% of non smokers. Overall, almost all non-smokers (94.1%) and more than half of smokers (59%) felt that smoking was bad or very bad. About a third
(34.4%) of smokers felt that smoking was neither good nor bad, and about half (48.4%) of smokers believed that smoking could control weight, compared to only a quarter (25.2%) of non-smokers. Most smokers and non-smokers alike disagreed with the statements that smokers looked more mature and that smoking was a sign of being modern. Smokers were of the opinion that most men (90.7%) and women (67.2%) of their age group smoked, while the figures for non-smokers were 61.5% and 24.9% respectively.

Most of the young Thai students (grades 7-12) agreed that smoking was harmful to one’s health and to the functioning capacity of teenagers. In addition, they also believed that the health effects from smoking could affect their academic performance. However, even though they knew that smoking was dangerous, that knowledge had little effect in the face of peer pressure.

**Intention to smoke**

Intention to smoke varied by country, with most Thai women saying they would not, and most Malaysian women being unsure. When Thai university students were asked what they would do if offered a cigarette by close friends, about half (50.4%) reported that they would definitely refuse, and only 1.2% and 0.4% said that they would definitely and would likely smoke, respectively. Non-smokers cited the factors discouraging them from smoking as health effects of tobacco (76.6%), being afraid that tobacco consumption would lead them to other hard-core drug use (3.3%), feeling like smoking was useless and nonsense (4.0%), and fear of being disgusted (3.3%).

About 2% of Thai school children non-smokers reported that they may smoke if their friends offered a cigarette, and 1-2% that they may smoke in the next several months. Factors they perceived as being deterrents to smoking included attention and care of their loved ones, including family members and friends. While some felt the family’s influence was more important, others felt that significant others (such as friends) had a larger influence on teen smoking. Another deterrent factor was the school children’s participation in extracurricular activities. Students suggested that effective ways to reduce uptake of smoking among youth included social pressure and more stringent regulations in stopping or controlling the production and purchase of cigarettes, as well as raising the price of cigarettes, which may decrease their accessibility to youth.

When asked if they were likely to smoke cigarettes in the near future, most Malaysian female students could not give a definitive answer; only 18% said they would definitely not smoke, while 13% of students were sure that they would smoke in the near future.

**Reasons for using tobacco**

The studies compiled here looked at the reasons females gave regarding their tobacco use, both by asking women and girls directly, and by looking at statistical
associations between different factors and tobacco use. Neither method is perfect. Individuals are themselves often unaware of their actual reasons for using tobacco (for instance, they consistently under-estimate or entirely ignore the effects of advertising and low price). Statistical associations at any point in time do not prove causation; to do so, a longitudinal study would be necessary to see which factors caused original non-users to start or not start tobacco use. Each study took a different approach in assessing reasons for using tobacco, and thus the studies are not comparable. However, the research does yield certain interesting ideas and associations, suggesting both differences and similarities among the countries.

In discussions of how women started using tobacco and why they made the decision to use it, Cambodian women gave many reasons, including cigarettes being offered by their father or brother, companies offering gifts for those buying their cigarettes, and the attractiveness of cigarette advertisements. Women said that tobacco smoke could prevent insect bites when working in the rice paddies, and that tobacco use prevented or reduced morning sickness during pregnancy. Tobacco users believed that offering tobacco for smoking and chewing was a symbol of respect and welcome to guests who came to their homes.

Smokers in Cambodia said that smoking could reduce their hunger when they worked late, made their brain fresh, stimulated their thought, and generated strength and endurance. Smokers said that they liked smoking, as they felt good when they smoked a cigarette after waking up, and that a cigarette after a meal could make the meal “wonderful”. Cigarettes helped them to counter boredom, and when they felt fed up with something, tobacco use killed sadness and frustration. Cigarettes could also create a happy environment when they gathered with other people.

Tobacco chewers felt that chewing tobacco or betel nut kept their mouths clean, maintained strong teeth, helped prevent bad breath, plaque and tartar, and could make their lips look red and beautiful. Chewing was considered a traditional practice for “good” women. A few people started smoking on their own in secret, especially young women. Both smokers and non-smokers explained that if a woman started smoking at a young age, she would hide her practice because she would not want anyone to look down on her. The reasons given by Cambodian women for non-use included fear of health impacts, family or friends who did not smoke, disliking the smell of smoking, and finding chewing disgusting.

