Tobacco Control 1995; 4: 335–337

ORIGINAL ARTICLES

Prevalence of cigarette smoking in a rural area of West Java, Indonesia

Thomas Ganiwijaya, Ernijati Sjukrudin, Guy De Backer, Djadjang Suhana, Soedijono Brotoprawiro, Hadyana Sukandar

Abstract

***Objective* – To determine the prevalence of smoking and its distribution by demographic characteristics among adults in West Java, Indonesia.**

***Design* – Questions on cigarette smoking status and demographic characteristics were included as part of a household census survey carried out in six villages in West Java. The survey was carried out between July and September 1992.**

***Subjects* – 13863 persons aged 25 to 74 years: 6897 men and 6966 women.**

***Results* – The prevalence of smoking was 44% overall. Smoking status varied substantially by gender, with 84% of males and 5% of females classified as current smokers. Among males, smoking prevalence was lower among those with more years of education and among high income workers.**

***Conclusions* – The high prevalence of smoking observed among adult males in West Java may preview a future epidemic of tobacco related disease in this population. Tobacco control interventions are needed to lower the smoking prevalence among males and to prevent future generations of women from taking up smoking.**

(*Tobacco Control* 1995; 4: 335–337)
Keywords: household census survey; smoking prevalence; West Java

Introduction

It is widely accepted that cigarette smoking is one of the most preventable factors contributing to illness, disability, and premature death in the world.[1] Worldwide, approximately three million people die every year from diseases caused by tobacco; more than half these deaths will be among those 35–69 years of age.[2]

In industrialised countries cigarette smoking has been on the decline for the past several decades.[1] However, in developing countries cigarette consumption is increasing at approximately 2% a year.[2] Data on the prevalence of smoking in developing countries are limited.

Indonesia is a southeast Asian country composed of an archipelago of 13600 islands. It is located along the equator northwest of Australia. According to the 1992 census the total population of Indonesia is 180 million. Eighty percent of the population reside in the rural areas of the country.

The exact date of introduction of tobacco into Indonesia is uncertain, although it is assumed that it was brought to the country by European traders at the beginning of the 18th century. Clove cigarettes, which are manufactured in Indonesia, are the most popular type of cigarette consumed, used by over 70% of smokers. About 5% of smokers smoke hand rolled cigarettes. The majority of smokers in Indonesia consume fewer than 10 cigarettes per day.

Large increases in cigarette consumption in developing countries such as Indonesia will probably mean that tobacco will in the coming decades become an increasingly important cause of premature death.[2] The purpose of this study was to determine the prevalence of smoking and its distribution by demographic characteristics in the adult population of rural West Java, Indonesia.

Methods

As part of an effort to develop a cardiovascular disease surveillance programme in Indonesia, a household census survey was undertaken in six villages in the district of Cibeureum, Tasikmalaya municipality, West Java, between July and September 1992. The census questionnaire gathered information on the smoking behaviour of the population aged 25 to 74 years of age. In addition, data were gathered on the age, gender, marital status, educational level, and occupation of household members. The smoking behaviour of respondents was measured by asking three questions: Do you smoke cigarettes? If you don't smoke cigarettes now, did you ever smoke a cigarette in the past? When did you stop smoking?

Never-smokers were defined as those who never smoked a cigarette. Former smokers included those who had ever smoked but who reported not having smoked any cigarettes for at least one month before the survey. Current smokers were defined as those who had smoked in the past month.

Data were gathered by 19 interviewers who were recruited and trained to collect information on all families who lived in the six villages. In each household, one individual was asked to provide information on all the household members. By this technique, information was collected on nearly 100% of the target

Medical Research Unit, School of Medicine, Padjadjaran University, Bandun Indonesia
T Ganiwijaya
E Sjukrudin
D Suhana
S Brotoprawiro
H Sukandar

Department of Public Health, University of Ghent, Ghent, Belgium
G De Backer

Correspondence to: Dr Thomas Ganiwijaya

Tob Control: first published as 10.1136/tc.4.4.335 on 1 December 1995. Downloaded from http://tobaccocontrol.bmj.com/ on September 19, 2021 by guest. Protected by copyright.

