

# Smoking Epidemics And Socio-Economic Predictors Of Regular Use And Cessation: Findings From WHO STEPS Risk Factor Surveys In Vietnam And Indonesia

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## Abstract

A population-based surveys were carried out in two demographic surveillance sites (DSSs) in Vietnam and Indonesia using the WHO STEPS approach to surveillance of non-communicable disease risk factors in order to characterize smoking epidemics in rural communities of Vietnam and Indonesia by identifying associations between socio-economic status and changes in smoking status among adult populations.

The paper reveals that the prevalence of smoking among people aged 25-64 years was higher in Indonesia than in Vietnam. Indonesian men started smoking regularly earlier and ceased less than Vietnamese men. While low income was found to be a significant predictor of becoming regular smokers in Vietnam, old birth cohort and low education significantly increased the probability of being a regular smoker in Indonesia. Economic status was also found to be a significant predictor of smoking cessation in Vietnam while education and occupation played an important role in Indonesia.

## INTRODUCTION

Tobacco ranks among the top three leading risk factors in both developed and developing countries.<sup>1</sup> Tobacco is responsible for 4.2 million deaths every year, a figure which has nearly doubled in the last decade and is estimated to reach 8.4 million by 2020 if no action is taken now to curb the tobacco epidemic.<sup>1,2</sup>

Tobacco use is associated with many non-communicable diseases such as cardiovascular disease, cancers, chronic respiratory diseases and diseases of the digestive tract.<sup>2,3,4,5,6,7,8,9,10</sup> While the prevalence of smoking has declined in high-income countries, the opposite trend is found in low and middle-income countries, especially among young people and women.<sup>4,11</sup>

Smoking is the main form of using tobacco and its epidemic follows a four-stage transition characterized by the different levels of smoking prevalence and tobacco-related morbidity among men and women. Vietnam and Indonesia, two developing countries in Southeast Asia, were classified by

the World Health Organization to be at the first stage of the smoking epidemic in 2000.<sup>12</sup> On the WHO figures, the prevalence of adult smoking in all Vietnam in 2002 was 51% among men and 3.5% among women, while it was 59.0% and 3.7% among men and women respectively in Indonesia.<sup>10</sup> The comparative patterns of smoking behaviour and its socio-economic determinants of changes in smoking status in transitional countries have been relatively scarce. Therefore it is interesting to report both similarities and differences between communities in Vietnam and Indonesia in term of smoking epidemic, changes in its status and the driving forces in Vietnam and Indonesia. Although the two countries are located close to each other, they are different economically, politically and culturally. These differences might influence the pathways of the smoking transition in each country.

This paper attempts to characterize the smoking epidemics by identifying associations between socio-economic conditions and changes in smoking status among adult populations in rural communities of Vietnam and Indonesia.

The comparative patterns of smoking epidemics are of interest both in Vietnam and in Indonesia as it can point out future health trends as well as facilitate the formulation of appropriate interventions.

**METHODS**

**DATA SOURCES**

The data used in this paper are part of non-communicable disease risk factor surveillance in 2002 using the WHO STEPS approach.<sup>13</sup> The studies were carried-out in two Demographic Surveillance Sites (DSSs) in the respective countries: in 2002 in the Bavi DSS (FilaBavi) in Vietnam<sup>14</sup> and in 2001 in the Purworejo DSS in Indonesia.<sup>15</sup> The two sites are members of the INDEPTH network (<http://www.indepth-network.org>) and uniquely positioned to monitor rapid shifts in population risk factor profiles, including smoking.<sup>16</sup>

The availability of sampling frame in the DSS allowed us to randomly select study subjects on individual basis. A representative sample of 2000 individuals aged 25-64 years were selected using a simple random sampling method in Vietnam DSS, and a 3000 people aged 15-74 years were chosen using stratified random sampling in the Indonesian DSS. For comparative purpose, only data of those aged 25-64 years are included in the analyses. The participant rates among people aged 25-64 were 99.8% in Vietnam DSS and 99.4% in Indonesian DSS.