Thai university students reported that the three leading factors encouraging them to take up smoking were curiosity, stress, and peer pressure. Factors found to be significantly related to higher rates of smoking behavior among the respondents were high daily allowance, low academic achievement (GPA < 3), peer smoking, father’s smoking, sibling’s smoking, and spending leisure times going out with friends. Factors that significantly related to lower smoking rates in this group were negative attitudes towards smoking in general and female smoking in particular,
and spending leisure time watching television.

In Malaysia, smoking rates were higher among non-medical students, students who were from urban areas, and those who had siblings who smoke. Other factors contributing to female smoking in Malaysia included having a mother who smoked, believing that quitting smoking was easy, having been offered free samples, having a positive attitude towards smoking among males or among females, feeling that it was acceptable to smoke, believing that most people their age smoked, having close friends who smoked, having a mother with a higher educational level, and having low knowledge of the health consequences of smoking. A small percentage of the students smoked “to do what the guys can do” and because it was a group norm to smoke.

The influences to use tobacco among young Thai school girls may be generally categorized as either individual or environmental factors. Individual factors that may lead to tobacco use include attitudes, behavior, and outlets for stress. Current smokers had a positive attitude toward tobacco use, viewing smoking as stylish and attractive, not considering it as shameful, and finding it a beneficial way to relieve stress. They felt that smoking was relaxing, had a calming effect, and even enhanced concentration. In terms of environmental factors, the results showed that those who had the most effect on an individual’s smoking behavior were their friends, followed by family members. Moreover, the surrounding environment influenced school children’s smoking. School, entertainment establishments, and the home environment (if family members smoked) could lead the school children to start smoking.

**Promotion of cigarettes**

The extent of tobacco advertising varied across the countries. Thailand, with strict laws, had very little tobacco advertising, while advertising was abundant in both Malaysia and Cambodia. In Cambodia, the researchers noted from their observations that there were many cigarette company posters displayed in coffee shops, grocery stores and other places. A BAT car that delivered cigarettes to the community stores was also observed.

Among the Thai university students, almost all (96.7%) of the respondents said they had never received any tobacco-branded souvenirs; among those who had received such souvenirs, 72.8% received them less than three times. During the past two weeks, 36.5% of the respondents did not receive any information about tobacco such as logos, symbols, package, price, types, etc., while 42.6% of them received information from television, 23% each from retail stores and from newspapers or magazines, 14.7% from printed materials (posters, brochures, pamphlets, stickers, banners, etc), and 7.3% from friends.

More than 60% of the Thai school children did not come into contact with cigarette logos or brand names. This was as expected, since the majority are non-smokers.
However, more than half (55%) of the respondents saw cigarette brand names or logos in stores, 35% on radio and television, 23% in magazines and newspapers, 22% from friends, and 12% in posters, leaflets, and brochures. Since Thai regulations ban direct cigarette advertisements on television and radio, those who reported coming into contact with cigarette logos and brand names on television may have represented indirect exposure in the form of a backdrop or showing of cigarette packs in serials or films.

In Malaysia, a slightly higher percentage of smokers than non-smokers noticed tobacco advertising in posters, magazines and in discos/karaoke clubs, although the difference was not significant. Both smokers and non-smokers sometimes noticed tobacco advertisements in sports or concerts. More smokers were exposed to tobacco industry promotional activities such as being offered cigarettes (27.4%) and being sent an SMS (11.3%). Apart from the cigarette pack, more non-smokers tended to notice advertisements about the dangers of smoking in all media, as compared to smokers. There was a significant difference among smokers (91.1%) and non-smokers (68.8%) in terms of noticing the warning label on cigarette packs. As expected, most non-smokers tended to socialize with non-smokers (60%) whereas most smokers (86.9%) tended to have one or more close friends who were smokers.

Quit attempts

The addictive nature of cigarettes makes it extremely difficult to quit smoking. While most beginning smokers believed they could easily quit, those who have tried are usually unsuccessful. These simple facts were borne out in different ways in each of the research studies discussed here.

In response to questions about quitting, the majority of Cambodian women responded that they had never tried to quit, and they thought that quitting might not be possible for them since, as long-time users, they were very addicted to tobacco. They felt that quitting would be possible for those who just started smoking. In addition, people did not know how to quit smoking. A few had tried to quit on their own when they fell ill, but then relapsed. Women said that they did not know anybody who had successfully quit smoking.

