

# THE IMPACT OF THE ANTI-SMOKING CAMPAIGN IN SINGAPORE

S C Emmanuel, Ayliaanna Phe, A J Chen

## SYNOPSIS

Singapore's initial efforts towards combating the smoking problem began in the early 1970s, when certain legislations, restricting tobacco advertisement and smoking in certain public places were introduced.

In December 1986, the National Smoking Control Programme was launched with the theme 'Towards a Nation of Non-Smokers'. The main emphasis of the programme was educational. With strong public support and participation, the campaign has produced good results. Our immediate assessment showed that the proportion of current smokers had fallen appreciably, from 19% in 1984 to 13.6% in 1987. Our experience indicates clearly therefore that much can be done and achieved in programmes against smoking, particularly if the crucial input of government support and commitment is present.

SING MED J. 1988; 29:233-239

## INTRODUCTION

Life expectancy in Singapore continues to improve. Today it stands at 71.4 years for men and 76.3 years for women, an improvement in longevity averaging 10 years for each gender over the last 3 decades. The last two decades, however, have also seen a change in the pattern of death to one dominated by heart diseases and cancers, with the more well known smoking-related diseases, such as Coronary Heart disease, Lung Cancer, Bronchitis, Emphysema and Chronic Obstructive Lung Disease being responsible for more than a quarter (28.7%) of all deaths among Singaporeans today.

Efforts towards the promotion of non-smoking in Singapore can be traced as far back as 1970 when legislations were introduced to restrict smoking in certain public places and tobacco advertisements. In 1979, the Ministry of Health launched a nation-wide National Health Campaign, which highlighted smoking as a risk factor for lung cancer and coronary heart disease. This strategy was adopted because our experience from the use of campaigns, in Singapore, first used some 30 years ago, (eg. against littering, spitting etc) and also internationally(6), have shown that campaigns are an important and effective strategy to mould good behaviour and attitudes. Indeed, the 1979 Campaign must have contributed to the declining trend in the prevalence of cigarette smoking, which fell from 23% in 1977(1) to 19% at the last national count in 1984(2). The tobacco consumption per capita for the corresponding period had also declined from 3.87 kg in 1977 to 3.21 kg in 1984(3).

The WHO Expert Committee on Smoking Control in its Report(4) has recommended that national smoking activities should be the responsibility of a competent central body, having clear objectives and the capability to deal with them. The problems of smoking and health should be the responsibility of this centralised authority.

This formed the backdrop against which Singapore's

MINISTRY OF HEALTH HQ  
Planning and Development Division

S C Emmanuel, MBBS, MSc (PH)  
Director, Research & Evaluation Dept

Ayliaanna Phe, BSc (Hons), MSc (Statistics)  
Statistician, Research & Evaluation Dept

A J Chen, MBBS, DPH, DTM&H, DCH  
Assistant Director of Medical Services  
Planning and Development Division

anti-smoking activities were reviewed.

## THE NATIONAL SMOKING CONTROL PROGRAMME

To further strengthen the entire smoking control programme in the country, a National Smoking Control Coordinating (NSCC) Committee was set up in September 1986, spearheaded by the Ministry of Health. The NSCC, which was to formulate the policies, coordinate activities and monitor the anti-smoking programme in Singapore, received top-level commitment. Its main participating organisations, numbering 42, came from Government Ministries, Statutory Boards and other private organisations. The Committee's programme, the National Smoking Control Programme (NSCP), had the overall objective of accelerating the declining trend in smoking and promoting non-smoking as a norm in Singapore. Its theme was thus aptly titled "Towards a Nation of Non-Smokers". Through the Programme's concerted approach, it was hoped that within the next ten years, the rate of smoking would be half that of the present, and that, eventually, by the next generation, the country would consist essentially of non-smokers.

The NSCP set out several targets, the first of which was to prevent the young from taking up the smoking habit and to help current smokers give up smoking. This was to be achieved through health education and information and the provision of smoking cessation services. The second objective was to protect the rights of non-smokers and to make the environment uncondusive for smokers to continue smoking because of social pressure from non-smokers. This was to be aided by restricting areas where smoking was to be permitted, especially in work places and other public common-areas. The third objective was to tighten existing laws and regulations concerning smoking.