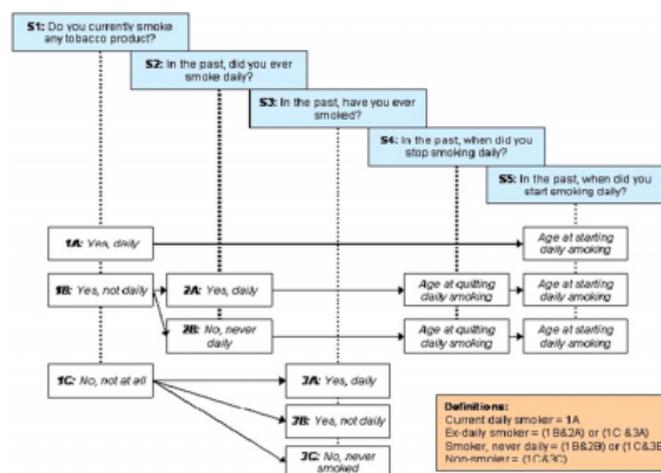
The data on smoking habits were based on items from the WHO STEPS smoking module (version 1). The questions captured both daily smokers and non-daily smokers. The questionnaire was administered by trained interviewers in household interviews. Data quality was controlled in the field by supervisors as well as by the respective investigators in the each study site.<sup>16</sup>

**MEASUREMENTS**

Regular use was defined as the change in smoking status from non-daily smoking to daily smoking (start daily smoking). Cessation was defined as the change in smoking status from a daily smoking to a non-daily smoking (quit daily smoking). The changes in smoking status were ascertained retrospectively using reported ages at the start of daily use and at the cessation of daily use of tobacco (See Figure 1).

**Figure 1**

Figure 1



Socio-economic status (SES) of the study subjects was estimated by assessing educational level, occupational status and the economic condition of their household. Study subjects were dichotomised based on their educational level (those who were educated to less than high school level and those who had completed at least 9<sup>th</sup> grade) and their occupational status (farmers included those who were farming or had just stopped because of old age, and non-farmers included the government staff, housewives, small traders, construction workers, housekeepers, handicraft makers and the jobless). The economic condition of the household was categorized into low, average and high based on the household average annual income.

**DATA ANALYSIS**

Both descriptive and analytical statistics were carried out using Stata8 software (Stata Corporation). To take into account the different sampling methods between sites, sampling weights were introduced on the calculation of country-specific smoking prevalence. The WHO standard population was used to calculate standardized smoking prevalence for inter-country comparison.<sup>17</sup>

Kaplan-Meier survival curves were used to compare ages at start of regular use and at cessation of smoking between the two countries. Cox regression was performed to estimate the contribution of each socio-economic determinant of changes in smoking status (regular use and cessation). The models for regular smoking included the full sample (Model 1). The models for cessation were based on the subset of respondents who smoked daily and those who had started to smoke daily in the past and had become non-daily users at the time of interview (Model 2). Table 1 shows the

definitions of outcome variables used in the survival analyses.

**Figure 2**

Table 1: Definitions of outcome variables in survival analyses.

Model	Age at event (years)	Event
Model 1: Regular smoking (full sample)		
- Current daily smoker	Age at start daily smoking	Yes
- Ex- daily smoker	Age at start daily smoking	Yes
- Smoker but never daily	Age at interview date	No
- Non smoker	Age at interview date	No
Model 2: Smoking cessation (Only sometime smokers)		
- Current daily smoker	Duration from age at start daily smoking to interview date	No
- Ex- daily smoker	Duration from age at start daily smoking to age at stop daily smoking	Yes

## RESULTS

### SMOKING STATUS

Smoking status in the two study sites by gender is shown in Table 2. The prevalence of current daily smoking was significantly higher in the Indonesian DSS (men 62.6%, women 1.6%) compared to the Vietnamese DSS (men 57.1%, women 0.1%). The same was true when comparing the percentage of those who had ever smoked but never daily. The proportion of ever smokers (but never daily) in Indonesia was 16.4% among men and 5.1% among women, whereas the respective rates in Vietnam DSS were 10.3% and 1.3%.

In contrast, the proportion of ex-daily smoker in men was higher in Vietnam (17.5%) than in Indonesia (10.0%) and the difference was statistically significant.

