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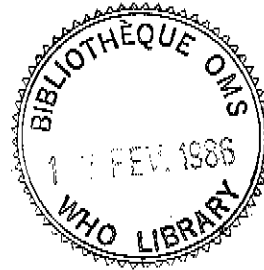
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WHO/SMO/86.2 ✓

ORIGINAL: ENGLISH



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CIGARETTE SMOKING IN DEVELOPED COUNTRIES OUTSIDE EUROPE

by

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CIGARETTE SMOKING IN DEVELOPED COUNTRIES OUTSIDE EUROPE

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INTRODUCTION

Although worldwide production of flue-cured tobacco has continued to increase, the rate of increase has fallen during recent years: production of flue-cured leaf in the U.S.A was at an all time low in 1982(1) and figures for 1983 show a decline which will be 3% for the second consecutive year (2). Flue-cured leaf is used entirely for cigarette manufacture but in many of the more highly developed countries the effect of rising prices, taxation and anti-smoking activities have brought about a decline in cigarette consumption, and leaf requirements worldwide have been further reduced during the past 10 years or so by new manufacturing methods and changes in market demands. The Republic of South Africa differs from the other countries considered in this report in that cigarette consumption there is increasing: partly at the expense of pipe tobacco but mainly due to an increase in smoking by the younger age groups, an increase which more than compensates for the decrease in smoking prevalence caused by people over 40 years of age who are giving up the habit (3). From 1980 to 1982, cigarette consumption rose from 26,455 to 29,568 million but cigarette tobacco consumption declined from 9,559 to 8,562 million kilos due to manufacturing and marketing trends.

The reasons for the worldwide trends of decreasing tobacco leaf requirements whilst cigarette production has been increasing are:

1. The promotion of, together with an increased demand for, filter tipped cigarettes which contain less tobacco than do plain cigarettes.
2. The use of tobacco sheet which is made from leaf, stem, ribs and tobacco dust and which is increasingly being blended with leaf for cigarette tobacco.
3. The development of other expanded forms of tobacco (puffed, foam and freeze dried) which reduce the weight needed per cigarette.

The majority of cigarettes sold in the more highly developed countries are now of the filter-tipped variety (4) and a further behavioural trend in these countries has been a shift to cigarettes with a low tar and low nicotine yield. In the U.S.A., 93% of the cigarettes manufactured are filter tipped and half are of the low yield variety but there seems to have been a levelling off in the low yield trend: low yield cigarette sales in 1981 were 59% of the total but in 1983 the figure had fallen to 53% (2). Whilst in most developed countries, more than 90% of cigarettes sold are filter-tipped, it is surprising to find that in Holland, Denmark and France, the figures were as low as 67%, 60% and 47% respectively in 1982 (4).

Over the past 20 years, there has been an upward trend in the number of cigarettes per day smoked by all smokers. This may arise from an unconscious attempt by individuals to maintain a constant dose of nicotine. It has been shown (5) that in men and women of all ages, smokers of low yield cigarettes smoked more than did the smokers of high yield cigarettes and therefore, any beneficial effect which might have been achieved from smoking low yield cigarettes must be weighed against the adverse effects of an increase in the numbers of cigarettes smoked.

Whether smoking filter-tipped cigarettes is less hazardous in all respects has been questioned (6) and it has been found that men who smoke filter-tipped cigarettes are at higher risk of CHD than are non filter-tipped cigarette smokers. 0.4/1000 against 0.024/1000 for men under 55 years of age and 0.032 against 0.02 for men over 55. A levelling off of lung cancer incidence could be attributed to the increased use of filter-tipped cigarettes - on the other hand, the increasing number of ex-smokers must remain the primary factor responsible for this. The filter is non-selective and although a 50% reduction in tar may be achieved, the other 50% of the carcinogens, respiratory tract irritants, asphyxiants and ciliastasis agents remain in the smoke and continue to be deeply inhaled. The reduction of tar and high molecular weight tar constituents in the smoke from many of the low yield cigarettes must be advantageous but it would be gratifying to find evidence that the increased oxidation of the pyrolytic products had not brought about an increase in the amount of material with a cocarcinogenic potential.

The hazards of fire and explosion are the primary, or even the only reason for banning smoking in the workplace. The possible potentiation of the smoking hazard by the nature of an occupation or of an occupational environment, or the exacerbation of an occupational hazard by smoking have only been examined in a few cases and little action seems to have been taken on the findings.

Governments remain ambivalent towards solving the equation in which the variables are excise and tax revenue, health and welfare expenditure and political expediency.

General Observations

This document is written as a sequel to the earlier WHO publications (7,8) which dealt with the smoking habits in the developing countries. In the developed countries, surveys have been carried out in States, or Districts, or geographical areas, or within social groups, occupational groups and educational groups. The aim in this document has been to consider only national trends and compare only national patterns.

The following countries - listed in alphabetical order - have been studied:

Australia, Canada, Japan, New Zealand, South Africa and U.S.A.

The industrialized countries of Europe have not been dealt with in the present report, as they are being studied within the context of the Fourth European Survey of Smoking and Health, carried out by the WHO Regional Office for Europe and will be published shortly.

As in the previous reviews (7,8), the results of surveys have been reported under the following headings:

Population under Survey
Methodology
Definitions (when given)
Smoking prevalence
Tobacco consumption
Other information

Superscript reference numbers refer to sources of information which are listed in the bibliography at the end of the review.

COUNTRY PROFILES

AUSTRALIA (9 - 13)

The results of the survey of Australian schoolchildren (9) showed patterns similar to those which have been found in other developed countries: boys smoking habits developed at a slightly earlier age than those of girls, smoking prevalence increased with age and was inversely related to scholastic achievement. Smoking prevalence for girls was slightly less than found for boys. Peer group and parental habits influenced the behaviour of the children and smoking habits of children reflected society's accepted norms of behaviour.

The surveys of adult smoking behaviour (10 - 13) show that there has been a fall in the number of males smoking and that this observation applied to every age group except the 25 to 34 group where the percentage remained unchanged. Unpublished data for the 1940's and 1950's have been referred to (10) and these indicate smoking rates as high as 72% in the immediate post-war years - in contrast with today's figures of around 37% for men. Ex-smokers and exclusively pipe or cigar smokers tend to be concentrated in the older age groups.

Populations under survey: Schoolchildren (9) and Adults (10)

a) Schoolchildren

Australian schoolchildren between the ages of 9 and 16 in both metropolitan and non-metropolitan areas of New South Wales, Queensland, South Australia, Western Australia, Tasmania and the Australian Capital Territory.

Methodology

School grades covering the age range 10 to 15 were surveyed and this meant that some 9 year-olds and 16 year-olds were included. The selection of schools was made on a random basis. Schools were classified as State, Catholic or Private and either metropolitan or non-metropolitan.

Definitions

Regular smokers were those who had smoked more than 10 cigarettes in their lifetime and who considered themselves to be regular smokers.

Occasional smokers were those who had not smoked more than 10 cigarettes but who considered themselves to be smokers.

Ex-smokers were those who had smoked more than 10 cigarettes in their lifetime but who did not consider themselves to be smokers at the time of the survey.

Non-smokers were those who had not smoked more than 10 cigarettes and did not consider themselves to be smokers.

Smoking prevalence

Table 1 shows the smoking behaviour of schoolchildren in Australia by age and sex.

Cigarette consumption

Table 2 gives cigarette consumption figures.

Other information

In Phase 2 of the survey, the various factors that influence children's cigarette smoking were examined.

Table 2 Average number or cigarettes smoked per week by age and sex and the percentage of children smoking according to the number of cigarettes smoked.