The National Smoking Control Programme was launched on 1st December 1986 with a 3-month intensive Campaign, where all available methods were used to spread the message to the general public, in particular the youth, in order to achieve the Programme's objectives of preventing the young from taking up the habit and to help current smokers to give up smoking. The highlights of the Campaign was a "Smoke Free" week during which all smokers were urged to kick the smoking habit.

Other measures employed included a school children education outreach programme, a youth programme tar-

getted at youth clubs and army camps, and also programmes in workplaces and within the community itself. All these were complemented by intensive mass media coverage and the distribution of printed materials to highlight the ill effects of smoking, dispel the glamour of smoking and encourage non-smoking in workplaces.

Therapeutic services in the form of smoking cessation clinics, workshops and counselling were also offered for smokers. Economic measures included an increase in the excise duties on locally manufactured and imported cigarettes (Table 1).

## THE SMOKING SCENE TODAY

### Prevalence of Smoking

A national survey on smoking was carried out in July 1987 (n=78,600) to evaluate the immediate effects of the

National Smoking Control Programme. In the survey, respondents were identified as non-smokers, ex-smokers and current smokers. Data from the 1987 survey was compared with a similar survey conducted in 1984(2) (n=92,500).

Prevalence data for current smokers among persons 15 years and above in Singapore as at July 1987, is shown in Table 2 and Fig 1.

The 1987 survey has thus demonstrated a marked decline in the proportion of current smokers in Singapore (p<0.01). Over the same period, it is worth noting that there was an overall drop of 26 percent in tobacco consumption per capita, giving an annual decline rate of nearly 10 percent (Table 3).

Among smokers in the 15-19 year age group alone, where 5.1% of boys and girls were smoking in 1984, by 1987 only 2.9% smoked, showing a replacement of almost two smokers in 1984 by one in 1987. The decline in smoking prevalence in this age group illustrates that fewer

Table 1  
REVISION OF EXCISE DUTIES ON CIGARETTES

Year	S\$ per kilo			
	Locally Manufactured		Imported	
	Existing	Revised	Existing	Revised
1983	\$9	\$14	\$45	\$50
1984	\$14	\$24	\$50	\$60
1987	\$24	\$34	\$60	\$70

Table 2  
SMOKING PREVALENCE IN SINGAPORE  
1984 AND 1987

Age Group	Percent					
	Men		Women		All	
	1984	1987	1984	1987	1984	1987
15-19	9.5	5.5	0.5	0.1	5.1	2.9
20-24	27.5	19.2	0.7	0.5	14.3	9.9
25-29	35.7	26.8	1.2	0.8	18.3	13.5
30-34	37.3	28.6	1.5	0.9	19.2	14.5
35-39	40.3	28.1	1.9	1.0	21.0	14.7
40-44	43.2	30.2	3.5	1.6	23.1	15.7
45-49	435.0	31.8	4.9	2.9	24.6	17.4
50-54	49.4	34.4	8.2	4.7	29.0	19.3
55-59	50.2	34.2	9.2	6.4	30.0	20.3
60-64	45.8	34.6	11.6	5.3	28.9	19.9
65-69	47.9	31.2	11.2	7.1	28.3	18.9
70 and above	35.7	27.4	10.6	7.9	24.2	15.7
<b>ALL</b>	<b>34.9</b>	<b>25.3</b>	<b>3.4</b>	<b>2.0</b>	<b>19.0</b>	<b>13.6</b>