**Figure 3**

Table 2: Prevalence of smoking in the two study sites

	Men		Women	
	Vietnam DSS	Indonesia DSS	Vietnam DSS	Indonesia DSS
Current daily smoker	57.1 (54.1 - 60.2)	62.6 (59.5 - 65.6)	0.1 (0.1 - 0.4)	1.6 (0.9 - 2.3)
Ex-daily smoker	17.5 (15.1 - 19.9)	10.0 (8.1 - 11.8)	0.2 (0.0 - 0.5)	1.7 (1.0 - 2.5)
Smoker but never daily	10.3 (8.3 - 12.2)	16.4 (14.0 - 18.8)	1.3 (0.6 - 1.9)	5.1 (3.8 - 6.4)
Non smoker	15.2 (13.6 - 16.8)	11.1 (9.1 - 13.2)	98.4 (97.5 - 99.1)	91.6 (90.0 - 93.2)

Note: Figures were age standardized using the WHO standard population, number in brackets indicate 95% confidence intervals

In both study settings, manufactured cigarettes were more often used by daily smokers compared to other forms of tobacco. The average amount of daily cigarette consumption was similar in both settings (9.8 cigarettes, 95%CI 9.2-10.4 in Vietnam and 8.9 cigarettes, 95%CI 8.5-9.4 in Indonesia).

### CURRENT AND EX-DAILY SMOKING AMONG

### MEN BY AGE GROUP AND SES

Due to the low prevalence of smoking among women, subsequent analyses were done for men only. As shown in Table 3, there was no difference in the prevalence of current daily smoking across age groups in Vietnam. However, in Indonesia it was significantly highest among people aged 55 to 64 years (71.6%) compared with those aged 25 to 34 years. In both areas the proportion of ex-daily smokers among men was significantly higher in the oldest age group compared to the youngest age group.

In both study sites the proportion of current daily smokers among men was significantly higher among those with lower education. A contrasting pattern was found for differences in the prevalence of ex-daily smoker between the educational groups.

In terms of occupation, farmers had higher prevalence of current daily smoking and lower prevalence of ex-daily smoking than non-farmers but the differences observed were only statistically significant for Indonesia.

A consistent pattern was observed across different socio-economic groups. In both study areas, the prevalence of daily smoking among the lowest income group was significantly higher than among the highest income group. However, the difference in the proportion of ex-daily smokers between the highest and lowest income groups was only statistically significant in Vietnam.

**Figure 4**

Table 3: Prevalence of current and ex- daily smoking among men in the two study sites by demographic and socio-economic status.

Characteristics	Current daily smoking		Ex-daily smoking	
	Vietnam DSS	Indonesia DSS	Vietnam DSS	Indonesia DSS
<b>Overall*</b>	57.1 (54.1 - 60.2)	62.6 (59.5 - 65.6)	17.5 (15.1 - 19.9)	10.0 (8.1 - 11.8)
<b>Age</b>				
- 25 to 34	53.9 (44.3-63.3)	54.9 (48.0-61.6)	12.4 (7.6-19.6)	6.1 (3.8-9.7)
- 35 to 44	64.5 (56.6-71.6)	62.6 (56.3-68.5)	14.1 (8.9-21.7)	10.2 (6.9-15.0)
- 55 to 64	58.3 (50.0-66.2)	66.4 (60.1-72.2)	20.6 (14-29.1)	11.1 (7.6-15.8)
- 55 to 64	44.0 (30.9-58.0)	71.6 (65.3-77.2)	28.6 (17.2-43.4)	15.2 (11.2-20.2)
<b>Education*</b>				
- Less than high school	58.2 (55.0 - 61.3)	67.8 (64.8 - 70.8)	16.7 (14.4 - 19.0)	8.0 (6.3 - 9.6)
- High school and higher	48.1 (45.0 - 51.2)	46.3 (43.2 - 49.5)	21.9 (19.2 - 24.5)	17.5 (15.2 - 19.8)
<b>Occupation*</b>				
- Farmers	57.4 (54.3 - 60.5)	66.2 (63.2 - 69.2)	16.4 (14.1 - 18.8)	7.1 (5.6 - 8.7)
- Non-farmers	53.3 (50.2 - 56.5)	57.6 (54.5 - 60.8)	18.7 (16.3 - 21.2)	14.0 (11.8 - 16.1)
<b>Income*</b>				
- Low income	68.6 (61.0 - 75.2)	66.8 (63.8 - 69.8)	12.1 (8.3 - 17.4)	8.7 (7.0 - 10.5)
- Average	58.5 (47.6 - 68.6)	63.5 (60.5 - 66.6)	12.5 (7.9 - 19.3)	9.4 (7.6 - 11.2)
- High income	41.8 (32.5 - 49.7)	56.5 (53.3 - 59.7)	27.0 (20.5 - 34.8)	12.1 (10.1 - 14.1)