Prevalence of cigarette smoking by demographic characteristics and village

Characteristic	Male			Female		
	n	%	*p value*	*n*	%	*p value*
Age (years)						
25–34	2282	83.7	0.87[1]	2487	4.4	0.03[1]
35–44	2006	83.5	0.99[2]	1912	4.4	0.02[2]
45–54	1361	84.3		1345	5.1	
55–64	823	82.6		813	6.6	
65–74	425	84.5		409	6.8	
Education						
No education	135	85.2	< 0.01[1]	442	5.4	0.40[1]
Elementary school (not finished)	1260	86.8	< 0.01[2]	1858	5.2	0.98[2]
Elementary school (completed)	3895	86.2		3750	4.5	
Some high school	576	80.2		408	6.6	
High school graduate	880	74.1		449	5.6	
Post graduate	151	61.6		58	3.4	
Occupation*						
Low income workers	4059	86.0	< 0.01[1]	1142	6.0	0.22[1]
Middle income workers	2250	84.9	< 0.01[2]	1102	7.5	0.08[2]
High income workers	344	68.0		82	9.8	
Marital status						
Married	6466	84.8	< 0.01[1]	1142	4.7	0.39[1]
Never married	276	73.9		108	5.6	
Widowed	106	72.6		992	5.5	
Divorced	49	87.8		272	7.4	
Village						
Ciherang	1279	88.1	< 0.01[1]	1208	2.7	< 0.01[1]
Kotabarv	1491	81.1		1547	5.3	
Sukanegara	1229	79.3		1274	8.6	
Mulyasari	1247	84.7		1245	2.5	
Sukahurip	886	85.2		886	7.9	
Setiamulya	795	85.5		781	2.3	

* Low income workers include labourers, farmers, and peasants. Middle income workers include office workers, teachers, and retail workers. High income workers include professionals, government leaders, and business owners.
[1] p value for Pearson's χ^2 test of independence.
[2] p value for Mantel-Haenszel's test of linear trend.

population. Data on smoking status are based on both proxy and non-proxy respondents. Overall, data were collected on a total of 13863 persons between the ages of 25 and 74 years of age. Information was not collected on the types of cigarettes consumed or the amount consumed daily.

The association between various demographic characteristics and smoking prevalence was evaluated separately for males and females. Comparisons were made using Pearson's chi-square test of independence, and where appropriate Mantel-Haenzel's test of linear trend.

Results

The table shows the prevalence of smoking according to age, gender, education, and occupation. Prevalence of smoking was 83.7% among males and only 4.9% among females. Among males, the prevalence of smoking did not vary by age group. For females, smoking prevalence increased significantly with age. Among males, the prevalence of cigarette smoking was higher among low income workers than among higher income professionals and business owners. Among females, prevalence of smoking was highest among high income workers and lowest among low income workers, although this difference was not statistically significant at the $p < 0.05$ level.

Among males, the prevalence of smoking was inversely related to education. Those who had completed high school or had some college training were less likely to be current smokers. Among males, the prevalence of smoking was highest among those who were divorced compared to those who were either married, not married, or widowed.

Smoking prevalence rates varied significantly across the six villages that were surveyed. Villages with the highest smoking rates among males tended to have the lowest smoking rates among females.

Discussion

Findings from this study show that more than 80% of adult males in rural West Java, Indonesia, are current cigarette smokers. By contrast, fewer than 5% of adult females are current smokers. In Indonesia, cigarette smoking is a practice that is widely accepted among males without limitation. Most males begin smoking at the age of 10 and increase the number of cigarettes smoked daily as they grow older. As is found in many other developing countries, cigarette smoking behaviour is not well established among females,[2] although female smoking rates appear to be rising in many countries.[2] Tobacco company marketing practices appear to be successfully breaking down cultural taboos that previously stopped women from smoking.[3]

Tobacco control efforts in Indonesia are minimal. Government antismoking pamphlets are widely distributed to health centres but little else is done to discourage tobacco use. Economically, the government of Indonesia benefits greatly from the sale of tobacco. Therefore, there is little economic incentive for the government to discourage tobacco use.

The high rates of smoking observed among males in rural villages in West Java are probably typical of other areas of Indonesia as well. A 1990 survey in Jakarta, an urban centre, reported a smoking prevalence rate among males 25–64 years of age of 60%.[4]

