

Table 4.50 DALYs from Risk Factors Among Thai People, 1999

Order	Males				Order	Females			
	Risk	DALYs		Risk		DALYs			
		(X10 ⁵)	Percent			(X10 ⁵)	Percent		
1	Unsafe sex	8.8	16%	1	Unsafe sex	3.2	8%		
2	Smoking	4.8	9%	2	High body mass index	2.3	6%		
3	Alcohol consumption	4.6	8%	3	Hypertension	2.1	5%		
4	Non-use of helmet	3.3	6%	4	Smoking	1.8	5%		
5	High body mass index	2.5	4%	5	High cholesterol	0.9	2%		
6	Illicit drugs	2.4	4%	6	Occupational injuries	0.8	2%		
7	Hypertension	1.2	2%	7	Non-use of helmet	0.7	2%		
8	Low consumption of vegetables and fruit	1.1	2%	8	Physical inactivity	0.6	2%		
9	High cholesterol	1.1	2%	9	Poor sanitation and malnutrition	0.5	1%		
10	Occupational injuries	0.7	1%	10	Low consumption of vegetables and fruit	0.5	1%		
11	Poor sanitation and malnutrition	0.5	1%	11	Alcohol consumption	0.4	1%		
12	Air pollution	0.5	1%	12	Illicit drugs	0.3	1%		
13	Physical inactivity	0.4	1%	13	Air pollution	0.3	1%		

* Male total DALYs = 5.6 million; female total DALYs = 3.9 million.

It is noteworthy that most of the risks for disease burden are health behaviors which are further elaborated as follows:

10.1 Food Consumption

The food consumption behaviors of Thai people have changed according to changing lifestyles and are different between urban and rural residents. Urban residents tend to take more meat and fat, while taking less vegetables and fruit. Teenagers prefer western foods to local or Thai food. More rushing lifestyles have pushed them to take ready-to-cook or semi-cooked food. The trend is rising in both urban and rural areas. Regarding food expenditures, Bangkok residents spend 50% of their food spending on ready-to-eat food, while rural residents spend only 20% for such food.¹⁴

The 2001 survey conducted by the National Statistical Office revealed that, when selecting food, 60% of the people think of its cleanliness and deliciousness, while only 20% think of its nutritious value. Males tend to pay more attention to its deliciousness than do females (Table 4.51).

¹⁴ Patthanee Vinijjakul and Wongsawat Kosalwat. Food and Nutrition in Review and Revision of Strategic Plan for Health Research in Thailand, 2003.

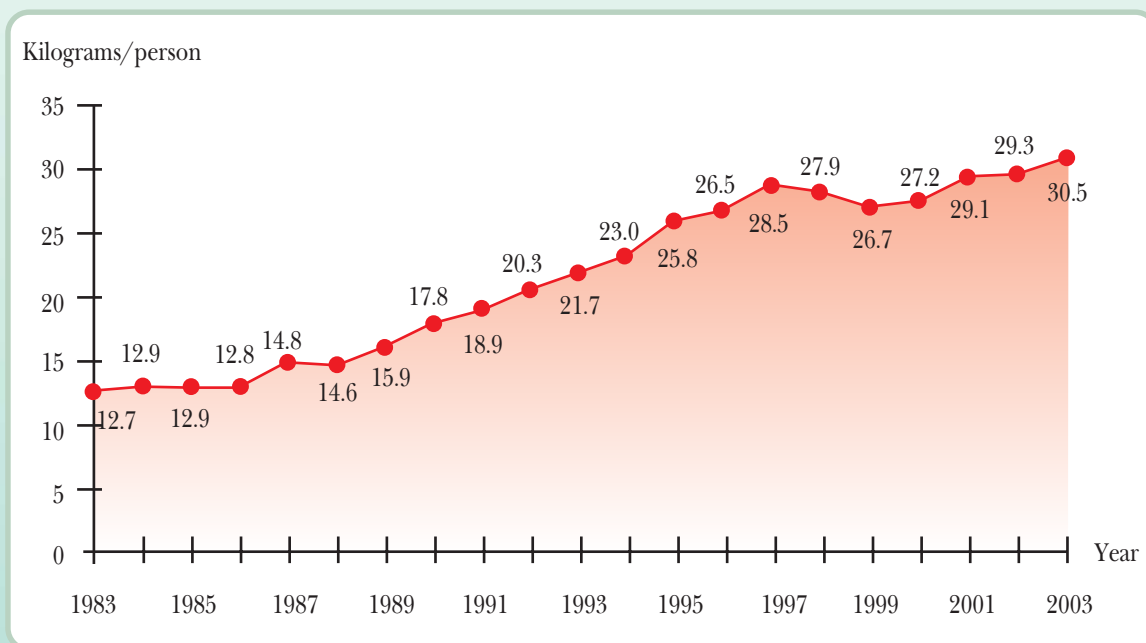
Table 4.51 Considerations in Food Selection among People Aged 15 Years and Older, 2001

