COMMENTARY

Anti-smoking Initiative and Decline in Incidence Rates of Lung Cancer in Viet Nam

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Abstract

Viet Nam had the highest reported male smoking prevalence rate (72.8-74.3%) in the world in the 1990s. Production of tobacco products was about 0.44 kg or 600 cigarettes per capita per year in 1994 for domestic use. Population-attributable risk per cent of lung cancer due to smoking was about 69.7%. Males in the south have a lower reported smoking prevalence rate (OR = 0.7) and a significant lower incidence rate of lung cancer, age-standardized-incidence-rate per 100,000 (ASR): 33.1 vs 24.6 when compared to males in the north. Incidence rates of lung cancer significantly declined in Hanoi (ASR 34.9 –33.1 and 6.3 – 5.8) and Ho Chi Minh City (ASR 24.6 – 23.7 and 6.8 – 5.6) between 1991-1997 and at the national level between 1990-2000 (ASR 30.4 – 30.1 and 6.7 – 6.6) in males and females, respectively. This decline in incidence rate of lung cancer resulted from the great achievements of the National Tobacco Control Program over about a 10-year period from 1989 to help people stop smoking. The present finding should stimulate further primary cancer prevention efforts in developing countries, including Viet Nam. It also suggests that the method applied to translate scientific evidence of smoking harm to people and into health policy, is a useful tool to drive people's attitude to stop smoking and remove its human carcinogens from our society.

Key Words: Anti-smoking - lung cancer incidence - primary cancer prevention - developing countries

Asian Pacific J Cancer Prev, **7**, 492-494

Use of Tobacco in Viet Nam

Tobacco was discovered in 1492 when Columbus landed in America. Thereafter in 1562, tobacco was widely used at the court of France. The first clinical report of a link between tobacco and cancer was in 1761 by Sir John Hill. Now about 15% of all cancers throughout the world have been estimated to be caused by smoking (Redmond, 1970; McCusker, 1988; Parkin et al., 1994). Spread of use of tobacco has also been related to wars, that is, soldiers went to war with cigarettes in their rations. In this way, tobacco was introduced into Viet Nam by French soldiers during its occupation from 1858-1954 (McCusker, 1988). It is now a major agricultural product. During 1994, tobacco production in Viet Nam was about 0.44 kg or 600 cigarettes per capita per year for domestic use (Lien, 1995).

Smoking Habits of Vietnamese

During the 1990s, the prevalence rates were 72.8% and 4.3% for current smokers in males and females, respectively, and 9.9% and 1.2% for former smokers. The prevalence rate of smokers was higher among males (74.3% vs 72.8%) but lower among females (0.6% vs 4.3%) in the north when compared to that in whole country. Prevalence rate of smokers among males in the south was about 70% of that among males in the north. In 1994, 43.3% of (current) smokers also smoked a water pipe. The prevalence of was lower among blue-collar worker group (OR = 0.8), business and service group (OR = 0.9), and white-collar group (OR = 0.4), when compared to farmers. A higher prevalence of smokers was found among those with a low educational background, such as school years of training less than 6 (OR = 3.4), from 6-8 (OR = 2.3), from 9-11 (OR = 2.5), and 12-15 (OR = 2.5) when compared to 16 years or longer. About 70% of smokers started to smoke before the age of 25 (Anh, 1997; Jenkins et al., 1997).

Establishment of National Tobacco Control Program

In 1989, the National Tobacco Control program in Viet Nam was established and has rapidly improved its activities. From 1995, no smoking in public places, such as schools, hospitals, meeting rooms, theaters and elsewhere has been strictly enforced. Viet Nam has actively participated in the International Non – smoking Day with an anti-tobacco campaign in the mass media. A prohibition of advertisement of tobacco in the mass media has been strictly observed (Anh & Duc, 2002).

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Population Attributable Risk (%) of Lung Cancer Due to Tobacco Smoking

Smoking is one of the main causes of lung cancer in Viet Nam (OR = 6.6, and population attributable risk per cent = 69.7% in males) (Anh et al., 1999). This estimation might be lower than the true estimation because the definition of smoker is the daily smoking of at least one cigarette for a consecutive 6 months. Therefore, the exposure group does not include smokers who have been smoking at a lower level of this definition. In addition, there was no information regarding passive smoking because passive smoking significantly increased the risk of lung cancer in females (RR = 2.1, p for trend =0.001) (Hirayama, 1981). There was also no information relating to former smokers who had quit smoking for 20 years or longer. They should be excluded from the exposed group because the relative risk of lung cancer is an equal one (Wakai et al., 2001).