Only one half of Thai university students thought that quitting smoking was difficult, though only 30% of those who had tried to quit succeeded. The main factor inspiring those who ever smoked to quit were to improve health, and being requested to quit by a friend or by family members. The factors that caused them to fail to quit smoking were being tempted by friends, being unable to resist their desire to smoke, and not being ready to quit. Variables found to be significantly related to not quitting smoking were a higher daily allowance, spending leisure time going out with friends, having close friends who smoked, feeling that smoking in general and among females was acceptable, and lack of exposure to on-campus anti-tobacco campaigns or in-class lectures on tobacco’s effects. Those who had better self-esteem were highly likely to continue smoking, and those who quit smoking...
were more supportive of the ban on point-of-purchase advertisements.

Two-thirds of the Malaysian students who smoked had tried to quit smoking. Concern for personal health, wanting to set an example for children, and parental disapproval had led most smokers to think about quitting smoking; interestingly, Malaysian society’s disapproval of smoking and the current warning labels on cigarette packs did little to motivate them to quit. Only 19% said they were not planning to quit at all.

Almost all (95%) of the Thai smokers in grades 7-12 thought that they could stop smoking if they wanted. Among the smokers, over half had received advice to stop smoking, and 85.0% had previously stopped smoking for health reasons. The major factors for their failure to quit smoking were lack of willingness or commitment to stop, being persuaded by friends, and loneliness.

**Exposure to tobacco control activities**

Respondents in Cambodia, Thailand, and Malaysia reported varying degrees of exposure to tobacco control activities, such as in-school programs, mass media campaigns, and warnings on cigarette packs. In general, the older Cambodian women, who were far less media saturated, had far more belief in the effectiveness of the messages than did the young urban Malaysians and Thais.

In Cambodia, some women had seen or heard messages on the harm caused by tobacco from community volunteers, TV and radio, but they said that such messages occurred very rarely; the messages in many cases were also very vague. There were no anti-tobacco IEC materials displayed in the community, other than a sticker on the door of the village chief’s house. In addition, many women, both smokers and non-smokers, said no one had ever come to tell them about the danger of tobacco, nor had they seen or heard any messages on TV or radio. Smokers said they had seen a label on the cigarette pack, “smoking is harmful to health”, and wondered why people were allowed to sell cigarettes if smoking was harmful. All participants were happy to see or hear anti-tobacco messages. But they felt that messages should be extensively distributed to community people, and they wanted community networks or health staff to come and help people in the community quit smoking.

Among the Thai university students, two weeks prior to the survey, 70.7% of the respondents had been aware of anti-tobacco campaigns. Among those who were aware of anti-tobacco campaigns, 83.7% had seen the campaigns on TV, 42.6% on banners, 40.4% in newspapers, 35.9% on cigarette packages, and 28.5% had heard them on radio programs. Over half of the respondents (54.1%) viewed anti-tobacco campaigns to prevent youth from taking up smoking or to encourage them to quit as not very effective. Most (67.4%) of the respondents reported that there were anti-tobacco campaigns taking place in their academic institutions, and 30.5% had participated in such campaigns. About half of the respondents (49.7%) thought that the most effective communication channel for anti-tobacco campaigns directed at
female youth smoking was personal contact, while 35.3% thought television programs were the most effective method.

In terms of the Malaysian “Tak Nak” anti-smoking campaign, about half of the respondents felt that the campaign was somewhat relevant, and about one-third said that it was not relevant. For most smokers (61.7%) and non-smokers (55.9%), the “Tak Nak” anti-tobacco campaign had no effect on either their likelihood to smoke or likelihood to quit smoking.

Among the Thai school girls, 59.5% reported that they were taught in school about the hazards of smoking, 37.4% reported that there were discussions about causes of teen smoking in the classroom, 54.6% said that they were taught about other (non-health related) effects of smoking, and 21.5% indicated that they had discussed with friends about how to quit smoking. A significant proportion (over 20%) did not remember if they had discussions about tobacco in class, suggesting that such classes were not memorable (and therefore not likely to be effective). Most of the respondents (83%) received information about anti-smoking messages from television, while only 1.3% did not come into contact with any form of anti-smoking campaign. More than 50% obtained information from school and personally from friends, teachers and family members. Printed media was also important, with more than one-third of the respondents reporting that they were exposed to anti-smoking messages through print.

Although most of the respondents were exposed to some form of anti-smoking campaign, a mere 5% felt that the anti-smoking messages had much impact. Over half (53%) said they had little effect and 25% were unsure, while 18% thought that the messages were ineffective in changing the smoking behavior of teenagers. The participants felt that the messages failed to target youth, and that the right mass communication strategies and messages could prevent teenagers from initiating smoking and could convince them to quit. Nearly half of the respondents thought that person-to-person contact was the most effective media for anti-smoking campaigns (45%), and a third (34%) felt that television was the most effective.