Consideration	Percent		
	Total	Males	Females
Cleanliness	40.3	38.6	41.9
Deliciousness	24.8	27.3	22.2
Nutritional values	19.9	18.7	21.0
Prices	9.3	9.2	9.3
Edibility	4.6	4.8	4.4
Modernity	0.2	0.2	0.2
Others	0.7	0.8	0.7
Unknown	0.3	0.3	0.3

Source: Report on Health and Welfare Survey, 2001. National Statistical Office.

Besides, it was found that Thai people tended to consume more sugar and food prepared from flour and sugar. The sugar consumption rate during the past two decades has risen two-to four-fold, from 12.7 kg/person/yr in 1983 to 30.5 kg/person/yr in 2003 (Figure 4.39).

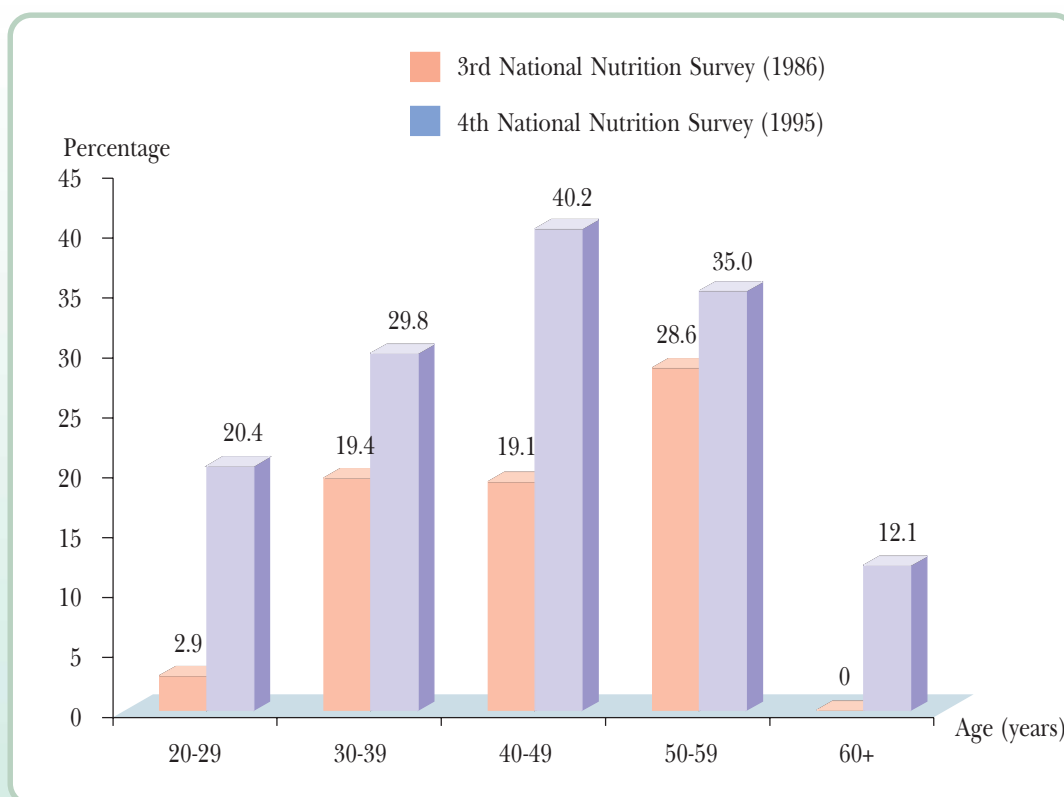
Figure 4.39 Quantity of Sugar Intake in Thailand, 1983-2003



Source: Production Management Centre. Office of the Sugar Cane and Sugar Commission.