Note: Figures were age standardized using the WHO standard population, number in brackets indicate 95% confidence intervals

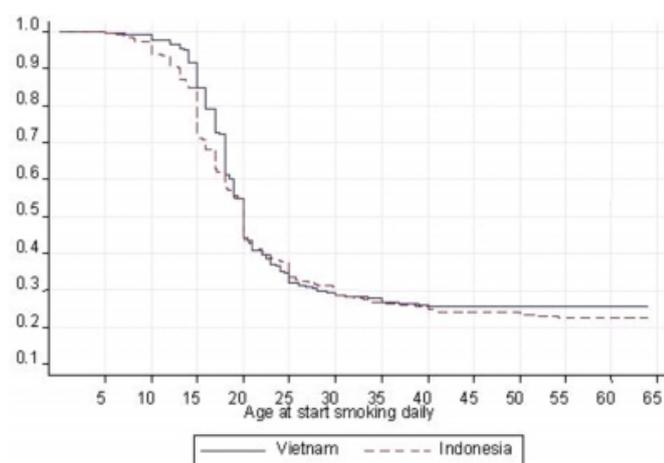
### AGE AT STARTING REGULAR SMOKING

The Kaplan-Meier survival curves for age at start of regular smoking among men showed the probability of an individual being a daily smoker by a certain age (Figure 2). In both

study areas, the median age of becoming a daily smoker was 20. However, relatively more Indonesian men had started to smoke very early. More than 28% of Indonesian men had smoked daily by the age of 15 while only about 11% Vietnamese men had done so. Indonesian men continued taking up daily smoking even after the age of 40 while the Vietnamese did not. Mean duration of daily smoking was 26 years in Indonesia and was 21 years in Vietnam.

**Figure 5**

Figure 2

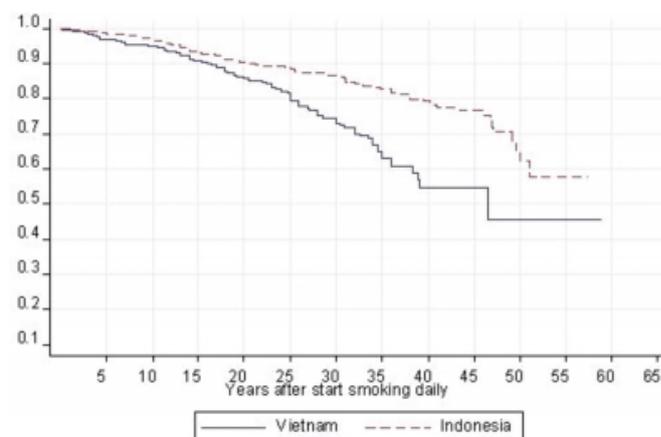


**SMOKING CESSATION**

The mean duration from the age at the starting daily smoking among men to the age at cessation (quitting daily smoking) was 21 years in Vietnam while it was 26 years in Indonesia. Probability of quitting daily smoking was plotted using a Kaplan-Meier survival curve (Figure 3). More Vietnamese men quit being a daily smoker than did Indonesian men. In 20 years after initiating daily smoking, 15% of Vietnamese and 10% of Indonesian daily smokers had quit smoking. The quitting gap became wider and by the age of 35, the number of Vietnamese men who quit was twice that of Indonesian men. The velocity of quitting smoking was also faster in Vietnam compared to Indonesia.