Fig. 1 Smoking Prevalence By Sex & Age Groups

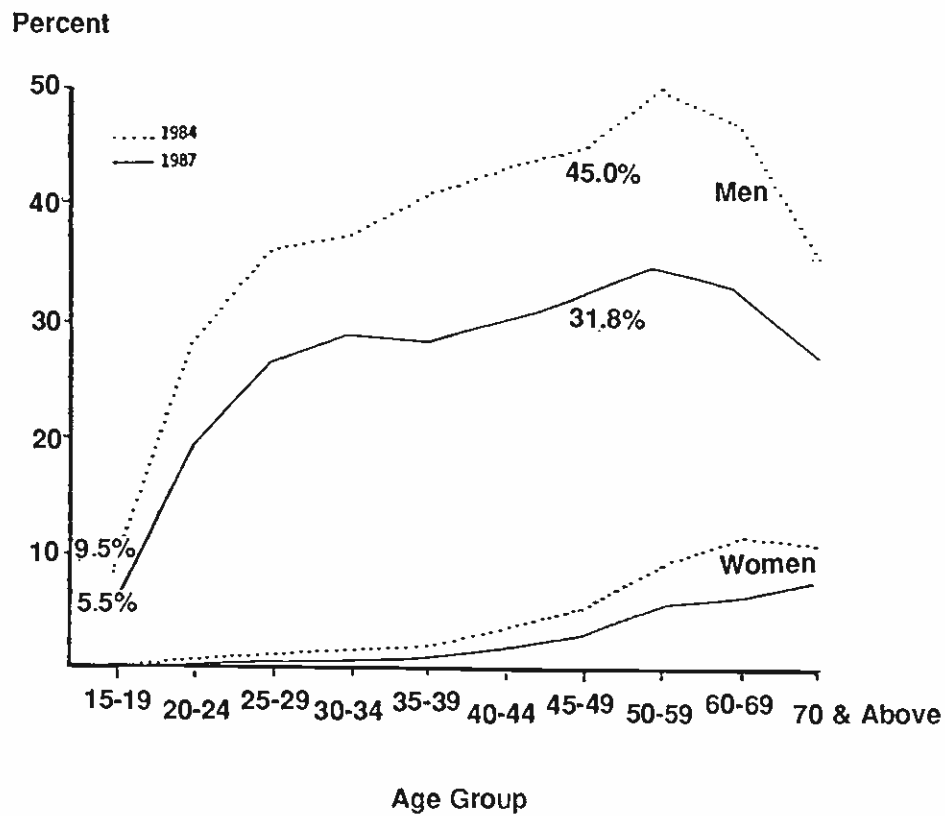


Table 3  
TOBACCO CONSUMPTION PER CAPITA

Year	Kg/persons aged 15 years and above			
	1984	1984	1984	1984
Tobacco consumption per capita	3.21	3.03	2.92	2.38

youths are taking up the smoking habit. This is a realisation of the NSCP's objective of dissuading the young from taking up the smoking habit.

As for the older population, it is seen that the smoking level of 24.6% among the 45-49 year olds in 1984 had fallen to 17.4% in 1987. This provides convincing evidence that significant numbers of current smokers are giving up the smoking habit. This also fulfills the objectives of the NSCP. This trend was obvious as well among the much older age groups.

#### Smoking by Ethnic Group

The 1987 results once again reinforced findings from earlier surveys(1),(2), that more Malays smoked. Malays, who make up about 15% of the population, had 18.7% of

smokers among them, as compared with the average smoking rate of 12.8% and 13.1% respectively among Chinese and Indians.

Notwithstanding this, all 3 ethnic groups had experienced marked declines in their smoking levels by 1987. The decline in smoking was for both males and females in all the ethnic groups, and the rate of decline was comparable among the 3 main ethnic groups (Table 4 and Figure 2).

#### Smoking by Educational Level & Type of Occupation

A declining smoking rate was also noted in all educational subgroups within the population. Men and women who completed secondary and post-secondary education recorded the largest decline in their smoking rates, from

23.5% and 1.2% in 1984 to 15.5% and 0.6% respectively by 1987 ( $p < 0.01$ ).

Using educational level as a proxy indicator of socio-economic status, this survey, in line with earlier surveys(2) and international findings(5), showed that smoking levels are generally inversely related to the educational levels of the smokers (Table 5). The only exception was seen in tertiary educated Singapore women, among whom however, smoking levels are still relatively low by international standards.

On examining the activity status of respondents, the survey showed that there was a disproportionately high percentage of smokers (40.3%) among males who were unemployed but who were actively looking for work. This group made up 4% of the population studied.