Retention of information on cigarette pack warnings was much higher in Thailand, where students could list a number of the warnings, then in Cambodia or Malaysia, where warnings were much vaguer and not pictorial. Smokers noticed the warnings far more than non-smokers.

Conclusions

The four studies discussed in this chapter contain much interesting and useful information about tobacco use among women in Cambodia, Malaysia, and Thailand. Reasons for smoking, levels of knowledge about the harms of smoking, attitudes towards and attempts at quitting, and opinions about tobacco control messages should help those working to counter the tobacco epidemic among Southeast Asian women.
Certain factors were common across the countries: belief that smoking is acceptable among women, that it is easy to quit, and the fact that having family members or close friends who smoke generally lead to higher rates of smoking. This information can be used to target women and girls at higher risk of smoking and to choose messages and approaches more likely to be effective.

Meanwhile, the role of policy cannot be ignored. Pervasive tobacco advertising—even where it is prohibited by law—certainly plays a significant role in encouraging people of all ages and both sexes to smoke. Low taxes on cigarettes contributes to their affordability, and youth and the poor are most affected by price increases (that is, most likely to reduce or stop their tobacco use when taxes increase). While some people question the effectiveness of package warnings, the retention of messages from the packages is fairly high, and is far more detailed in Thailand, where the messages are pictorial and explicit, than in the countries where the messages are vague. Finally, smoke-free places contribute to a sense that tobacco smoking is unacceptable, and counter the effect noted in Thailand of smoking when out with friends. Strengthening tobacco control policies would thus have a hugely significant effect on reducing tobacco use among women and girls in all three countries.

Finally, a note of caution on the results: given the low rates of smoking among young women in Malaysia and Thailand, and the relatively small sample sizes in all three countries, some of the statistical results may not have great significance. The studies were aimed more at indicating general trends, and at suggesting areas of intervention and of future research, than at providing definitive information on smoking among women in the three countries.

**Recommendations**

1. The tax on cigarettes and all other tobacco products should be increased to make the prices unaffordable to youth. It is already known that youth and the poor are most affected by price, and results of this research indicate that those with higher daily allowances had higher rates of smoking.

2. Passage and enforcement of strict regulations banning all forms of tobacco promotion are needed. Cambodian women are the most direct in explaining that they started smoking due to advertisements, but women and girls in all countries were exposed to ads, and it is well known that banning all forms of promotion causes significant declines in smoking prevalence, and that youth are more affected by advertising than older people. Although ads on media are banned in Thailand, many of the students came into contact with cigarette logos and brands on television, which indicates that images of smoking and/or cigarettes may have been a backdrop in television shows. It is well known that cigarettes companies contribute funding to movie production in exchange for incorporating smoking into scenes or showing images of cigarettes and smoking in the background. Thus, banning of the depiction of smoking and tobacco products in the media should also be considered.
3. Display of cigarette packs and ads in stores represents an important form of advertising, particularly when other forms of promotion are banned. Thailand has recently banned advertising of cigarettes in stores. The results of this study confirmed the need for this new regulation, since more than half of the respondents came into contact with cigarette advertisements in stores. In order for the regulation to be effective, a strong enforcement system must be in place.

4. All universities should pass and enforce strict smoke-free policies. Allowing students to smoke on campus sends a clear message that smoking is acceptable.

5. Warnings on cigarette packs should be clear, strong, specific, and include pictures. The research shows that retention of such messages is much higher in Thailand, which has by far the strongest messages. Cigarette pack warnings reach virtually all tobacco users, working as “mobile billboards” paid for by the industry rather than governments, but messages are essentially worthless if limited to such a vague phrase as “Smoking harms health”.

6. Anti-tobacco media campaigns should be expanded through all possible means, such as mass media (TV, radio, newspapers) and inter-personal communication (IPC) such as community group discussion, men’s clubs, and women’s clubs. The capacity of existing community volunteers should be built to provide education on tobacco and help community people quit smoking.

7. In-class lectures on tobacco and health could be integrated into the academic programs and refusal skills could be cultivated among students so that they will be able to refuse when cigarettes are offered to them.