Consuming food rich in fat and calorie is a risk factor of cardiovascular diseases. According to the third and fourth national nutrition surveys (1986 and 1995, respectively) in Thailand, the prevalence of obesity has risen in all age groups; the highest increase was noted in the age group 40-49 years from 19.1% to 40.2%, followed by the age group 20-29 from 2.9% to 20.4% (Figure 4.40). And an analysis of risk factors for cardiovascular diseases among Thai people aged 35-59 revealed a rising prevalence of people with high blood cholesterol, high blood sugar, overweight and obesity (Table 4.52). Bangkok residents, both males and females, had a highest prevalence of overweight and obesity, while the northern people had the lowest. The residents in municipal areas had a higher overweight/obesity prevalence, compared with rural residents.¹⁵

Figure 4.40 Prevalence Rate of Obesity in Thailand by Age Group, 1986 and 1995



Source: Department of Health, MoPH.

Note: Obesity in population aged >20 years and BMI ≥ 25 kilograms/square meter.

¹⁵ Piyamit Srithara et al. Cardiovascular Research Group in Review and Revision of Strategic Plan for Health Research in Thailand, 2003.

Table 4.52 Changes and Prevalence of Cardiovascular Disease Risk Factors in Thai People Aged 35-59 Years

Risk factor	1st health survey (1991-1992)	2nd health survey (1996-1997)	Inter-Asia study (2000-2001)
Cholesterol (mg/dl)	189	198	201
Blood sugar (mg/dl)	87	92	99
Body mass index (BMI, kg/m ²)	22.8	23.8	24.4
Overweight (percent)	20	25	30
Obesity (percent)	5	8	9

Source: Piyamit Srithara et al. Cardiovascular Research Group in Review and Revision of Strategic Plan for Health Research in Thailand, 2003.

Note: Population adjustment for 2000.

Snack consumption tends to rise with its increased convenience and variety as evidenced in a comparison of snacks for sale in retail shops and those popular among children showing a similar rising trend. Crispy snacks (Table 4.53) are generally deficient in nutritional values and the cause of dental health problems. During 2000-2001, 87.4% of 6-year-old children entering the schooling system had on average 6.0 decayed, missing and filled teeth (DMFT) per child, compared with only 71.6% with 4.9 DMFT per child in 1984 (Tables 4.54 and 4.55). And during 1995-2001, the DoH's dental health survey revealed that only 6-15% of children aged 5-6 had no tooth decay and that on average 12-year-old children had 1.6-2 DMFT per child.

Besides, it was found that over consumption of snacks had a negative economic effects. A study on primary schoolchildren¹⁶ revealed that each child spent 13 baht per day on average on snacks and toys. Assuming that each of secondary schoolchildren spent twice that much, the total spending on snacks among Thai children and youths would amount to 142,357 million baht per year (Table 4.56), which is as much as the annual national education budget.

¹⁶ Piyathida Prasertsom. Children, Snacks and Dental Caries. Health Promotion and Environment Health Journal, 26: 2, Apr.-June 2003.

Table 4.53 Comparison of Snack Groups Best Selling and Most Favoured by Children, 2003

Snack group	Best selling item	Most favoured item
Crispy flour	62.2	31.4
Candies	7.9	4.2
Soft bread	7.6	13.9
Drinks	5.9	12.3
Beans	5.0	2.0
Protein-containing	3.4	2.8
Jelly	1.7	2.6
Chocolates	1.7	1.5
Chewing gums	0.5	0.6
Fruit	-	7.2
Thai sweets	-	16.7
Others	4.1	4.8

Source: Sunee Wongkongkathep et al. Snacks and Dental Caries among Thai Children, 2003.

Table 4.54 Percentage of People with Caries by Age Group, According to National Dental Surveys, 1984, 1989, 1994 and 2000-2001

Age group (years)	Percentage			
	1984	1989	1994	2000-2001
3*	-	66.5	61.7	65.7
6*	71.6	83.1	85.1	87.4
6**	74.4	82.8	85.3	87.5
6	30.3	19.2	11.1	-
12	45.8	49.2	53.9	57.3
18	63.1	63.3	63.7	62.1
35 - 44	80.2	76.8	85.7	85.6
60 and older	95.2	93.9	95.0	95.6

Sources: Reports on the 2nd, 3rd, 4th, and 5th National Dental Health Surveys. Department of Health, MoPH.

Notes: * Baby or deciduous teeth.