Age	Male regular smokers Cttes smoked in past week				Average No. of cttes. smoked	Female regular smokers Cttes smoked in past week				Average No. of cttes. smoked	Both sexes regular smokers Cttes smoked in past week						
	0	1-5	5-10	11-20		20+	0	1-5	5-10		10-20	20+	0	1-5	5-10	10-20	20+
9 years	0.9	4.2	1.8	1.0	0.4	6	0.9	1.0	0.1	-	0.3	5	0.9	2.6	1.0	0.5	0.4
10 years	1.4	6.2	2.4	1.0	1.4	7	0.5	0.9	0.6	0.1	0.1	5	0.9	3.6	1.5	0.6	0.7
11 years	2.1	7.1	3.2	1.5	1.6	7	0.4	3.3	1.2	0.3	0.3	5	1.3	5.3	2.2	0.9	0.9
12 years	1.7	11.0	5.9	3.6	3.7	9	1.7	7.1	1.5	1.5	0.8	6	1.7	9.1	3.7	2.6	2.3
13 years	1.1	10.4	6.3	5.8	8.8	13	1.2	10.5	6.1	2.9	3.6	9	1.2	10.5	6.2	4.4	6.2
14 years	1.1	9.4	6.0	7.8	13.6	16	1.0	11.1	7.1	4.6	7.3	12	1.0	10.3	6.5	6.3	10.5
15 years	1.7	9.0	5.6	7.9	10.9	18	0.4	10.5	6.3	4.2	9.6	14	1.1	9.7	5.9	6.2	15.6
16 years	0.7	9.9	9.9	14.5	20.8	17	-	10.7	4.0	0.7	16.0	17	0.4	10.2	7.4	8.7	18.8

b) Adults

The population of Australia 16 years old and above (10).

Methodology

A nationwide household survey of 5580 men and women was carried out by a market research company. Questions on smoking habits were embedded in an "omnibus" survey serving various clients of the company and as a result, respondents were not sensitised to any particular research interest.

Definitions

Regular smokers - smokers of cigarettes only; of cigarettes plus pipe/cigar; of pipe/cigar (ex-cigarettes); of pipe/cigar (never cigarettes).

Ex-Smokers - sometime smokers of cigarettes; of cigarettes and pipe/cigar; of pipe/cigar only.

Never smoked regularly.

Smoking prevalence

Table 1 shows the percentage of adults smoking cigarettes in the years when surveys similar to the present one were conducted.

Table 1

Sex	Year			
	1974	1976	1980	1983
Males	41%	40%	40%	37%
Females	29%	31%	31%	30%

Table 2 gives the smoking habits by age and sex as found in the 1983 survey.

Tables 3 and 4 give the smoking habits by age and sex in Australia, as found in similar surveys carried out in 1980 and 1976 (11,12).

Table 2 Smoking habits by age and sex

Smoking Category*	Sex		Total	Proportion of Sample in Each Age Group Smoking										
	Male	Female		16-19 Years	20-24 Years	25-29 Years	30-34 Years	35-39 Years	40-44 Years	45-49 Years	50-54 Years	55-59 Years	60-69 Years	70+ Years
Smoke cigarettes	37%	30%	37%	31%	43%	47%	40%	40%	40%	41%	33%	35%	28%	23%
Smoke cigar and/ or pipe	2%	-	2%	1%	1%	2%	3%	1%	2%	1%	4%	3%	5%	5%
Ex-smokers	27%	16%	27%	12%	17%	21%	19%	24%	26%	27%	39%	40%	42%	49%
Never smoked regularly	32%	51%	32%	41%	37%	29%	37%	33%	31%	29%	22%	20%	24%	23%
			51%	37%	45%	45%	49%	52%	52%	47%	60%	55%	61%	73%

* Australia-wide survey of 2677 males and 2903 females aged 16 years and over, April/May, 1983.
1.9% of males and 2.2% of females did not respond or smoked irregularly.

Table 3 Smoking habits by age and sex* 1980

Smoking category	Sex	Total	Proportion of sample											
			16-19 Years	20-24 Years	25-29 Years	30-34 Years	35-39 Years	40-44 Years	45-49 Years	50-54 Years	55-59 Years	60-69 Years	70+ Years	
Smoke cigarettes	Male	40%	35%	56%	48%	39%	41%	41%	46%	46%	46%	39%	25%	18%
	Female	31%	37%	40%	39%	33%	28%	19%	31%	26%	23%	26%	23%	10%
Smoke cigars and/ or pipe	Male	1%	-	-	-	-	-	-	-	-	-	-	-	-
	Female	-	-	-	-	-	-	-	-	-	-	-	-	-
Ex-smokers	Male	23%	12%	9%	15%	16%	23%	23%	20%	28%	35%	35%	47%	49%
	Female	14%	11%	14%	11%	18%	13%	14%	12%	14%	14%	14%	12%	13%
Never smoked regularly	Male	35%	52%	34%	37%	43%	35%	31%	32%	24%	25%	25%	28%	31%
	Female	54%	51%	46%	46%	47%	55%	67%	56%	56%	59%	64%	64%	76%

*Australia-wide survey of 2137 males and 2172 females aged 16 years and over July and August, 1980.

Table 4 Smoking habits by age and sex in people aged 16 years and over* 1976

Smoking category	Sex	Total	Proportion of sample										
			16-19 Years	20-24 Years	25-29 Years	30-34 Years	35-39 Years	40-44 Years	45-49 Years	50-54 Years	55-59 Years	60-69 Years	70+ Years
Smoke cigarettes	Male	40%	36%	46%	45%	40%	42%	40%	37%	48%	37%	32%	27%
	Female	31%	32%	43%	36%	26%	34%	35%	37%	37%	17%	18%	11%
Smoke cigars and/ or pipes	Male	3%	1%	1%	4%	4%	3%	3%	5%	2%	2%	3%	7%
	Female	-	-	-	-	-	-	-	-	-	-	-	-
Ex-smokers	Male	24%	12%	13%	14%	19%	19%	26%	29%	40%	39%	39%	39%
	Female	11%	4%	8%	11%	16%	16%	8%	8%	16%	13%	10%	10%
Never smoked regularly	Male	34%	50%	39%	40%	35%	39%	35%	20%	21%	25%	27%	27%
	Female	54%	63%	47%	44%	54%	48%	54%	51%	62%	65%	75%	75%

*Australia-wide survey of 2044 males and 1829 females, October and November, 1976.

Cigarette consumption

The average daily consumption of cigarettes reported in the 1983 survey was 18.3 for male smokers and 17.3 for female smokers.

In the 1980 survey, the mean daily cigarette consumption by age group was as shown in Table 5 and the figures obtained in the 1976 survey are shown in Table 6.

Table 5 Mean daily cigarette consumption by age group, 1980

	Mean number of cigarettes a day											
	Total	16-19 Years	20-24 Years	25-29 Years	30-34 Years	35-39 Years	40-44 Years	45-49 Years	50-54 Years	55-59 Years	60-69 Years	70+ Years
Male	22.1	16.2	17.0	20.1	21.7	24.7	24.1	23.6	22.8	19.4	15.5	21.1
Female	18.1	13.5	16.2	17.6	19.8	20.3	20.5	20.0	19.1	17.1	18.5	12.5

Table 6 Consumption of cigarettes by age and sex* 1976

Number of cigarettes per day** Sex	Proportion of sample						
	Total	(16-19 Years)	19-29 Years	30-39 Years	40-49 Years	50-59 Years	60+ Years
1 to 19 Males	41%	(64%)	45%	34%	37%	37%	49%
Females	53%	(74%)	59%	50%	46%	53%	52%
20 to 24 Males	29%	(29%)	33%	31%	23%	28%	25%
Females	28%	(12%)	25%	28%	39%	29%	28%
25- Males	25%	(4%)	19%	32%	38%	29%	16%
Females	15%	(8%)	15%	19%	14%	15%	12%

* Australia-wide survey of 809 males and 573 female cigarette smokers, October and November 1976.

** Figures for respondents not stating daily consumption are omitted (4.6% males, 3% females).

Other Information

The prevalence of smoking according to birthplace (Australia, UK, Europe or elsewhere), occupational level and educational level was obtained and compared with similar information from the 1980 survey. Opinions and beliefs on smoking and the advantage or disadvantages of smoking and giving up smoking were also obtained.