Decline in Incidence Rates for Lung Cancer

Population-based cancer registries cover about 10.1% of the national population and represent north (Hanoi population from 1988) and south (Ho Chi Minh population from 1990) Viet Nam (Anh et al., 1997; Quoc et al., 1998). Age standardized incidence rate per 100,000 (ASR) in Hanoi was higher than that in Ho Chi Minh City (ASR 33.1 vs 24.6) among males but it was lower among females (ASR 5.8 vs 6.8) (Anh & Duc, 2002). Incidence rate of lung cancer significantly declined in Hanoi (ASR 34.9 –33.1 and 6.3 – 5.8) and Ho Chi Minh City (ASR 24.6 – 23.7 and 6.8 – 5.6) between 1991-1997 and at the national level between 1990-2000 (ASR 30.4 – 30.1 and 6.7 – 6.6) in males and females, respectively (Table 1).

Significant Lessons from the National Tobacco Control Program in Viet Nam

This decline in incidence rate of lung cancer resulted from the reduction in smoking since 1986 when Government employees were deprived of their monthly cigarette ration because of the economics change to marketing. It also resulted from the great achievements of the National Tobacco Control Program over about a 10-year period to help people stop smoking. The present findings should be recognized and they should stimulate further significant results of primary cancer prevention in Viet Nam. In addition, the present findings also suggest that:

1. The method, which is applied to translate scientific evidences of smoking harmful to people and into health policy, doing by of the National Tobacco Control Program is a useful tool to drive people's attitude to stop smoking and remove its human carcinogens from our society. These lessons should be applied in making a number of public health programs against cancer in Viet Nam and also in varied populations.

2. Applications of cancer epidemiology and practical primary cancer prevention of cancer in developing countries is timely and urgent because epidemiologists in developing countries are very few at the moment.

Table 1. Age-standardized Incidence Rates (World Population) for Lung Cancer and Smoking in Viet Nam (#)

Information item by sex		Two Largest Cities				Whole country	
		Hanoi (north)		Ho Chi Minh (south)			
		1991-93	1995-96	1995-96	1997	1990	2000
Males							
Lung cancer:	Number of cases	788	559	724	361	5,928	7,201
	Crude rate	25.3	25.6	15.8	15.3	18.6	18.3
	ASR	34.9	33.1	24.6	23.7	30.4	30.1
Adult smokers (%) in 1994: Current		74.3		-	-	-	-
in 1995: Current		-	- 72.8				
Former		-	- 9.9				
Smoking habits by regions (OR)		Reference		OR = 0.7		-	
Risk of lung cancer due to smoking:							
+ Cigarette and mixed water pipe		OR = 3.6, 4.0 and 20.1 for 1-19, 20-39 and 40+[1]					
+ All type of tobacco smoking		OR = 6.6 (former and current smokers combined)					
+ Population attributable risk %[2]		69.7 %					
Females							
Lung cancer:	Number of cases	175	115	285	122	1,713	2,100
	Crude rate	5.4	5.1	5.6	4.7	5.1	5.2
	ASR	6.3	5.8	6.8	5.6	6.7	6.6
Adult smokers (%) in 1994: Current		0.6		-	-	-	-
in 1995: Current		-	-	-	-	4.3	
Former		-	-	-	-	1.2	
Population in 1999, both sexes		2,672,125		5,037,151		76,327,919	

[1] Years of smoking; [2] Definition of smoker is the daily smoking of at least one cigarette for a consecutive 6 months. (#): Source: (Anh & Duc, 2002; Anh et al., 1999; Anh, 1997; Anh et al., 1997; Hung et al., 1998; IARC, 2001; Jenkins et al., 1997; Quoc et al., 1998; Viet Nam-Central-Census-Steering-Committee, 2000).

3. Because the incidence rates of lung cancer in particular and cancer at all sites in general in developing countries are half of those in developed countries at present, risk factors of these cancers may be "transmitted" from developed countries to developing countries. Therefore, national and international cancer control programs are strongly recommended to establish a Global Network to prevent people suffering from recognized and unidentified human carcinogens.

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