** Mixed (permanent and baby teeth).

Other age groups - only permanent teeth.

Table 4.55 Average DMFT Rates in Various Age Groups, According to National Dental Surveys, 1984, 1989, 1994 and 2000-2001

Age group (years)	Average DMFT (teeth/person)			
	1984	1989	1994	2000-2001
3*	-	4.0	3.4	3.6
6*	4.9	5.6	5.7	6.0
6**	0.5	0.3	0.3	-
12	1.5	1.5	1.6	1.6
18	3.0	2.7	2.4	2.1
35 - 44	5.4	5.4	6.5	6.1
60 and over	16.3	16.2	15.8	14.4

Sources: Reports on the 2nd, 3rd, 4th, and 5th National Dental Health Surveys. Department of Health, MoPH.

Notes: * Baby or deciduous teeth.

** Mixed (permanent and baby) teeth.

Other age groups - only permanent teeth.

Table 4.56 Spending on Snacks of Primary Schoolchildren

Spending group	Amount (baht/day)	Percent	Value (million baht/yr.)
1. Snacks and toys	13	44.9	142,357
2. Food, tuition and bus fare	7	24.1	76,625
3. Savings	7	24.1	76,625
4. Future spending	2	6.9	21,943
Total	29	100.0	317,550

Source: Piyathida Prasertsom. Children, Snacks and Dental Caries, Health Promotion and Environmental Health Journal, 26: 2, Apr.-June 2003.

10.2 Drug Consumption

In 2002, drug consumption of Thai people accounted for approximately 66,827 million baht in wholesale prices or 120,289 million baht in retail prices, or 36.04% of the overall national health expenditure (see Chapter 6, Medical Supplies and Technology). This proportion is rather high, compared with only 10-20% in industrialized countries (Figure 4.41). During the period 1988-2002 the rising rates of drug consumption have exceeded the increasing rates of national health spending and economic growth.

In general, an analysis on drug consumption patterns of Thai people revealed that about two-thirds of the consumption was done according to the advice of professionals, such as doctors, pharmacists and other health personnel; the remainder was done as suggested by relatives, friends, or advertisements. Nevertheless, medication use according to the advice of health professionals is escalating (Table 4.57).

Figure 4.41 Proportion of Expenditure on Drugs and Health in Thailand and Other Countries



Source: OECD Health Data 2001 (referenced in Drug System in Thailand, 2002).

Table 4.57 Percentage of Drug Values Distributed Through Drug Outlets in Thailand

Type	1994 (percent)	1995 (percent)	1996 (percent)	1997 (percent)	1998 (percent)	1999 (percent)	2000 (percent)	2001 (percent)	2002 (percent)	2003 (percent)
Drugstores	40	34	34	34	34	32	32	30	30	26
Public and private hospitals	43	46	52	52	52	58	58	60	60	64
Private clinics	10	15	9	9	9	} 7	} 7	} 8	} 8	} 9
GPO	2	2	2	2	2					
Others	5	3	3	3	3	3	3	2	2	1

Source: IMS Company (Thailand).

The 2001 provincial health status survey revealed that nearly 20% of family members with minor illness would buy drugs for self-treatment from grocery and drug stores, about two-thirds (68%) would read the drug package labelling every time or sometime before taking the medication (Figure 4.42). Families in municipal areas would read drug labelling in a higher proportion than those outside municipalities.

No matter from whom the people get medication advice, it is evident that irrational use and over-use of drugs, particularly antibiotics, are found at all levels. A study on drug use in children with respiratory infections admitted to hospitals nationwide revealed that 38.6% of the patients had ever taken antibiotics before coming to the hospital. Other studies also indicated antibiotic use prior to visiting a doctor or health official, particularly for cases with respiratory and gastrointestinal tract diseases. Most of the cases had used drugs unnecessarily or inadequately.¹⁷ Some inpatients with infectious diseases were given antibiotics without suitable indications (Table 4.58), partly due to advertising influence (Figure 4.43) while very little effort has been made to disseminate drug information to the public though various media including newspaper, radio, television and magazines. Although such efforts have been made more intensively, most people would get drug information from drug business operators.