CANADA (14, 14a)

Since 1965, the Canadian Department of National Health and Welfare has monitored the smoking behaviour of Canadians through supplements to the Labour Force Survey.

Between 1966 and 1983, the proportion of regular smokers in the Canadian population aged 15 years and over declined from about 43% to 31%. Males accounted for the largest share of the overall decline (53.6% to 34.0%), and the decrease was evident in all age groups. Among females, the smoking levels have historically been lower than the male levels and between 1966 and 1977, the proportion remained relatively stable at about 32%. In 1979, female smoking prevalence started to decline to the levels of 28.9 in 1981 and 28.3 in 1983.

In spite of the decline in smoking prevalence, the per caput consumption of cigarettes during the period 1966 to 1981 remained relatively stable. There was a decline in the proportion of regular smokers who smoke between 1 and 10 cigarettes a day and an increase among both males and females in the group smoking more than 10 cigarettes each day.

During the period in question, the percentage of teenage males regularly smoking cigarettes declined significantly but amongst teenage females the percentage increased from 20% in 1966 to 28% in 1972 and then declined to 23% in 1981 to become equal to the prevalence amongst teenage males.

From 1968 to 1981, sales-weighted tar averages of Canadian cigarettes declined from an average of 21.1 mg to 13.5 mg. The market share of low tar brands (defined as brands with a nominal tar delivery of 12 mg. or less) represented 8.3% of the market in 1973 and increased to 34.3% in 1981.

Canadian smoking habits seem to be comparable with those found throughout the developed countries in that lower smoking prevalence is to be found among the more highly educated and higher levels of smoking occur in the "blue collar" groups of workers.

Population under Survey

The adult population (aged 15 years and over) of Canada, with the exception of the Yukon and Northwest Territories, populations living in Indian reservations and Crown lands, inmates of institutions and members of the armed forces. The exclusions account for 2% of the total population.

Methodology

The Department of National Health and Welfare monitors the smoking behaviour of the Canadian population through supplements to the Labour Force Survey, carried out by Statistics Canada. The survey is conducted on a monthly basis and covers 98% of the population. The sample is a multi-stage probability sample of the dwellings. Approximately 56,000 dwellings are sampled each month. Households within the selected dwellings are interviewed once a month for six consecutive months. The principle purpose for the Labour Force Survey is to measure labour force activity

and characteristics but supplements to the survey monitor the smoking behaviour of the population. The 1981 and 1983 smoking surveys were each based on the use of a one-third sample of the Labour Force Survey.

Smoking prevalence

Table 1a shows the percentages of the Canadian population (1981) according to their smoking behaviour, sex and age group and table 1b the same information for 1983.

Table 2 shows the percentage of regular cigarette smokers, 15 years of age and over, by age and sex as found in six surveys carried out from 1966 to 1983.

Cigarette consumption

Table 3 shows the percentage distribution of regular cigarette smokers aged 15 years and over - by the number of cigarettes smoked per day, Canada 1981.

Table 4 shows the percentage distribution of regular cigarette smokers aged 15 years and over by the number of cigarettes smoked per day, 1970 and 1983.

Table 5 shows the domestic sales and per caput consumption of cigarettes in Canada in each year from 1968 to 1981.

Other information

Regional smoking trends throughout Canada were considered as were relationships between educational levels and smoking prevalence and occupation and smoking. Questions concerning attempts to stop smoking were discussed.

Table 1a Percentage of the population of Canada (1981) by smoking behaviour, sex and age group.

Age group	Non-smokers		Regular smokers		Occasional smokers		Pipe etc smokers	
	Male	Female	Male	Female	Male	Female	Male	Female
15 to 19	72.6	72.3	22.8	23.4	4.1	4.3	-	-
20 to 24	54.7	54.7	39.9	40.8	3.9	4.5	-	-
25 to 44	49.7	62.9	42.6	33.4	3.5	3.6	4.2	2.2
45 to 64	52.2	68.1	39.3	28.3	3.2	3.2	5.3	2.7
65 and over	69.5	86.6	21.3	10.8	2.3	2.5	6.9	3.1
Total 20 yrs and over	53.6	66.9	38.7	29.6	3.3	3.4	4.4	2.2
Overall total 15 and over	56.0	67.5	36.7	28.9	3.4	3.4	-	2.0

Table 1b Percentage of the population of Canada (1983) by smoking behaviour, sex and age group.

Age group	Non-smokers		Regular smokers		Occasional smokers		Pipe etc smokers	
	Male	Female	Male	Female	Male	Female	Male	Female
15 to 19	75.3	75.5	20.3	20.3	4.3	4.1*	-	-
20 to 24	57.7	58.9	37.3	37.3	4.0	3.6*	-	-
25 to 44	53.9	62.3	39.0	33.9	3.7	3.5	3.4	-
45 to 64	58.1	69.2	35.6	27.8	2.4	2.8	3.9	-
65 and over	69.2	85.7	22.1	12.1	3.1*	1.9*	5.5	-
Total 20 yrs and over	57.5	67.5	35.7	29.3	3.3	3.1	3.5	0.2*
Overall total 15 and over	59.5	68.2	34.0	28.3	3.4	3.2	3.1	0.2*

*Approximate figures due to high sampling variance.

Table 2 Percentage of regular cigarette smokers 15 years of age and over by age and sex, Canada 1966 to 1983.

Age group	Year	Male	Female
15 to 19	1966	35.1	20.0
	1972	35.0	28.4
	1975	29.3	27.4
	1977	26.9	26.7
	1979	26.8	26.0
	1981	22.8	23.4
	1983	20.3	20.3
20 to 24	1966	60.1	43.4
	1972	52.6	40.6
	1975	48.3	38.3
	1977	45.2	40.7
	1979	42.3	39.8
	1981	39.9	40.8
	1983	37.3	37.3
25 to 44	1966	61.8	31.4
	1972	53.3	38.8
	1975	48.3	37.0
	1977	47.0	36.6
	1979	44.0	36.0
	1981	42.6	33.4
	1983	39.0	33.9
45 to 64	1966	57.8	31.7
	1972	50.0	31.6
	1975	46.5	31.8
	1977	42.3	30.5
	1979	40.5	28.9
	1981	39.3	28.5
	1983	35.6	27.8
65 and over	1966	32.3	8.3
	1972	30.4	10.4
	1975	29.3	10.8
	1977	27.3	12.0
	1979	24.6	10.6
	1981	21.3	10.8
	1983	22.1	12.1
Total 20 yrs and over	1966	56.7	34.0
	1972	49.5	33.0
	1975	45.6	32.0
	1977	43.0	31.8
	1979	40.4	30.7
	1981	38.7	29.6
	1983	35.7	29.3
Total 15 yrs and over	1966	53.6	32.1
	1972	47.4	32.4
	1975	43.3	31.4
	1977	40.8	31.1
	1979	38.6	30.1
	1981	36.7	28.9
	1983	31.1	28.3

Table 3 The percentage distribution of regular cigarette smokers 15 and over, by the number of cigarettes smoked per day (1981 Survey).

Cttes/Day	Male	Female	Both Sexes
1 to 5	4.3	5.2	4.7
6 to 10	13.3	17.0	15.0
11 to 25	13.9	17.8	15.7
16 to 20	25.2	24.1	24.7
21 to 25	28.2	26.6	27.5
26 to 30	4.7	3.2	4.0
31 to 35	1.8	1.4	1.6
36 to 40	4.6	2.5	3.7
Over 40	4.0	2.2	3.1

Table 4 The percentage distribution of regular cigarette smokers 15 and over, by the number of cigarettes per day, 1970 and 1983.