**Figure 6**

Figure 3



**SES DETERMINANTS OF REGULAR USE AMONG MEN**

Table 4 shows the relative risk of becoming a regular smoker among men in the two study populations according to socio-demographic factors using the Cox proportional hazards modelling. While only income was found to be a significant predictor of becoming a regular smoker in Vietnam, birth cohort and education significantly increased the probability of becoming a regular smoker in Indonesia. Men in the low income group in Vietnam were 1.37 times more likely to smoke daily than those in high income group (RR= 1.37; 95%CI: 1.06-1.78). Being born between 1947-1956 and having lower education significantly increased the risk of adopting daily smoking among Indonesian men, by 1.34 times (95%CI: 1.07-1.68) and 1.48 times (95%CI: 1.23-1.77) respectively.

**Figure 7**

Table 4: Relative risks of becoming regular smokers in the two study sites according to socio-demographic characteristics based on Cox proportional hazards model

Characteristics	Vietnam DSS	Indonesia DSS
<b>Age</b>		
- 25 to 34	1	1
- 35 to 44	1.15 (0.92-1.44)	1.03 (0.81-1.31)
- 55 to 54	1.08 (0.82-1.43)	1.09 (0.87-1.36)
- 55 to 64	0.95 (0.67-1.34)	1.34 (1.07-1.68)*
<b>Education</b>		
- Less than high school	1.01 (0.75-1.35)	1.48 (1.23-1.77)*
- High school and higher	1	1
<b>Occupation</b>		
- Farmers	1.1 (0.88-1.38)	0.88 (0.74-1.04)
- Non-farmers	1	1
<b>Income</b>		
- Low income	1.37 (1.06-1.78)*	1.14 (0.95-1.38)
- Average	0.99 (0.75-1.30)	1 (0.84-1.20)
- High income	1	1

Note: Numbers in brackets indicate 95% confidence intervals, \* denote statistically significant results (i.e. when 95%CI of RR excludes 1)

**SES DETERMINANTS OF SMOKING CESSATION AMONG MEN**

In both study areas, birth cohort was found to be significantly associated with the chance of smoking cessation (Table 5). The younger birth cohorts were more likely to give up smoking.

Age at the start of daily smoking had a slight effect on cessation indicating that those who started to adopt daily smoking later in life had a slightly higher chance of ceasing smoking.

Educational level and occupation were also found to be significant predictors of smoking cessation in Indonesia while economic status played an important role in Vietnam. The chances of smoking cessation among Indonesian daily smokers were lower among those with low education (RR= 0.41; 95%CI: 0.26-0.64) and among farmers (RR=0.60; 95%CI: 0.39-0.91). Vietnamese daily smokers in the highest income group had a greater chance of smoking cessation than those with low income (RR=2.8, 95%CI: 1.72-4.56).

**Figure 8**

Table 5: Relative chance of smoking cessation in the two study sites according to socio-demographic characteristics based on Cox proportional hazards model

Characteristics	Vietnam	Indonesia
<b>Age</b>		
- 25 to 34	1	1
- 35 to 44	0.26 (0.13-0.51)*	0.76 (0.37-1.57)
- 55 to 54	0.11 (0.04-0.25)*	0.41 (0.22-0.79)*
- 55 to 64	0.05 (0.02-0.16)*	0.25 (0.10-0.60)*
<b>Age at start smoking</b>	1.14 (1.06-1.23)*	1.04 (0.99-1.09)
<b>Education</b>		
- Less than high school	0.89 (0.54-1.44)	0.41 (0.26-0.64)*
- High school and higher	1	1
<b>Occupation</b>		
- Farmers	1.08 (0.62-1.89)	0.60 (0.39-0.91)*
- Non-farmers	1	1
<b>Income quintile</b>		
- Low income	1	1
- Average	0.99 (0.50-1.96)	1.07 (0.66-1.75)
- High income	2.80 (1.72-4.56)*	1.06 (0.64-1.77)

Note: Numbers in brackets indicate 95% confidence intervals, \*denote statistically significant results (i.e. when 95%CI of RR excludes 1)

**DISCUSSION**

**THE SMOKING EPIDEMICS IN VIETNAM AND INDONESIA**

Findings from this study suggest that both Vietnam and Indonesia are no longer at the first stage of smoking epidemic as previously classified by WHO. The two countries have already moved into the second stage of the smoking epidemic with high rates of smoking. The speed of the transition has been greater in Indonesia compared to Vietnam. The higher prevalence of daily smokers among men and women in Indonesia compared to Vietnam is

consistent with the WHO's figures,<sup>10</sup> and other studies in respective countries.<sup>18,19,20</sup>