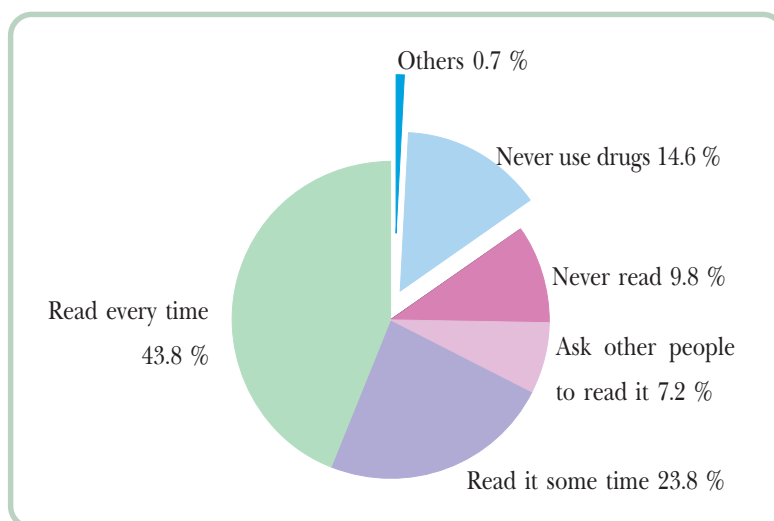
Table 4.58 Use of Antibiotics Without Appropriate Indications, Compiled from 11 Reports

Drug group	Study site (hospital)	Study period	No. of patients	Inappropriate use (percent)
Ceftriaxone	Phra Pokklao	Oct 98 - Sep 99	9	77.8
Parenteral antibiotics	Ban Mi	June - Nov 97	203	39.4
Ciprofloxacin	Lampang	Nov - Dec 95	24	50.0
Parenteral antibiotics	Chainat	Jan - June 93	219	44.7
Ceftazidime	Yasothon	July - Sep 99	48	60.4
Ceftazidime	Lampang	July - Sep 96	49	40.0
Cephalosporins	Taksin	Mar 91 - Feb 92	144	13.2 - 15.3
Ceftazidime	Nakhon Ratchasima	May - Aug 96	114	25.0
Ceftazidime	Phra Phutthachinnarat	Mar - Apr 2000	59	37.5
Ceftriaxone	Lampang	Oct 94	17	41.0
Cephalosporins	Uttaradit	Oct 95 - Sep 96	258	70.2

Source: Drug System in Thailand, 2002.

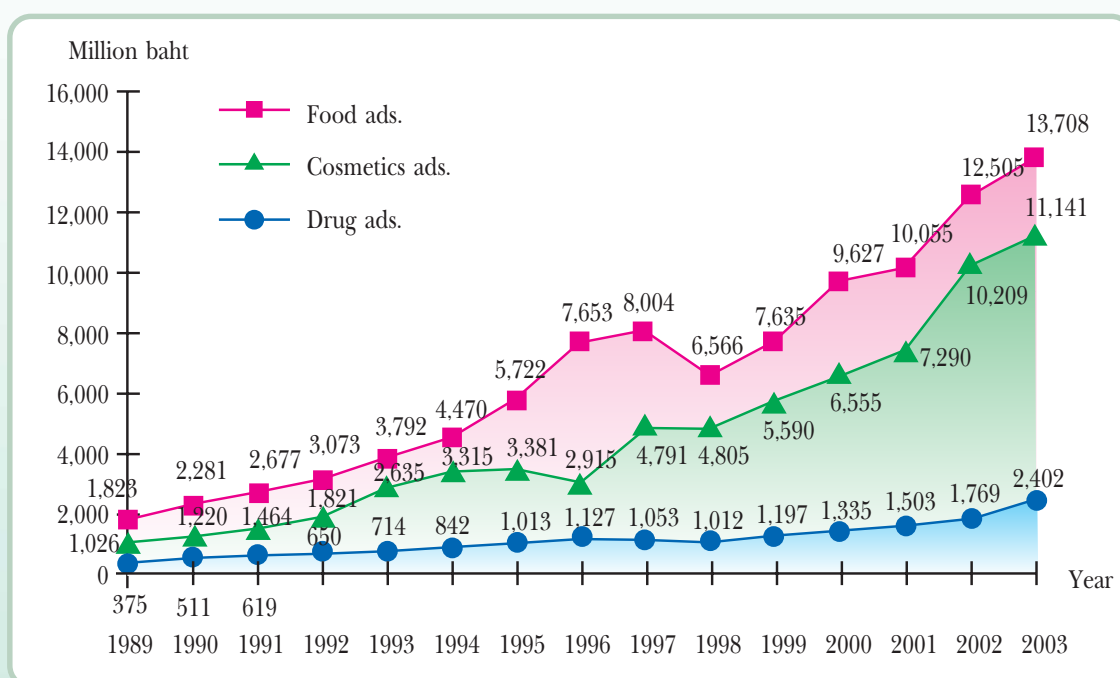
¹⁷ Committee on Drug System Study Project in Thailand. Drug System in Thailand, 2002.