Cigarette per day	Male		Female		Both Sexes	
	1970	1983	1970	1983	1970	1983
1 to 10	20.3	16.4	31.2	22.0	24.6	19.0
11 to 25	67.5	67.6	63.2	69.2	65.8	68.3
25 or more	12.2	16.0	5.6	8.8	9.6	12.6

Table 5 The domestic sales and per caput consumption of cigarettes in Canada, 1968 to 1981.

Year	Manufactured cttes x10 ⁹	Hand-rolled cttes x10 ⁹	All cttes x10 ⁹	Cigars x10 ⁶	Per capita consumption cigarettes	Estimated cttes/day per smoker
1968	46.27	7.02	53.29	462	3,703	
1969	46.58	6.82	53.40	509	3,619	
1970	49.82	6.92	56.74	560	3,765	24.0
1971	50.86	7.19	58.05	624	3,772	
1972	53.29	6.97	60.27	570	3,825	
1973	54.86	7.36	62.22	609	3,849	
1974	57.12	6.71	63.83	590	3,844	
1975	57.76	6.71	64.47	474	3,799	25.4
1976	60.74	6.58	67.32	507	3,887	
1977	61.79	6.32	68.10	466	3,901	27.0
1978	61.61	5.66	67.27	439	3,780	
1979	63.87	5.23	69.09	420	3,816	28.2
1980	64.49	4.78	69.27	415	3,758	
1981	66.56	4.76	71.32	414	3,872	29.3

JAPAN (15, 16, 37)

The data show that smoking prevalence is very high among Japanese male adults and has been consistently so over the 26 year period covered by Table 1. The highest level recorded was 83.7% in 1966 since when the percentage of smokers has fallen to 70.1% in 1982 and a recent report for 1984 shows a further fall to 65.5% (37). Nevertheless, although the percentage of male smokers has gradually but consistently fallen, the cigarette consumption per smoker has consistently increased.

Among females, the prevalence is considerably lower, circa 15%. As with the males, the highest level recorded was in 1966 when the figure was 18% from which it fell to 15.4% in 1968 and after minor fluctuations since then it was still 15.4% in 1980 although a new "low" has recently been reported for 1984 (37). The cigarette consumption by females has shown a gradual, although slightly erratic increase since 1966.

Lung cancer mortality in Japan is lower than that found in the USA or Western Europe but the trends in lung cancer mortality have shown an increase in recent years in parallel with the increase in the per caput cigarette consumption.

Population under survey

The Japanese adult population as a whole.

Methodology

Annual random sampling surveys have been carried out by the Japan Tobacco and Salt Public Corporation.

Smoking prevalence

Table 1 gives the percentage of smokers, 20 years of age and over, from 1958 to 1982.

Table 1

Year	% smokers 30 years and over	
	Male	Female
1958	75.9	12.4
1959	82.8	14.8
1960	80.5	13.2
1961	81.7	13.6
1962	78.8	12.8
1963	76.6	12.2
1964	76.2	10.8
1965	82.3	15.7
1966	83.7	18.0
1967	82.3	17.7
1968	78.5	15.4
1969	79.1	15.4
1970	77.5	15.6
1971	77.4	14.7
1972	77.6	15.5
1973	78.3	15.1
1974	78.8	16.7
1975	76.2	15.1
1976	75.1	15.4
1977	75.1	15.1
1978	74.7	16.2
1979	73.1	15.4
1980	70.2	14.4
1981	70.8	15.3
1982	70.1	15.4
1984	65.5	14.0

Table 2 shows the percentage of smokers by sex in each of five age groups from 20 years of age and over in the period 1967 to 1980.

Table 3 shows the percentages of smokers 20 years of age and over by sex and occupation in the period 1967 to 1980.

Table 2 Percentage smokers, by age and sex

Sex	Age	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Male	20-29	83.2	78.0	78.5	79.9	79.2	80.0	80.1	82.9	81.5	80.8	79.9	78.2	80.3	77.1
	30-39	84.1	79.3	80.6	78.4	77.3	77.0	78.7	79.7	77.0	74.8	76.0	76.0	76.1	73.4
	40-49	85.8	82.5	83.7	81.0	79.7	81.0	82.2	80.6	76.3	75.4	74.5	75.3	71.2	69.1
	50-59	82.3	81.3	80.3	78.3	78.8	79.8	77.7	78.0	78.6	77.5	75.5	76.3	74.6	70.0
	60+	73.3	70.8	71.1	67.8	69.8	68.5	71.1	69.7	65.8	64.4	67.4	65.5	62.0	60.0
	All ages	82.3	78.5	79.1	77.5	77.4	77.6	78.3	78.8	76.2	75.1	75.1	74.7	73.1	70.2
Female	20-29	11.0	8.1	9.9	9.8	10.2	12.7	11.0	12.9	12.7	14.3	16.0	14.9	16.4	16.2
	30-39	16.4	13.6	13.1	13.0	13.7	13.4	12.4	14.1	13.5	14.4	13.2	15.7	14.0	14.2
	40-49	20.9	17.8	16.8	16.1	16.1	14.9	15.5	17.6	15.7	14.6	14.5	16.6	15.5	14.4
	50-59	23.1	21.1	20.7	23.3	17.9	20.6	18.0	21.1	17.9	17.4	16.0	16.8	16.3	12.8
	60+	20.3	20.4	19.8	20.0	19.4	18.5	21.2	20.5	16.8	17.5	17.0	17.3	15.4	14.6
	All ages	17.7	15.4	15.4	15.6	14.7	15.5	15.1	16.7	15.1	15.4	15.1	16.2	15.4	14.4

Table 3 Percentage smokers, by occupation and sex

Sex	Occupation	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Males	Service workers & Salesmen	88.4	83.7	84.2	84.6	83.2	83.1	83.7	87.3	87.4	85.3	83.2	81.0	80.8	78.8
	Manual workers	85.6	80.0	83.1	81.3	81.5	80.6	83.3	83.5	80.5	79.9	78.3	79.4	77.4	76.5
	Merchants & proprietors	83.8	79.2	80.0	76.4	80.4	79.2	80.2	79.4	78.1	75.4	76.0	74.7	76.1	70.7
	Clerical workers	83.2	79.6	81.2	78.5	76.6	77.8	77.5	78.0	75.1	75.1	76.1	73.9	72.1	70.1
	Farmers and fishermen	85.3	81.4	82.2	79.4	72.3	77.6	77.0	78.5	75.0	72.5	72.8	74.5	68.4	68.7
	Student	69.3	62.6	64.8	73.4	74.6	68.6	61.8	73.5	72.0	70.9	72.2	60.8	66.6	64.7
	Executives and Liberal professionals	77.8	75.8	74.3	73.5	75.5	77.4	77.1	74.6	71.9	73.7	71.0	72.9	71.0	64.5
	Men without jobs	66.3	63.9	67.7	63.8	67.1	61.1	66.5	64.9	65.5	61.6	65.2	65.6	63.5	57.7
	Total	82.3	78.5	79.1	77.5	77.4	77.6	78.3	78.8	76.2	75.1	75.1	74.7	73.1	70.2
	Females	Service workers & Saleswomen	45.1	42.4	46.7	42.4	31.8	38.8	32.8	43.3	43.0	43.2	42.6	40.4	39.8
Manual workers		24.2	21.3	19.3	19.1	16.3	19.1	17.8	19.8	20.5	21.4	18.7	20.0	17.1	17.0
Merchants & Proprietresses		41.1	19.3	27.0	21.5	25.6	19.2	19.4	23.5	24.7	24.2	22.4	25.1	25.9	26.1
Clerical workers		15.2	10.4	13.3	14.1	11.2	12.7	12.7	13.5	14.2	15.3	14.0	14.7	16.2	14.3
Executives and Liberal professionals		33.7	32.5	27.8	37.0	24.0	29.5	25.5	28.6	27.1	25.0	16.2	21.1	25.6	28.3
Students		6.5	2.2	9.1	3.6	23.2	19.5	2.7	20.7	8.3	20.8	25.0	10.6	14.3	11.5
Farmers and Fisherwomen		8.5	8.5	9.9	7.0	7.9	7.7	8.6	8.9	6.2	8.4	6.2	6.8	4.7	5.4
Women without jobs		19.4	19.4	17.4	19.0	17.1	17.4	20.7	19.6	17.2	16.2	16.9	19.3	16.2	15.7
Housewives		14.6	13.2	11.8	11.9	13.3	12.9	12.7	14.4	12.6	12.3	13.2	14.0	13.3	12.0
Total		17.7	15.4	15.4	15.6	14.7	15.5	15.1	16.7	15.1	15.4	15.1	16.2	15.4	14.4

Tobacco consumption

Table 4 covers the period 1964 to 1980 and gives the number of cigarettes smoked in Japan per annum and the average number of cigarettes smoked per smoker per day.