Among the occupational groups, it was noted that smoking was highest among production and transport workers and labourers, one-quarter of whom were current smokers. Next came sales workers where one-fifth smoked. Other occupational groups with sizeable propor-

Table 4  
SMOKING RATE BY ETHNIC GROUP  
1984 AND 1987

Ethnic Group	Men		Women		All	
	1984	1987	1984	1987	1984	1987
Chinese	32.9	23.4	3.6	2.3	18.1	12.8
Malay	46.3	36.7	2.1	0.9	24.4	18.7
Indian	31.8	23.8	0.8	0.8	17.6	13.1

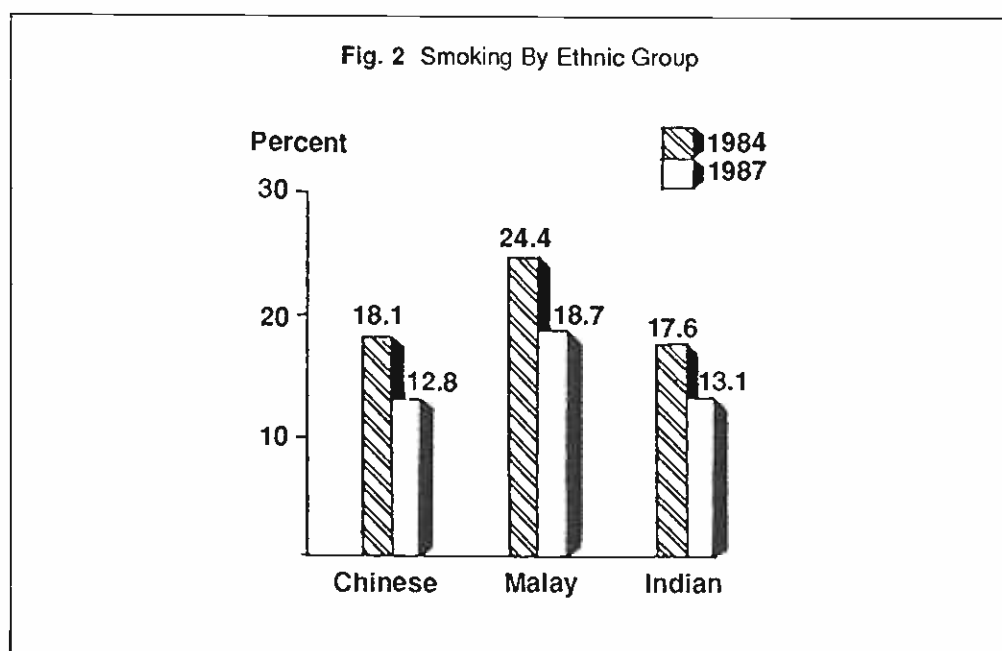


Table 5  
SMOKING RATE BY EDUCATIONAL LEVEL

Educational Level	Men		Women		All	
	1984	1987	1984	1987	1984	1987
Never attended school	52.8	38.4	8.6	5.6	21.2	15.3
Didn't complete primary school	48.8	37.0	3.7	2.2	27.8	20.4
Didn't complete secondary school	38.6	28.1	1.4	1.0	22.0	16.0
Completed secondary/post-secondary	23.5	15.5	1.2	0.6	12.7	8.2
Completed Tertiary education	19.7	11.4	2.8	1.2	13.8	7.3

tions of smokers were service workers such as waiters and cooks, and those in the administrative, managerial and executive fields, among each of whom 17% smoked.

**Ex-smokers**

The 1987 national survey went on to illustrate that the decline in smoking prevalence was also due, significantly, to existing smokers giving up the habit. The proportion of people who "used to smoke regularly in the past" rose

from 0.9% in 1984 to 1.9% in 1987. In the 35-44 age group, there were 1% ex-smokers in 1984 as compared to 2% in 1987. The increasing numbers of ex-smokers was seen both among males in every age group as in females above 45 years (Figure 3).