Figure 4.42 Percentage of Household Representatives Reading Drug Labelling before Using Drugs, 2001



Source: Provincial Health Status Survey, 2001.

Figure 4.43 Billings of Drug, Food and Cosmetic Advertisements, 1989-2003



Source: Media Data Resources (MDR).

- Notes:
1. Food means alcoholic beverages, milk, energy drinks, snacks, soft drinks, candies, seasonings, instant noodles, coffee, food, cooking oil, canned food, dairy products, chocolates and cigarettes, liquid foods and others.
 2. Cosmetics mean shampoo, soap, general cosmetics, body powder and skin moisturizing creams.

10.3 Tobacco Consumption

Although Thailand has got laws related to tobacco products control, including laws on protection of health of non-smokers, the number of smokers is still high. In 2003, Thai people totally smoked 31,366 million cigarettes or an average of 75.5 packs/person/year (Table 4.59), an increase from an average of 71

packs/person/year during 2001-2002. Also, the findings are consistent with the 1999 NSO survey which showed that the proportion of cigarette smokers had increased from 20.5% in 1999 to 21.6% in 2003, the increase was noted for both males and females. It is noteworthy that although the smoking rate among youths (aged 15-24 years) is lower than those among the working-age group (aged 25-59 years) and the elderly (aged 60 and older), it was found that the smoking rate was for 2001-2003 was higher than that for 1999-2001 in both males and females. This has indicated that smoking has more widely spread among youths.

However, when considering the age of first smoking, males started smoking at a younger age than did females, but there is a tendency that males would start later while females would start earlier (Tables 4.60 and 4.61). This is consistent with the WHO forecast which indicates that the smoking rate among females in developing countries in 2025 will increase from 8% to 20%, but the rate among males will drop from 60% to 45%. A survey conducted in 1999 revealed that youths aged 15-19 years started smoking the highest (55.9%), reasoning that they wanted to try it and to follow what their peers did. This finding is different from that reported by the Kasikorn Research Centre¹⁸ which revealed that, in 2003, the motivation for smoking among Bangkok residents were stress, alcohol use, anger, uneasiness, visiting night spots and seeing movies with smoking scene. It was found that one-third of youths aged under 13 years indicated seeing a movie with a smoking scene was the cause of their smoking desire. A regular male smoked 9.7-10.6 cigarettes per day on average; males smoking more than females (Figure 4.44). Regarding the type of cigarettes smoked the most, it was found that after the economic crisis a number of smokers shifted from using local brands to foreign brands and self-rolled cigarettes (Table 4.62). The market share of imported cigarettes has increased from 4.1% in 1997 to 14.1% in 2003; vice versa the market share of cigarettes produced by the Tobacco Monopoly of Thailand has dropped from 95.9% in 1997 to 85.9% in 2003 (Table 4.63). The smoking of self-rolled cigarette might result from people's lower income after the economic crisis; and more people turned away from factory-produced cigarettes to self-rolled ones.

Tobacco use has also had an impact on the economy. A study conducted by the Kasikorn Research Centre¹⁸ found that, for Bangkok residents, spending on cigarettes was 15.07% of total monthly income. On average a Bangkok resident spent about 150 baht a month on cigarettes, the value of cigarette market in Bangkok was about 500 million baht for 2003. Despite intensive campaigns against smoking during the past two decades, the cigarette spending has been rising steadily. According to a world report, tobacco causes an economic loss worth 200,000 million dollars worldwide each year, which is higher than the revenue from tobacco sales; one-third of which occurred in developing countries.¹⁹

In Thailand, approximately 42,000 people die each year from smoking-related illnesses or 115 deaths per day (6 deaths per hour).²⁰ Research studies have revealed that smoking is the cause of serious illnesses; 90% of male cancer patients, 82% of larynx cancer patients, and 80% of pharynx cancer patients had ever smoked.

¹⁸ Kasikorn Research Centre. Smoking Behaviours of Bangkok's Residents, 2003.