Year	No. of cttcs. consumption (millions)	No. of cttcs. smoked per smoker per day	
		Male	Female
1964	160,807	19.3	11.9
1965	171,449	19.4	12.2
1966	181,488	19.8	13.6
1967	193,932	19.8	13.0
1968	196,709	19.7	13.2
1969	211,316	20.3	13.7
1970	222,132	20.9	14.3
1971	235,448	21.6	14.9
1972	252,665	21.8	14.8
1973	266,692	22.0	15.0
1974	284,155	22.8	15.5
1975	289,842	23.8	16.6
1976	288,729	24.2	16.1
1977	301,100	24.0	15.6
1978	301,400	24.3	15.9
1979	306,878	24.2	16.0
1980	303,974	24.6	15.7

NEW ZEALAND (22 - 25)

Several small scale surveys have been reported but there have been only two large scale surveys of self reported smoking habits; these were included in the 1976 and 1981 census. The results have been analysed in numerous papers in terms of prevalence, consumption, cessation and national change in smoking habits (22) and the influence of race, religion, occupation and other social factors (23).

A summary of some of the reported results is given in the table below:

		Males	Females
Total population over 15	1976	40	32
	1981	35	29
Maori or part Maori	1976	56	59
	1981	54	58
Pacific Islanders	1976	46	24
	1981	42	24
All others	1976	38	30
	1981	33	27
Doctors (24)	1963	37	29
	1972	22	15
	1976	20	17
Milton	1975	48	41
	1976	38	31
	1978	41	36
Adolescents			
Third formers	Smoking	20	13
	Given up	43	38
Fourth formers	Smoking	35	35
	Given up	44	43
Fifth formers	Smokers 1968	32	25
	Smokers 1981	24	47
Sixth formers	Smoking	50	40
	Given up	47	36

In the case of adolescents, many surveys have been reported (20,21) and all lead to the impression that teenage smoking has declined over the past 20 years in males but has increased in females.

It has been stated (25) that the smoking and alcoholic problems of New Zealand were of a seriousness comparable with that found in Scotland, that smoking attributable deaths are 4000 p.a. (in a total population of 3 million) and that Maori women have one of the highest lung cancer incidences in the world.

Whilst New Zealand led the world by including a question on smoking in its national census (now deleted), it would appear that the country has been slower in taking action to deal with smoking problems. There have been attempts to form an anti-smoking group in New Zealand similar to the British ASH but with little support. A more recent encouraging sign, however, has been the formation of MASH (Maori Action on Smoking and Health) by the Maori Women's Welfare League. According to a survey carried out by this organization, Maori women have a 61% smoking rate compared with 29% for all the women in New Zealand.

Populations under survey: Adults and Youth

- a) The population of New Zealand over the age of 15 years.

Methodology

A question on smoking habits was first included in the New Zealand census in 1976 and repeated again in 1981. The question referred only to cigarette smoking. The law required all those over the age of 15 years to complete the census. The response rates to the smoking question were 96.7% (1976) and 98.1% (1981).

Definitions

Smoking was defined as smoking one or more cigarettes per day.

A Maori was defined as a person who declares himself/herself as of half or more Maori ancestry.

Smoking prevalence

Table 1 shows the percentage of smokers in the total New Zealand population in 1976 and 1981.

Table 1

	Male		Female		Total	
	1976	1981	1976	1981	1976	1981
Regular smokers	40	35	32	29	36	32
Ex smokers	22	24	12	14	17	19
Never smoked	39	42	56	56	47	49

Table 2 shows the distribution of smokers by age and sex.

Age	Males		Females	
	1976	1981	1976	1981
15-	30	27	30	30
20-	42	40	39	40
25-	42	38	38	35
30-	44	37	38	33
35-	43	38	35	33
40-	44	37	35	31
45-	45	38	36	31
50-	44	38	34	31
55-	41	36	31	28
60-	38	32	26	24
65-	35	29	20	20
70-	31	25	14	15
75-	24	20	8	8
Total	40	35	32	29

Table 3 summarizes the smoking trends in the major ethnic groups.

Table 3

	Males		Females	
	1976	1981	1976	1981
Maori	56	54	59	58
Pacific Islanders	46	42	24	24
All others	38	33	30	27
Total N.Z. population	40	35	32	29

Cigarette consumption

Table 4 gives the average number of cigarettes smoked daily per individual.

Table 4

	No. of cigarettes per day			
	Males		Females	
	1976	1981	1976	1981
Total N.Z. population	20	18	16	14
Maoris	19	16	16	14

Table 5 gives the daily cigarette consumption of smokers.

Table 5

	Males			Females		
	1-9	10-19	20+	1-9	10-19	20+
Total population 1976	17	32	51	26	40	34
Total population 1981	18	32	49	26	39	35
Maoris 1976	20	35	46	28	38	35
Maoris 1981	23	37	40	28	40	32

Other information

The present levels of smoking were considered to compare favourably with those reported in recent surveys from other parts of the world:

		Male	Female	
Australia	1980	40%	31%	(aged 16 and over)
Canada	1981	37%	29%	(aged 15 and over)
Norway	1982	40%	34%	(aged 16 - 74)
United Kingdom	1980	42%	37%	(aged 16 and over)
United States	1980	37%	29%	(aged 17 and over)

The question of the accuracy of the information obtained from surveys was briefly discussed.

Trends in smoking behaviour according to occupation and other social factors were discussed in Part 2 of the paper published at a later date (18).

b) The population of Milton, a fairly isolated rural township in Otago, about 54 kilometres south of Dunedin, with a total population of 2,218 of which 1,571 were aged 15 or more.

Methodology

Two studies were carried out, one in May 1975 and the other in May 1978 when about 82% of the population of the township over the age of 16 were examined as part of a community health survey and questioned on smoking habits.

Smoking prevalence

The following table shows the 1976 census population for Milton by age and sex and the proportions of each age group examined in 1978. Also shown are the percentage of cigarette smokers in 1978, 1975 and in the New Zealand census of 1976.

		Milton Population		Proportion of cigarette smokers		
Age Group		1976 Census Population	Proportion examined 1978 %	Milton 1978 %	Milton 1975 %	N.Z. Census 1976 %
16-24	M	158	79	38	42	34
	F	145	84	42	44	33
25-34	M	153	88	38	54	42
	F	156	85	43	48	37
35-44	M	102	90	49	51	42
	F	107	75	41	50	34
45-54	M	118	75	42	53	43
	F	119	86	37	51	34
55-64	M	91	75	41	52	38
	F	101	78	34	32	27
65 & over	M	101	60	39	28	29
	F	161	54	10	15	13
Total	M	723	79	31	48	38
	F	789	76	36	41	31

Cigarette consumption

Table 2 shows the percentage of smokers/daily cigarette consumption in 1976 and 1978. The table indicates a decrease in the percentage of smokers over three years.

Table 2 Percentage of smokers according to number of cigarettes smoked per day in 1976 and 1978 in Milton.

Year \ Cttes/day	20+	20 - 10	10 -
	%	%	%
1975	26.1	51.4	22.4
1978	25.0	46.0	11.4

Other information

The associations between smoking habits and those of parents, socio-economic level, use of oral contraceptives or tranquilisers, alcohol consumption degree of inhalation and preference for high tar/nicotine cigarettes were all examined.

c) Population:

Fifth form students from three high schools in the city of Gisborne. The schools comprised one co-educational school, one single sex boys' school and one single sex girls' school.