Given the high prevalence of daily smoking in both countries (57.1% and 0.1% respectively for men and women in Vietnam, 62.6% and 1.6% respectively for men and women in Indonesia), a considerable number of deaths attributable to smoking will occur in the future. Using the smoking attributable fraction approach, adapted from Wen et al,<sup>21</sup>  $SAF_{10}=P (RR-1)/[1+P (RR-1)]$  ( $SAF_{10}$  is smoking attributable mortality fraction in 10 years; P is the daily smoking prevalence; RR is the relative risk of smoking related diseases assumed to be 1.55 in men and 1.89 in women), the proportion of deaths attributable to smoking in 10 years would be 23.9% in men, 0.1% in women in Vietnam and 25.6% in men, 1.4% in women in Indonesia. Burden of deaths attributable to smoking will be still higher as the mean duration of daily smoking in Indonesia (26 years) was higher than that in Vietnam (21 years).

Despite the low percentage of daily smoking among women, the problems with female smoking in communities must not be underestimated. Together with other categories of female smokers, the proportion of women who ever smoked was 1.4% in Vietnam and 9.5% in Indonesia. Concerns about smoking among women have also been raised by anti-tobacco activists in both Vietnam<sup>20,22</sup> and Indonesia.<sup>18,23</sup> The well-known natural history of smoking epidemics characterized by increasing smoking rates among women in developed countries could spread to the developing countries, and thus preventive steps need to be taken.

In the second stage of smoking epidemics, countries also experience an increasing burden of tobacco-attributable diseases and mortality. In both study areas, cause-specific mortality studies have shown a high prevalence of cardiovascular and cancer mortality.<sup>24,25</sup>

Data on elevated blood pressure, another important risk factor for non-communicable disease, was also collected in the same STEPs survey again confirmed the characteristics of the epidemiological transition in these two settings. The prevalence of elevated blood pressure was shown to be high in both areas (14.1% in Vietnam vs. 16.3% in Indonesia).<sup>16</sup>

National data on morbidity and mortality from tobacco-related diseases also support the mode and speed of smoking epidemic transition in both countries. In Vietnam, the number of hospital admissions and the number of deaths

from non-communicable diseases rose 1.5 times between 1986-2002.<sup>26,27</sup> Similarly, in Indonesia, cause of death from hospital budget statistics showed that the burden of cardiovascular mortality has doubled during the last decade, and deaths due to respiratory infections has tripled in the same period.<sup>28</sup>

Our findings suggest that Indonesian men adopted their daily smoking habits significantly earlier and quit less compared to Vietnamese men. Smoking at younger age has already been identified as a problem in both countries. By the age of 15, the proportion of daily smokers in Indonesia was almost three times that in Vietnam. Apart from underlying socio-economic determinants the effects of tobacco control actions are essential. As there has not been any anti-smoking intervention going on specifically in both study areas, our discussion will focus more on national actions on tobacco control.

Tobacco control activity in Indonesia is currently at an early stage. Price and tax measures, which have been proven as one of the most powerful tobacco control measures in most developing countries, are still inadequate in Indonesia. Compared to other countries in the region, as a proportion of cigarette price, Indonesia's cigarette tax is among the lowest (30% as compared to 50% in Vietnam).<sup>10</sup> Moreover, most of the smokers smoke local brands, the production of which is dominated by three big national cigarette manufacturers, i.e. Gudang Garam, Sampoerna, and Djarum which own almost two thirds of the market share in Indonesia.<sup>29</sup> The acquisition of Sampoerna by the Philip Morris International in March 2005 has put Indonesian public health under further threat. Tobacco control activities in Vietnam appear to be better implemented, starting 16 years ago. In 1986, cigarette sales were banned to those aged under 15 years. In 1989 smoking was prohibited in some public places, e.g. cinemas, with other venues included in 1991. A decree in 1992 exhorted the government sectors to collaborate in smoking prevention, and to prohibit public servants from using cigarettes as 'gifts'. The government banned advertising in the electronic and print media in 1994, and raised cigarette taxes in 1995 (ranging from 32% to 50% of price), as well as promulgated more stringent guidelines on media ban. Smoking was banned in the army in 1996, and tobacco sponsorship of sport and culture events were prohibited a year later. Growing national commitment has culminated in a Prime Ministerial Resolution to enact a National Tobacco Control Policy (NTCP), which was signed in August 2000 and is

being implemented by a committee headed by the Minister of Health, drawn from most ministries (including Trade and Finance) and mass organizations.<sup>20</sup> Vietnam has signed the Framework Convention on Tobacco Control on August 8, 2003 and ratified it on 17 December 2004.