8. Community tobacco control should focus on changing people’s knowledge, attitudes, perceptions and social norms with regard to tobacco use. Tobacco control in the community should start from very fundamental steps: education of community people (male and female) on tobacco-related diseases. Community people should be encouraged to work together to prevent taking up smoking and to help tobacco users to quit. Capacity building should focus on skills to jointly analyze the impact of tobacco use on the health and economy of individuals, families and the community.

9. Health messages on tobacco chewing should be tailored to the local context, and proper help should be provided to help people quit chewing.

10. ”Smoke-Free Home” campaigns should be intensified.

11. In development of anti-smoking campaigns, involving members of the target audience, including female youth, would lead to a more effective strategy.

12. Research activities should be extended in order to develop strategies and actions for tobacco control among women and girls.
Bibliography


Chinkurprasaran, W. *Comparison of Results of Exposure to Fear and Sympathy Appeals T.V. Spot on AIDS*. Master’s Thesis, Department of Communication Arts, Graduate School, Chulalongkorn University, 2001.


Meyteekunaporn, S.  
*Women and Tobacco: Use and Prevention* 


Royce, J.M., Corbett, K, Sorensen, G. and Ockene, J. (1997) Gender, social pressure and smoking cessation: The Community Intervention Trial for Smoking Cessation (COMMIT) at baseline. Social Science and Medicine, 44(3):359-70.


Thanakhun, P. Effectiveness of Anti-Smoking Campaign. Master Arts Graduate School, Chulalongkorn University 2000.


WHO website. www.who.int/tobacco/health_ priority./en/index.html, Why is tobacco
a public health priority?. 10/12/2006.

Conclusions and Future Directions

The research studies compiled here contain much useful and convincing evidence of the importance of tobacco control policies for the region. While the research covers a wide range of issues, from smoking among monks and women convincing their husbands not to smoke in their homes, to issues of taxation, smuggling, and free trade, the results all point in the same direction: the responsibility of governments to take strong action to reduce the harm caused by tobacco.

Some of the specific issues raised in the research include:

1) Tobacco spending can represent a considerable portion of household expenditures, and a significant sum of money nationwide. Poor people and poor households suffer disproportionately from tobacco use. While tobacco use can worsen poverty, tobacco control activities could help to eliminate hunger and to reduce poverty. Tobacco consumption could undermine efforts of poverty alleviation programs in Cambodia, Vietnam, and elsewhere in the world. To address poverty and inequity, it is also important to address tobacco use.

2) Levying a uniform high tax on tobacco is a rational policy for Vietnam in order to lower the smoking rates in the short term as well as over the longer term. The results of the Vietnamese research indicate that tax revenues are likely to increase as taxes are raised for domestic unfiltered and domestic filtered cigarettes to the level of the existing rate for foreign filtered cigarettes. The decrease in quantities consumed would be more than compensated for by an increase in the tax rate. That is, health and economic concerns can be met with one action: consumption declines but revenues increase.

3) Cigarette tax increases in Malaysia would result in a win-win situation: improved public health and an increase in government resources. At least some of these newly obtained resources could be used to help smokers to quit, since tax revenue will be contributed by those who have the most difficulty giving up their smoking habit. Revenue could also be used to support tobacco farmers to switch to alternative crops.

4) Since the poor are the least able to afford spending money on tobacco, there is a great incentive to discourage their tobacco use. Raising tobacco taxes represents a win-win-win situation, as it will improve health, contribute to poverty alleviation, and increase government revenue.

5) Singapore plays a significant role in Malaysian cigarette smuggling. Despite a high level of awareness about cigarette smuggling, Malaysian authorities have not been successful in slowing the activity, much less in abolishing it completely. As for the recent measures undertaken by Customs, such as the use of scanners, their results will only be known in the coming years.

6) The evidence from internal tobacco industry documents and law cases of the
7) Smoking leads to large economic losses for the entire society and imposes a big burden on both government and households’ budgets.

8) Tobacco smoking has an enormous economic impact on Vietnamese society, imposing costs of at least 1,162 billion VND annually. The data indicate that Vietnam might be in the early stages of their tobacco epidemic, meaning that these costs will rise rapidly with economic growth and increased smoking rates among women. However, this threat can be avoided by adopting strong tobacco control measures that will not only reduce suffering caused by tobacco-related diseases, but also lead to better economic performance. The new tobacco control strategy developed by the Vietnam Committee for Smoking and Health (VINACOSH) could be a starting point for such a coordinated and comprehensive tobacco control effort. The strategy developed by VINACOSH is based on both local and international research evidence and includes measures such as higher tobacco taxes, a public health information campaign, pictorial warnings, enforcement of the advertising ban and introduction of smoke-free public and work places. The adoption and enforcement of these measures can reduce the economic burden that smoking currently imposes and will continue to impose on Vietnamese society.