Methodology

A questionnaire covering a range of topics concerned with interest, life styles and school experiences of adolescents was administered to fifth form students in 1968 (n = 515) and again in 1981 (n = 585). The mean age of the students was 16.1 in 1968 and 16.2 in 1981.

Smoking prevalence

The following table gives the smoking prevalence (%) of students by sex and ethnic group.

<u>Maori</u>		Often	Occasional	Rarely	Never
Males	1968	15.9	15.9	31.7	36.5
Males	1981	12.4	10.5	26.6	50.5
Females	1968	12.7	10.9	40.0	36.4
Females	1981	39.3	15.2	13.4	32.1
<u>European</u>					
Males	1968	14.1	17.6	30.7	37.6
Males	1981	13.2	11.2	19.1	56.6
Females	1968	5.6	20.0	35.6	38.9
Females	1981	29.3	13.6	16.3	40.8
<u>Total Male and Female</u>					
Males	1968	14.6	17.1	31.0	37.3
Males	1981	12.8	10.9	22.2	54.1
Females	1968	7.2	17.9	36.6	38.3
Females	1981	33.1	14.2	15.2	37.5
<u>Overall totals</u>					
	1968	11.1	17.5	33.6	37.8
	1981	23.7	12.7	18.4	45.2

"Often" is defined as smoking at least 20 cigarettes per week and "Occasional" as smoking once a week.

Tobacco consumption

11.1% smoked 20 cigarettes per week in 1968.

23.2% smoked 20 cigarettes per week in 1981.

Other information

Both surveys examined the effect of socio-economic group on smoking and in the case of Maori respondents in 1981, high and low cultural identity. Consumption of alcohol was also considered in relation to smoking behaviour.

d) Population:

Fourth form and sixth form students at a Dunedin High School (20).

e) Population:

Average or mixed ability third form students in each of ten Christchurch secondary schools (21).

Methodology

1. Confidential questionnaires were handed by teachers to four of seven fourth forms and to all sixth forms at Bayfield High School, Dunedin. Replies were received from 53 fourth form boys and 49 girls, average age 14 years 3 months and from 34 sixth form boys and 55 girls, average age 16 years 2 months.
2. A self-completed questionnaire was given to the students in one average or mixed ability third form class in each of ten Christchurch secondary schools. Replies were received from 273 individuals, 143 males and 130 females, average age 13 years 7 months.

Smoking prevalence

The percentage of smokers by age and sex in the Dunedin survey are shown in Table 1.

Table 1

		Males	Females	Total
Fourth form	Smokers	35	35	35
	Tried but given up	44	43	44
	Never smoked	21	22	21
Sixth form	Smokers	50	40	44
	Tried but given up	47	36	40
	Never smoked	3	24	16

Corresponding data from the Christchurch survey are shown in Table 2.

Table 2

		Males	Females	Total
Third form	Smokers	20	13	16
	Tried but given up	43	38	40
	Never smoked	38	49	44

Tobacco consumption

In the Dunedin survey, regular smokers smoked one or more cigarettes per day and the infrequent smokers smoked fewer than one cigarette per week.

In the Christchurch survey, regular smokers averaged 7 cigarettes per week.

Other information

Nye, et al (20), listed data for smoking by fourth formers taken from seven New Zealand surveys carried out between 1961 and 1979. Trends were difficult to follow because of the absence of survey standardization. The general impression, however, was of a decline in smoking among European boys, an increase among European girls and a higher level of smoking by Maori or part Maori students. The 14 year old cohort at the time of the first survey (6) was in the 30-34 age group at the time of the 1976 census and comparisons suggest a 10% decline in smoking by males and a 9% increase among females.

Reasons for starting to smoke and reasons for giving up the habit were studied. Suggestions on health education approaches to reducing the incidence of smoking in children were made.

Data for smoking by third formers taken from four surveys were listed and reasons for giving up smoking and for never starting to smoke were considered.

SOUTH AFRICA (28 - 33)

The population of South Africa is divided into four large ethnic groups which are: Asian (Indian), Bantus (Black), Coloureds (Mixed race) and Whites (Caucasian).

With the exception of Asian females, smoking prevalence is high for all ethnic groups and in all age groups.

The highest cigarette consumption figures are found for the white population group. In all but the Asian population, the male/female differentials for cigarette consumption are small. It is not unreasonable to predict that cigarette consumption amongst all non-white groups will increase as incomes and standards of living rise.

Among rural blacks, the smoking of manufactured cigarettes is less than amongst those who have become urbanized or who work on contracts in urban areas. Cigarette smoking is more common in the under-40 age group of contract workers; the older contract workers showing a lower overall smoking prevalence and amongst those who do smoke, a greater proportion are pipe smokers.

Coloured schoolchildren (socio-economic classes 3 and 4) smoked more than white children of the same age in classes 1 and 2. The prevalence in the latter group increased with age and continued to increase throughout their later years as university students. An interesting observation amongst the latter group was their preference for high tar and nicotine cigarettes.

Population under survey (28)

Subgroups of the general White, Black, Coloured and Indian adult population of South Africa.

Methodology

Representative samples of White, Black, Coloured and Indian men and women aged 20 to 59 were taken in the course of multi-purpose surveys carried out in 1975, 1976 and 1977. The total numbers involved in the surveys were: 5,000 Whites (2,500 men and 2,500 women), 4,000 Blacks (2,000 men and 2,000 women), 2,500 Coloureds (1,500 men and 1,000 women) and 2,500 Indians (1,500 men and 1,000 women).

Prevalence of smoking

Table 1 shows the smoking status of each population group (percentages).

Table 1

	Whites 1975		Blacks 1976		Coloured 1977		Indian 1977	
	Male	Female	Male	Female	Male	Female	Male	Female
Non-smokers	21	57	25	78	15	41	27	90
Ex-smokers	21	12	5	2	6	7	7	5
Smokers	58	31	70	20	79	52	68	5
Total number	2500	2500	2000	2000	1500	1000	1500	1000

Table 2 gives an analysis of the ages of male and female current smokers.

Table 2

	Whites 1975		Blacks 1976		Coloured 1977		Indian 1977	
	Male	Female	Male	Female	Male	Female	Male	Female
20 to 29 years	60	31	72	19	75	54	63	-
30 to 39 years	60	33	74	22	80	61	78	-
40 to 49 years	56	32	68	21	78	46	67	-
50 to 59 years	51	28	64	14	81	39	63	-

Tobacco consumption

The vast majority of all the population groups surveyed smoked cigarettes. Table 3 gives the average number of cigarettes smoked daily (percentages).

	Whites		Blacks		Coloureds		Indians	
	Male	Female	Male	Female	Male	Female	Male	Female
Fewer than 5	7	7	14	34	15	26	8	-
5 to 9	9	14	32	29	24	24	16	-
10 to 14	15	20	25	20	26	24	26	-
15 to 19	20	18	11	8	12	8	13	-
20 to 24	26	20	13	4	18	13	30	-
25 to 29	10	8	3	2	1	3	2	-
30 and more	13	13	2	3	4	2	5	-
Median	19.7	17.4	10.8	7.6	11.5	10.5	14.4	-

Other information

The age of onset of smoking was briefly considered. In the case of 66% of the Whites, 75% of the Coloured and 68% of the Indian males, smoking had started before the age of 20. The cessation of smoking was also mentioned.

Population under survey (29)

Rural Afrikaans-speaking Whites in three communities in the south-western Cape Province.

Methodology

A coronary risk factor survey was carried out in Swellendam (White population 5,860 in the 1980 census), Riversdale (5,540) and Robertson (5,320); three towns with similar cultural and socio-economic structure. The sample, consisting of 3,357 white males and 3,831 white females between the ages of 15 and 64 (representing 82% of the target population) completed a risk factor questionnaire covering socio-economic items, smoking habits, family history of heart disease, personal medical history and activity patterns. Physical measurements and medical tests were also carried out.