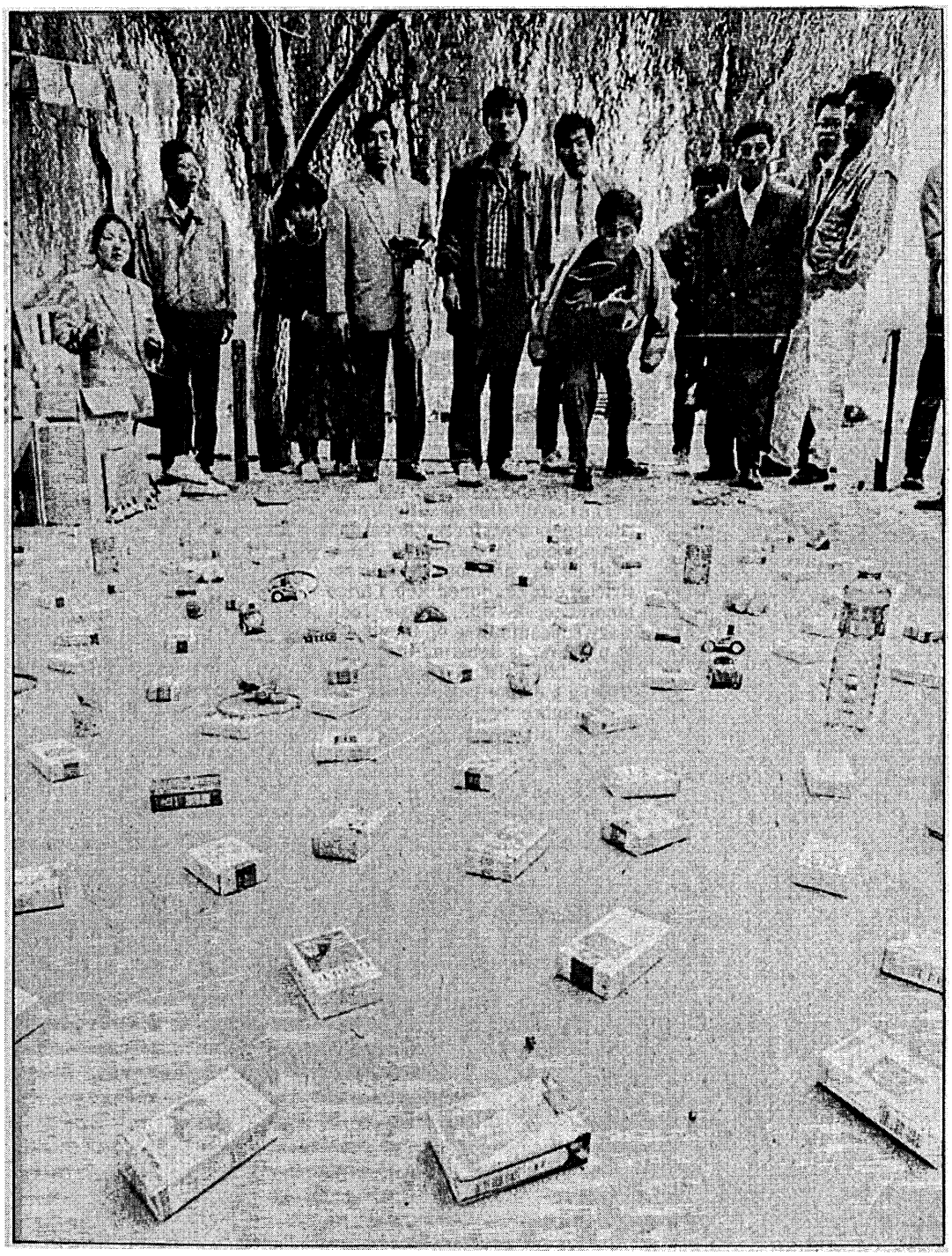
The high rate of cigarette smoking observed

Tob Control: first published as 10.1136/tc.4.4.335 on 1 December 1995. Downloaded from http://tobaccocontrol.bmj.com/ on September 19, 2021 by guest. Protected by copyright.

among males in Indonesia is likely to be associated with future substantial morbidity and mortality unless current smoking trends can be reversed. In developing countries such as Indonesia, the current economic benefits derived from tobacco are likely to be swamped by future economic costs associated with the treatment of tobacco related diseases.[5]

Dr K Michael Cummings provided assistance in preparing the manuscript and in conducting statistical analyses.

1 Peto R, Lopez AD, Boreham J, Thun M, Heath C. *Mortality from smoking in developed countries*, 1950–2000. Oxford: Oxford University Press, 1994.
2 World Health Organisation. *World No-Tobacco Day*, 31 *May* 1995 [Advisory Kit]. Geneva: WHO, 1995.
3 American Cancer Society. Her stories. *World Smoking Health* 1994; **19** (2): 1–16.
4 Darmojo BR, Setianto B, *et al.* A study of baseline risk factors for CHD: results of population screening in a developing country. *Epidemiol Sante Publique* 1990; **38**: 487–91.
5 Barnum H. The economic burden of the global trade in tobacco. *Tobacco Control* 1994; **3**: 358–61.



Chinese smoking game: People try to win cigarettes by throwing bamboo hoops over cigarette packs at a park in Beijing.

Tob Control: first published as 10.1136/tc.4.4.335 on 1 December 1995. Downloaded from http://tobaccocontrol.bmj.com/ on September 19, 2021 by guest. Protected by copyright.