¹⁹ Prakrit Vateesatogkit. What Will Occur With Tobacco in the Future. In *New Generations Do Not Smoke Journal*, 7: Jan-Feb 2000.

²⁰ Based on the estimates calculated by Prof. Dr. Prakrit Vateesatogkit. Statistics on Smoking among Thai People. Action on Smoking and Health Foundation (photocopied document).

Table 4.59 Tobacco Consumption of Thai People, 1987-2003

Description	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total tobacco consumption (million cigarettes)	31,309	34,090	38,718	38,887	38,825	40,068	42,245.2	44,849.6	45,755.3	47,235.9	48,336.6	39,057.1	36,166.1	36,469.7	29,502	29,682	31,366
Consumption (packs/person/year)	86.4	91.5	100.6	98.4	95.8	96.5	101.7	108.0	110.2	113.8	116.4	98.8	87.1	87.8	71.0	71.5	75.5
Quantity imported (million packs)	-	-	-	-	12	51	60	71	71	77	99	172	261	239	261	262	293
Value of imports (million baht)	-	-	-	-	-	716.8	968.5	787.0	1,032.1	952.2	907.3	2,755.6	4,289.8	4,586.3	6,151.9	6,136	6,472
Cigarettes domestically produced																	
Million cigarettes	31,581.01	32,505.41	37,198.47	38,235.21	39,719.55	39,591.40	41,219.63	44,542.460	43,183.83	47,751.79	47,125.75	34,568.73	32,023.63	31,796.45	29,742.35	29,598.67	31,498.95
Million packs	1,579.05	1,625.27	1,859.92	1,911.76	1,986.0	1,979.57	2,060.98	2,227.12	2,159.19	2,387.59	2,356.28	1,728.44	1,601.18	1,589.82	1,487.12	1,479.93	1,574.95
Sale value (million baht)	17,327	18,674	20,996	23,640	26,910	27,613	28,890	35,117	34,869	40,340	46,977	44,670	40,700	42,600	42,617	45,219	46,739
Tobacco tax (million baht)	10,399	11,467	12,989	14,785	17,060	16,991	17,439	22,375	22,911	26,134	28,296	25,816	23,100.6	23,540.2	23,912.2	25,641	26,349
Profits sent to Ministry of Finance (million baht)	877	1,069	2,595	2,064	2,244	3,202	2,802	2,954	3,588	3,445	3,600	4,657	5,000	5,310	5,292	4,958	5,948
Excise tax (percent)	35-56.5 ⁽¹⁾	35-56.5 ⁽¹⁾	35-56.5 ⁽¹⁾	35-56.5 ⁽¹⁾	55 ⁽²⁾	55 ⁽³⁾	60 ⁽³⁾	60 ⁽³⁾	62 ⁽³⁾	68 ⁽³⁾	70 ⁽³⁾	70 ⁽³⁾	71.5 ⁽³⁾	71.5 ⁽³⁾	75 ⁽³⁾	75 ⁽³⁾	75 ⁽³⁾

Sources: - Thailand Tobacco Monopoly and the Excise Department, Ministry of Finance.

- Statistics on Trade and Economic Indicators of Thailand. Department of Business Economics.

Notes: ⁽¹⁾ Before July 1990, three rates were applied; 35%, 48% and 56.5% of retail prices, depending on the amounts of domestic tobacco leaves.

⁽²⁾ During July 1990-1991, only one single rate was applied (percentage of retail prices).

⁽³⁾ During 1992-2003, a single was applied (percentage of wholesale prices).

Table 4.60 Number and Proportion of Smokers, 1976-2003

Year	Population (millions)	No. of smokers			Proportion of smokers (percent)		
		Total	Males	Females	Total	Males	Females
1976	28.7 ⁽¹⁾	8.6	7.7	0.9	30.1	54.7	6.1
1981	35.1 ⁽¹⁾	9.8	9.0	0.8	27.8	51.2	4.4
1986	38.0 ⁽²⁾	10.4	9.6	0.8	27.4	50.4	4.2
1988	40.5 ⁽²⁾	10.1	9.4	0.7	25.0	46.7	3.5
1991	43.3 ⁽²⁾	11.4	10.6	0.8	26.3	49.0	3.8
1993	38.3 ⁽³⁾	11.3	10.5	0.8	29.7	55.3	4.3
	45.7 ⁽²⁾	10.4	9.8	0.6	22.8	43.2	2.5
1996	40.7 ⁽³⁾	10.4	9.8	0.6	25.5	48.5	2.8
	48.0 ⁽²⁾	11.2	10.6	0.6	23.4	44.6	2.5
1999	49.9 ⁽²⁾	10.2	9.6	0.6	20.5	38.9	2.4
2001	51.2 ⁽²⁾	10.5	10.0	0.5	20.6	39.3	2.2
2003	35.8 ⁽²⁾	7.7	7.1	0.6	21.6	44.1	2.9