**An International Comparison**

When the smoking prevalence in several countries(7), from whom most updated information was available, were

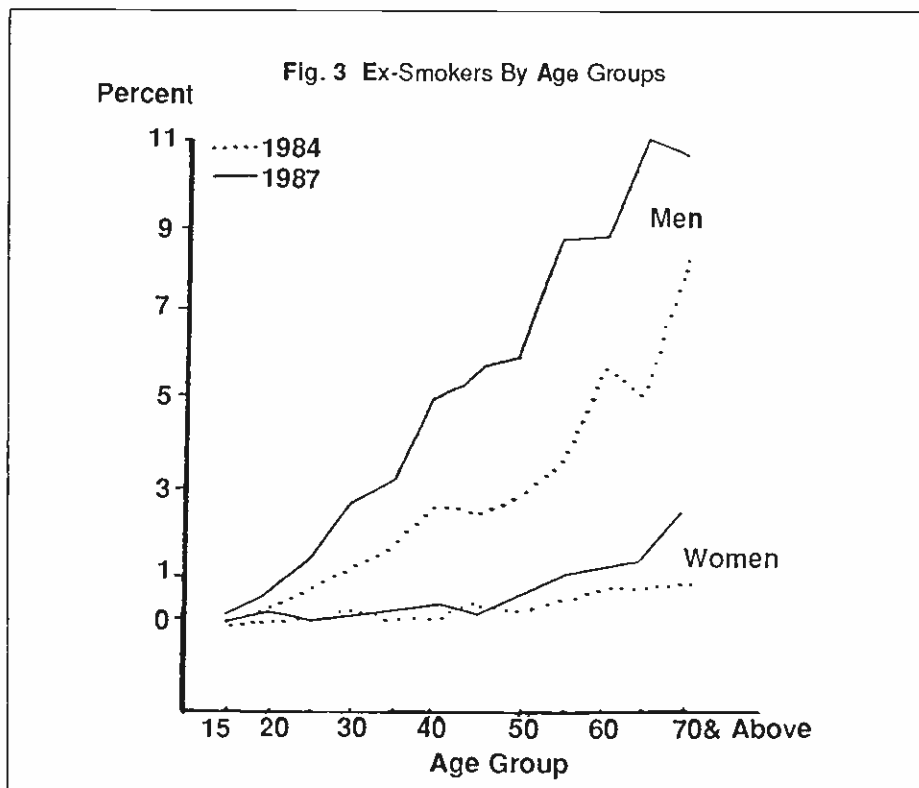
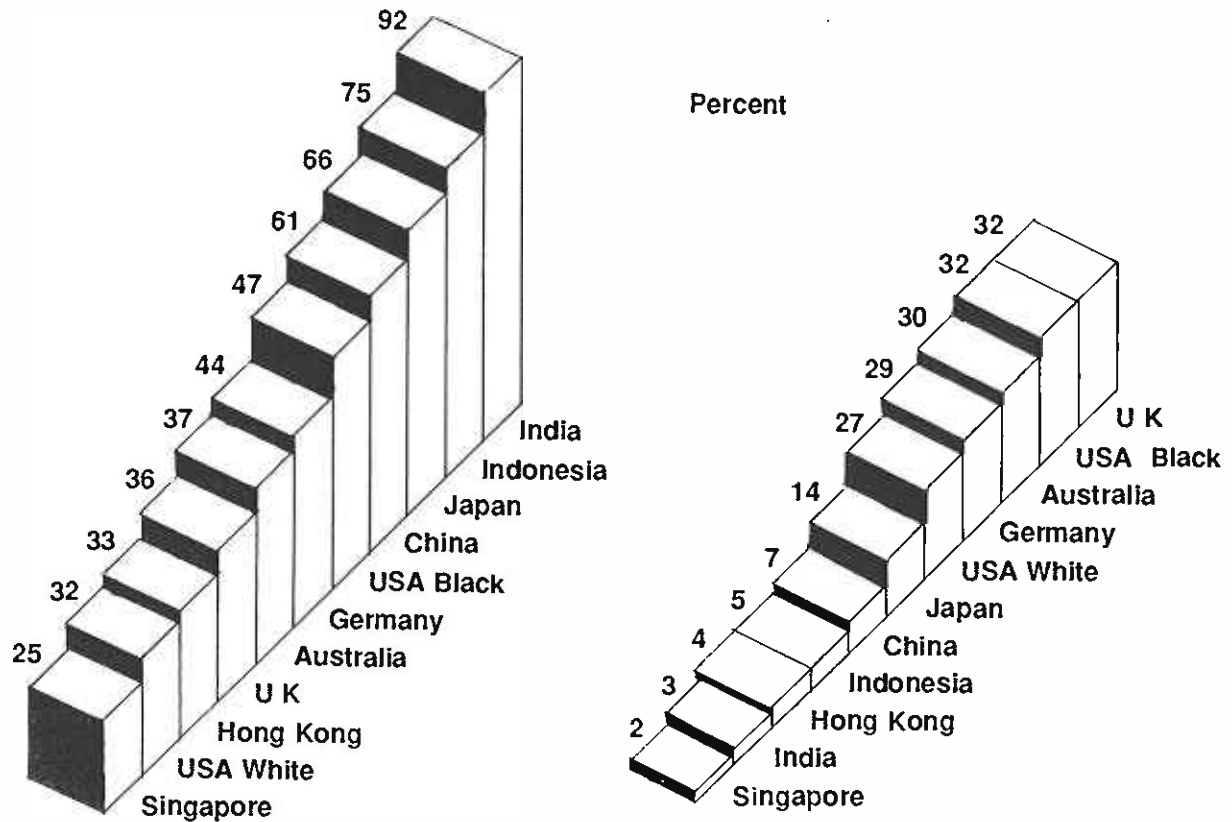