### **SES DETERMINANTS OF REGULAR USE AND SMOKING CESSATION AMONG MEN**

Our findings show that men with lower SES are more likely to become regular smokers but less likely to cease. These are consistent with prior analyses of individual stages of cigarette use.<sup>18,29,30,31,32,33,34</sup> However, the SES determinants of changes in smoking status (i.e. of becoming a regular user and quitting) were different between the two study areas suggesting the importance of comprehensive tobacco interventions.

In Vietnam, the significantly lower risk of becoming a regular smoker and the higher chance for cessation among the high income group compared to lower income group implied that improvements in living standards are likely to interplay with health behaviour such as tobacco use. This is consistent with the findings from a study in Vietnam which also showed that income appears to exert strong effect on the decision to both initiate and to cease smoking.<sup>20,35</sup> The higher quit rate across age, educational and occupational groups in Vietnam possibly reflects the success of comprehensive tobacco control actions in Vietnam.<sup>20</sup>

In Indonesia, education is an important predictor of being a regular smoker. Men with less education tended to smoke regularly and cease less. These findings are consistent with previous studies in both developed and developing countries.<sup>2,31,36</sup> Occupational status is also a good predictor for smoking cessation among Indonesian men. The chance of smoking cessation among farmers was less than for other occupational groups. There is an urgent need for increasing access to information about harmful effects of smoking in Indonesia in general and in the study area in particular. Campaigns could include providing more public health messages in the mass media, legalizing regulation that requires strong and visible messages about harmful effects of smoking on cigarette package, providing health lessons at school to children, as well as training health professionals and key persons in the community on the importance of smoking cessation. Increase in prices would impact on lower socio-economic groups.

## **METHODOLOGICAL CONSIDERATIONS**

There are several limitations to our analyses that we need to note. Firstly, even though we recognize that smoking can be harmful at any dose, we were only able to analyse the daily smokers from information that can be extracted from the smoking module of the WHO STEPs questionnaire. The WHO STEPS is a surveillance tool more than a survey tool and its emphasis is placed on daily smoking as the most risky level of smoking and so more important to study.

Secondly, our results rely on the accuracy of self-reported smoking status among the population in which validity (both caused by recall bias and under reporting) has to be considered. This applies especially among women as female smoking is not culturally appropriate in either Vietnam or Indonesia. However, the validity of self-reported smoking status has been confirmed elsewhere.<sup>37, 38</sup>

Thirdly, even though our surveys were carried out using the standardized protocol of the WHO STEPS which facilitated comparisons, a minor concern related to difference in the timing of data collection and the slightly different sampling methods undertaken in both countries remained. We addressed the problems by introducing sampling weights and by standardizing the figures to the WHO global population structure.

## **POLICY IMPLICATIONS AND SUGGESTIONS FOR FURTHER STUDIES**

Given the results of this study, the actions to curb the smoking epidemic need to be strengthened in both countries, especially in Indonesia. Lessons learnt from initial successes in controlling tobacco in Vietnam should be documented, shared and further developed. Intervention strategies should be comprehensive and their development should be based on knowledge of socio-economic determinants of the changes in smoking status. Priorities should be given to disadvantaged people e.g. low socio-economic groups and women.

This is a preliminary picture of smoking epidemics and SES determinants of the changes in smoking status (i.e. regular use and cessation) in two transitional countries in Southeast Asia which draw on available data in a cross sectional survey. This study provides a baseline picture for further studies including longitudinal surveillance as well as qualitative analysis to gain more understanding on the motivations underlying people's smoking behaviour, and to understand different kinds of messages that can be effective

in reducing tobacco use.

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