Smoking prevalence

Table 1 gives the percentage of smokers and ex-smokers by age and sex.

Table 1

Age Groups	Numbers		All smokers		Ctte smokers		Ex-smokers	
	Male	Female	Male	Female	Male	Female	Male	Female
15 - 24	635	658	34.3	11.1	32.9	11.1	6.5	2.4
25 - 34	634	713	53.1	22.5	49.3	22.5	17.5	6.9
35 - 44	641	813	57.5	23.4	50.2	23.4	25.2	7.9
45 - 54	705	845	51.1	18.7	43.0	18.7	30.6	9.1
55 - 64	742	802	42.6	11.1	32.6	11.1	38.1	10.1
Totals	3357	3831	47.6	17.5				

Tobacco consumption

Table 2 gives the percentage of smokers in each age group and the percentage of smokers in each group smoking 10 or more cigarettes per day. Also included are the average number of cigarettes per day in each age group.

Table 2

Age Groups	% smokers		% smokers smoking 10+ ct/d.		Average number ctttes/d.	
	Male	Female	Male	Female	Male	Female
15 - 24	34.3	11.1	18.1	6.2	11.1	10.9
25 - 34	53.1	22.5	42.4	16.3	18.1	13.6
35 - 44	57.5	23.4	43.4	18.2	20.0	15.4
45 - 54	41.1	18.7	37.1	14.4	20.6	15.7
55 - 64	42.6	11.1	26.8	8.4	18.9	15.8
15 - 64	47.6	17.5	33.4	12.9		

Other information

The primary purpose of the survey was to explain any excess risk of ischaemic heart disease in the Africans-speaking community and several reversible risk factors (including smoking) and irreversible factors were examined.

Population under survey (30,31)

1. Children aged 11 to 15 consisting of Coloured children (social classes 3 and 4) attending one school and White children (social classes 1 and 2) attending four different schools (30).
2. High school children aged 11 to 19 chosen from 20 White high schools (excluding the schools which participated in Survey No. 1 above) (31) in Cape Town.

Methodology

1. A questionnaire was administered to all the coloured children in the age group at the selected school but in the white schools only 55% of the children agreed to co-operate, which led to a bias which invalidated the data for white children.
2. This survey was to replace the invalid results from the earlier survey. No school, principal, teacher, pupil or parent was allowed to be identifiable in any way. The children completed a questionnaire in class time.

Smoking prevalence

1. Of the 290 coloured children interviewed, 44 (15.2%) were smokers. Only 8 (2.5%) of the 315 white children admitted to smoking but since a further 258 children (45% of the available data) would not co-operate the result was considered to be invalid.

Table 1 gives the percentage of coloured smokers at each age. The figures for white Australian children are shown for comparison purposes.

Table 1

Age	Smokers %		
	Coloured Cape Town children (290)	White Australian children (20,778)	White, high social class children selected data from Table 2
11	7.4	6.3	0
12	10.8	9.1	12
13	21.3	18.9	9
14	28.6	31.0	13
15	35.8	33.8	20

2. Table 2 gives the smoking status in relation to age and sex of the White high school children in the second survey. (The overall totals include 110 children who did not specify their sex).

Table 2

Age groups (yrs)	Sex	No.	Never smoked (%)	Ex-smokers (%)	Current smokers (%)
11	M	0	0	0	0
	F	1	0	100	0
	Total	1	0	100	0
12	M	16	75	25	0
	F	18	78	11	11
	Total	35	74	14	12
13	M	124	66	26	8
	F	111	60	29	11
	Total	249	65	26	9
14	M	144	70	21	9
	F	125	61	26	13
	Total	350	64	23	13
15	M	151	49	32	19
	F	288	43	37	20
	Total	451	45	35	20
16	M	234	50	21	29
	F	72	33	28	39
	Total	308	46	23	31
17	M	178	45	24	31
	F	79	34	38	28
	Total	257	42	28	30
18	M	38	32	29	39
	F	19	21	42	37
	Total	57	28	33	39
19	M	5	40	40	20
	F	3	0	100	0
	Total	8	25	63	12
	M	890			
	F	716			
	Total	1,716			

Tobacco consumption

Table 3 gives data from Survey No. 2 (no information is available on consumption from Survey 1). The percentage of smokers are shown against the number of cigarettes smoked per day.

Table 3

Number of cttcs smoked per day	% of smokers
0 - 1	14.4
1 - 5	46.6
5 - 10	27.9
10 - 15	5.7
15 +	5.4

Of the smokers, 71.3% admitted to inhaling the smoke.

Other information

Factors influencing the smoking habit were examined, e.g., the smoking habits of parents, siblings and friends. The presence of various respiratory symptoms in smokers, ex-smokers and non-smokers were compared.

Population under study (32)

Students at the University of Witwatersrand, Johannesburg.

Methodology

Every fourth student attending a compulsory lecture, except in the Faculty of Arts where every fourth student completed a questionnaire at the time of registration, completed questionnaires under the supervision of the lecturer. A total of 1632 completed questionnaires were returned; representing 13% of the full time undergraduate students (12,426).

Smoking prevalence

Table 1 gives the sex and smoking status of the students.

Table 1

	Smokers		Ex-smokers		Non-smokers		Total	
	No.	%	No.	%	No.	%	No.	%
Male	254	23	197	18	633	58	1084	66
Female	105	19	78	14	365	67	548	34
Total	359	22	275	17	998	61	1632	

Table 2 gives the age and smoking status of the students.

Table 2

	Smokers		Ex-smokers		Non-smokers		Total No.
	No.	%	No.	%	No.	%	
16 - 17	24	19	18	14	85	67	127
18 - 19	106	18	94	16	395	66	595
20 - 21	122	23	87	17	317	60	526
22 - 23	54	23	39	16	144	61	237
24 - 25	27	36	22	29	27	36	76
26 - 30	16	35	12	26	18	39	46
31 - 40	7	50	1	7	6	43	14
Unknown	3		2		4		9
Total	359		275		998		1632

Tobacco consumption

Of the smokers: 88% smoked cigarettes
6% smoked pipe tobacco
2% smoked cigars
4% did not indicate

The preference of students was in general for high tar and nicotine cigarettes:

19% smoked cigarettes with 26.1 mg tar and 1.37 mg nicotine.
14% smoked cigarettes with 26.1 mg tar and 1.60 mg nicotine.
10% smoked cigarettes with 29.0 mg tar and 1.77 mg nicotine.

Other information

The survey sought to determine the factors which motivate smokers to start, to continue and to stop smoking; students awareness of the health hazards of smoking; the smoking habits of parents and siblings of smokers; the inter-relationship of smoking, eating and drinking and the influence of advertising.

Population under survey (33)

The Black workforce in a factory near Johannesburg. Approximately 75% of the workers were on a renewable one-year contract and came mainly from the Pietersburg area. They stayed in hostels. The remainder lived locally. The two groups were defined as "rural/hostel" and "urban" groups respectively.

Methodology

Half of the workforce were chosen randomly to participate in the study which was conducted by means of questionnaire administered by qualified Black nursing staff.

Smoking prevalence

Table 1 gives an analysis of the smoking habits of urban and rural/hostel dwellers.

Table 1

	Rural/Hostel		Urban		Total Number
	No.	%	No.	%	
Smokers	326	63.4	93	57.4	419
Non-smokers	188	36.6	69	42.6	257
Total	514		162		676

Table 2 gives the relationship between smoking and age.

Table 2

Under 29	179	70%
30 to 39	132	63%
40 to 49	71	55%
50 to 59	35	58%
60 +	2	10%
Total	419	

Tobacco consumption

The majority of smokers chose cigarettes and, in general, the number smoked was no more than 11 per day. Table 3 details the smoking habits of the survey sample by age group.