Fig. 4 Smoking Prevalence In Selected Countries



Source : WHO (Circa 1985, except Singapore — 1987)

compared, Singapore's rate ranked lowest. This holds true even when the levels of smoking among males and females were individually compared (Figure 4).

### CONCLUSION

When dealing with various sectors of society, experience both locally and abroad has shown that it is vital that a multi-pronged approach be adopted to resolve the problem of smoking. As the government launched a range of measures simultaneously, it is hard to isolate and assess the relative effects of the individual factors that would have contributed to the significant drop in the number of cigarette smokers, that this survey has shown.

For smokers, one of the most likely immediate effects of smoking control measures would be an increased receptiveness to the idea of smoking cessation. Whether actual change of behaviour is induced and sustained requires a more long term assessment. It is for this reason that the knowledge, attitudes and practice regarding smoking will be ascertained by the Research and Evaluation Department of the Ministry of Health in a year or so after the Campaign, in a National Health Survey, in order to ob-

tain a more reliable and realistic appraisal of the actual smoking behaviour modification which has taken place.

The success of the Campaign in Singapore can undoubtedly be attributed to a large measure, to the support given by the government to the whole programme. Experiences(8)(9) from other countries have also shown that political commitment provides powerful support to cigarette smoking control and awareness in those communities.

Singapore's situation, it could be argued, may be considered unique in terms of the response of the population to campaigns and health education. Nonetheless, the general principles of Singapore's success story could as effectively be applied elsewhere.

### ACKNOWLEDGEMENT

We wish to record our grateful appreciation to the Research and Statistics Department, Ministry of Labour, for permitting us to utilise the Labour Force Survey to capture the information on cigarette smoking levels in Singapore.

We also wish to thank Ms Ong Poh Lian, for typing this manuscript.

## REFERENCES

1. First National Survey on Morbidity, Ministry of Health, Research & Statistics Unit, Singapore, 1977.
2. S C Emmanuel, A J Chen, Aylanna Phe, Cigarette Smoking in Singapore, Singapore Medical Journal, Vol 29, 119-124, 1988.
3. Monthly Digest of Statistics, Department of Statistics, Singapore, 1975-1988.
4. Report of the WHO Expert Committee on Smoking Control, Technical Report Series No 636, WHO, Geneva 1979.
5. Alan Marsh, Smoking: Habit or Choice?, Population Trends - No 37, Autumn 1984 (OPCS).
6. Brain R. Flay, Dphil, Mass Media and Smoking Cessation: A Critical Review, American Journal of Public Health, Feb 1987.
7. WHO, Director General's Report to the Executive Board on Tobacco and Health, EB81/83, October 1987.
8. Judith M Mackay, Geoffrey T Barnes, Effects of Strong Government Measures Against Tobacco in Hongkong, British Medical Journal, Vol 292, May 1986.
9. Pekka Puska, Kajkoskela, Community-based Strategies to Fight Smoking, New York State Journal of Medicine, December 1983.