9) The Thai government should not consider tobacco cultivation and use as a profitable enterprise, but should instead realize that tobacco use leads to increasing financial loss for individuals and the nation.

10) High rates of smoking among influential groups in society, such as Thai monks and Vietnamese medical students and health practitioners, are a matter of concern in tobacco control. Efforts to understand the reasons for the high smoking rates will assist in programs to achieve a reduction. The authors of the studies particularly suggest specific practical measures such as making health care facilities throughout Vietnam smoke-free and involving monks in tobacco control advocacy. Ongoing research and evaluation will be important for ensuring continued reduction in smoking rates of key groups and their greater involvement in health promotion.

11) The prevalence of smoking among both men and women in Cambodia has decreased slightly since 1999; however the ability to draw conclusions about this was limited by there having been slightly different questions used across the different surveys. In addition, not all current smokers were daily smokers.
Smoking prevalence among men remains very high and there is no evidence yet that total consumption has declined.

12) Women’s tobacco use in Cambodia is currently still much lower than it is for men. This reflects the social, cultural, and traditional beliefs that discourage them from smoking. The research results show that women who smoke are slightly less likely than men to be daily smokers; they also smoked less and spent less on tobacco per day. However, women were also less likely than men to regret that they had started to smoke or wanted to quit. Women are far more likely than men to chew tobacco, especially in rural areas. Another matter of concern was that the acceptance levels for women smoking or chewing tobacco was slightly greater among the young age groups than the older age groups. This was a small percentage and by far most young people indicated that they did not accept women smoking. Nevertheless, this may indicate a change in some traditional Cambodian values which deter women from smoking.

13) Creating a smoke-free home requires a three-pronged approach, i.e. preventing the initiation of tobacco use (in homes where there are no smokers), promoting quit attempts among the young and adults (in homes with smokers), and eliminating non-smokers’ exposure to second hand smoke (also in homes with smokers). Everyone involved in creating smoke-free homes must be committed, from young women, their fathers, the family, health care providers, anti-tobacco advocates, policymakers, and government.

14) Pervasive tobacco advertising—even where it is prohibited by law—plays a significant role in encouraging people of all ages and both sexes to smoke. Low taxes on cigarettes contributes to their affordability, and youth and the poor are most affected by price increases. While some people question the effectiveness of package warnings, the retention of messages from the packages is fairly high, and is far more detailed in Thailand, where the messages are pictorial and detailed, than in the countries where the messages are vague. Finally, smoke-free places contribute to a sense that tobacco smoking is unacceptable, and counter the effect noted in Thailand of smoking when out with friends. Strengthening tobacco control policies would thus have a hugely significant effect on reducing tobacco use among women and girls.

The different sections of this volume contain many recommendations for action. Common themes run among the recommendations, particularly the importance of tobacco law and taxation on rates of tobacco use. Governments have a critical role to play in addressing the tobacco epidemic, a role that cannot be assumed by researchers, NGOs, or other individuals or agencies. The epidemic must be addressed largely through government action, with programmatic measures a supplement to strong policies and high taxes.

It is hoped that the collaborative efforts represented in the research in this volume, and in the work of SEATCA members in general, will serve as an ongoing model for
efforts in tobacco control, where policymakers, researchers, activists and others can come together to decide how to address the tobacco epidemic. Through such collaborative efforts, and through a strong commitment to the measures that have been proven effective in reducing tobacco use, Southeast Asia can lead the world in combating the tobacco epidemic and increasing the health, wealth, and well-being of its citizens.
Appendix:  Research list

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<tr>
<th>COUNTRY</th>
<th>RESEARCH TITLE</th>
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<td>HEALTH COST OF TOBACCO USE</td>
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<td>1) Direct Medical Costs of Smoking in Malaysia</td>
<td>Prof. Dr. Syed Mohamed Aljunid</td>
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About SEATCA

The Southeast Asia Tobacco Control Alliance (SEATCA) works closely with key partners in ASEAN member countries to generate local evidence through research programs, to enhance local capacity through advocacy fellowship program, and to be catalyst in policy development through regional forums and in-country networking. By adopting a regional policy advocacy mission, it has supported member countries to ratify and implement the WHO Framework Convention on Tobacco Control (FCTC)

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