Age	No.	Never smoked %	Ex-smokers %	Ctite smokers %		Pipe smokers %
				0-11/d	11+/d	
Under 40	467	33	2	55	8	2
Over 40	209	48	1	32	9	10
Total	676	38	2	48	8	4

Other information

Results from other surveys and trends were discussed.

UNITED STATES OF AMERICA (35, 36)

As in the case of most of the developed countries, there has been a reduction in the number of adult male smokers and this has been found in all age groups. The aggregate female smoking rate has only fallen by 4.7%. Until the 1950's, smoking rates among women were very much lower than among men but as women's smoking came to be more acceptable, the rate rapidly increased. This is still seen in the rates of smoking of the older age groups which although only one third of the rates among younger women have shown an increasing trend over the past 20 years. The rates of smoking for both men and women especially in the younger age groups seem to have stabilized at about 30% of the population.

Smoking surveys show smoking prevalence within a population at the time of the survey and, from comparing surveys, it is possible to see the changes that have occurred over a period of time. To assess the impact of anti-smoking campaigns, however, it has been suggested (36) that current smoking rates should be compared with the rate which would have applied had there been no Surgeon General's Report and no subsequent campaigns to stop smoking. Warner and Murt (36) used the rates of change of smoking prevalence in each age group before 1963 to assess the rate which would have applied in the absence of anti-smoking propaganda, in order to obtain a measure of the effectiveness of the campaigns. The following table gives the smoking participation rates (%) of six birth cohorts during each year from 1964 to 1978.

The results of this work suggest that the effect of anti-smoking campaigns has been more substantial than a simple comparison of current rates with those of 1963 would imply; that the response has come from women as well as men and that the future situation can be approached - if not entirely with optimism, at least without as much frustration as hitherto.

Smoking rates (%) 1964 to 1978, reported and estimated (1)

Birth Cohort	Sex	YEAR																	Reported Estimated
		1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978			
1901-1910	M	45	45	45	43	42	39	39	36	35	34	31	30	28	27	26	Reported		
	F	46	46	46	45	44	42	42	40	39	38	37	37	36	36	35	Estimated		
1911-1920	M	22	21	21	20	20	19	18	17	17	16	15	15	13	13	13	Reported		
	F	21	21	21	20	20	19	19	19	19	18	18	18	17	17	17	Estimated		
1921-1930	M	61	60	59	59	58	54	53	51	50	48	46	46	43	40	39	Reported		
	F	62	61	60	60	59	57	56	56	55	55	54	54	53	52	51	Estimated		
1931-1940	M	36	36	36	36	35	33	33	31	31	30	29	28	27	26	26	Reported		
	F	37	37	37	37	36	36	36	35	35	35	35	35	34	34	34	Estimated		
1941-1950	M	63	63	63	61	60	56	55	53	52	51	48	47	47	45	44	Reported		
	F	66	66	66	65	65	64	64	64	65	63	63	62	62	61	61	Estimated		
1951-1960	M	43	43	43	42	42	40	40	39	39	39	38	38	38	37	36	Reported		
	F	44	44	44	44	44	43	43	43	42	42	42	42	41	40	39	Estimated		
1961-1970	M	45	46	46	47	47	48	48	49	49	49	48	48	48	47	47	Reported		
	F	59	59	58	57	56	53	53	51	50	49	47	46	45	44	44	Estimated		
1971-1980	M	62	63	63	64	64	64	64	63	63	63	62	62	62	61	61	Reported		
	F	44	44	44	44	44	43	43	43	42	42	42	42	41	40	39	Estimated		
1981-1990	M	45	46	46	47	47	48	48	48	49	49	50	50	50	51	51	Reported		
	F	59	59	58	57	56	53	53	51	50	49	47	46	45	44	44	Estimated		
1991-2000	M	42	46	50	54	58	58	58	57	56	55	54	53	51	49	47	Reported		
	F	43	48	53	57	61	61	62	62	63	63	64	64	64	64	64	Estimated		
2001-2010	M	25	30	34	38	40	40	41	41	41	41	41	40	39	38	37	Reported		
	F	27	32	36	40	42	44	46	47	48	49	50	50	51	51	52	Estimated		
2011-2020	M	1	2	4	7	10	14	18	23	27	31	36	38	40	40	39	Reported		
	F	2	3	5	8	11	16	21	26	32	39	44	50	54	58	61	Estimated		
2021-2030	M	1	1	2	3	6	10	13	17	22	27	31	35	38	38	37	Reported		
	F	1	2	3	5	8	12	15	20	25	31	36	40	45	47	49	Estimated		

1) Estimated, had there been no Surgeon General's report and no anti-smoking campaigns.

Population under Survey

The population of the United States over the age of 20 years.

Methodology

Health interview surveys based on household interviews of a sample of the civilian non-institutionalized population.

Smoking prevalence

Table 1 shows the percentage of smokers in total and by age in the total male population and in the total female population of the U.S.A in 1965, 1976, 1980 and 1983.

Age	1965		1976		1980		1983	
	M	F	M	F	M	F	M	F
20 - 24	59.2	41.9	45.9	34.2	39.7	32.7	37.5	36.1
25 - 34	60.7	43.7	48.5	37.5	43.1	31.6	38.0	32.3
35 - 44	58.2	43.7	47.6	38.2	42.6	34.9	40.1	33.6
45 - 64	51.9	32.0	41.3	34.8	40.8	30.8	35.6	30.5
65 +	28.5	9.6	23.0	12.8	17.9	16.8	20.8	13.5
All ages	52.1	34.2	41.6	32.5	37.9	29.8	34.8	29.5
All ages White	51.3	34.5	41.0	32.4	37.1	30.0	-	-
Black	59.6	32.7	40.1	34.7	44.9	30.6	-	-

and the total percentage of smokers in the white and black male/female population.

Cigarette consumption

Tables 2 and 3 show the cigarettes smoked per day by males (Table 2) and females (Table 3) 20 years and older, by age, in the years 1965, 1976, 1980 and 1983.

Table 2

Age	Less than 15 cttres/day				15-24 cttres/day				25+ cttres/day			
	1965	1976	1980	1983	1965	1976	1980	1983	1965	1976	1980	1983
20-24	34.9	31.6	32.6	28.6	49.7	49.9	47.6	54.1	15.4	18.5	19.8	17.3
25-34	25.7	25.5	23.1	27.6	50.0	45.8	46.8	42.7	24.3	28.7	30.1	29.6
35-44	23.7	19.6	17.5	16.9	44.8	41.2	41.9	41.0	31.5	39.2	40.7	42.1
45-64	26.7	18.5	21.5	16.8	45.3	44.1	35.9	40.0	28.0	37.4	42.6	43.2
65 +	47.1	39.1	32.4	36.3	39.0	42.7	42.5	42.7	13.8	18.2	25.2	21.0
All ages	30.1	24.9	24.2	23.5	45.7	44.4	41.7	42.9	24.1	30.7	34.2	33.6

Table 3

Age	Less than 15 cttres/day				15-24 cttres/day				25+ cttres/day			
	1965	1976	1980	1983	1965	1976	1980	1983	1965	1976	1980	1983
20-24	48.4	43.1	43.5	40.4	41.9	42.4	40.6	45.8	9.7	14.5	15.9	13.8
25-34	41.4	34.3	33.7	34.3	43.1	45.2	42.1	43.9	15.5	20.5	24.2	21.8
35-44	39.1	33.8	27.6	27.2	43.7	44.4	39.7	46.5	17.1	21.8	32.7	26.3
45-64	44.4	34.3	29.6	30.4	42.0	44.2	45.5	46.6	13.6	21.5	24.9	23.0
65 +	62.6	49.3	48.7	42.9	31.0	38.9	38.2	44.5	6.4	11.8	13.1	12.6
All ages	46.2	37.6	34.7	33.8	40.8	43.4	42.0	45.6	13.0	19.0	23.2	20.6

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