- Sources:** 1. Health and Welfare Surveys. National Statistical Office.
2. Preliminary Results of Survey of Population's Tobacco and Liquor Consumption, 2001. National Statistical Office.

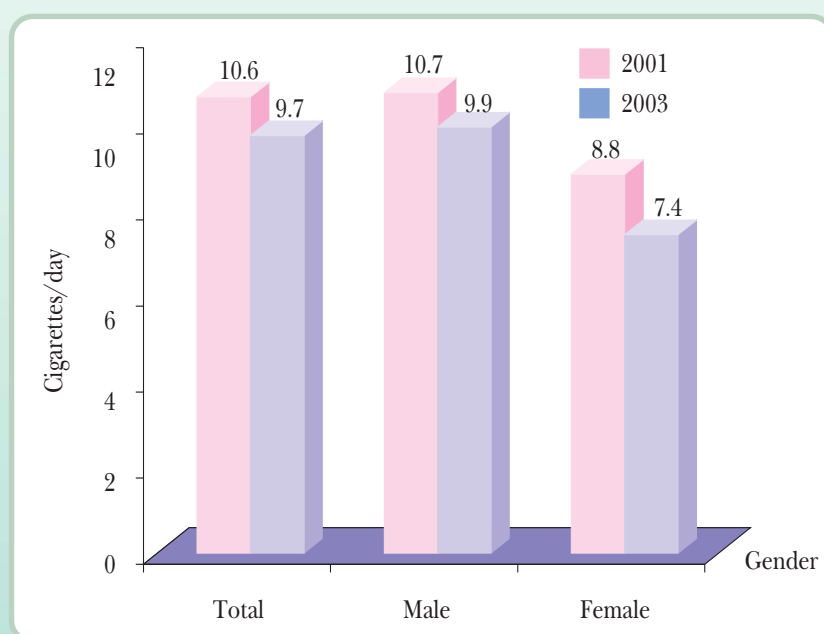
- Notes:** 1. ⁽¹⁾ Population aged 10 and over.
⁽²⁾ Population aged 11 and over.
⁽³⁾ Population aged 15 and over.
2. In the 2003 Health and Welfare Survey, the interview was undertaken only when the interviewee was present; thus, the total population surveyed was smaller than the overall population of the country.

Table 4.61 Proportion of Regular Smokers in Population Aged 11 Years and Over by Age Group and Gender, 1999, 2001 and 2003

Age group (years)	Proportion of smokers (percent)									Change in regular smoking rates					
	1999			2001			2003			1999 - 2001			2001 - 2003		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
11-14	0.2	0.5	-	0.1	0.2	0.1	0.2	0.2	0.1	-0.1	-0.3	+0.1	+0.1	0.0	0.0
15-24	12.3	24.0	0.3	13.5	26.0	0.6	15.2	32.1	0.9	+1.2	+2.0	+0.3	+1.7	+6.1	+0.3
25-59	26.3	49.8	3.0	26.2	49.9	2.6	25.3	51.8	3.4	-0.1	+0.1	-0.4	-0.9	+1.9	+0.8
60 and over	23.3	45.1	4.8	21.1	40.9	4.3	21.5	43.3	4.6	-2.2	-4.2	-0.5	+0.4	+2.4	+0.3
Total	20.5	38.9	2.4	20.6	39.3	2.2	21.6	44.1	2.9	+0.1	+0.4	-0.2	+1.0	+4.8	+0.7
Age at first smoking	18.2	17.9	22.2	18.5	18.3	21.9	18.4	18.2	21.5						

- Sources:**
1. Report on Survey of Population's Tobacco Use Behaviours, 1999. National Statistical Office.
 2. Report on Survey of Population's Tobacco and Liquor Consumption, 2001. National Statistical Office.
 3. Report on Health and Welfare Survey, 2003. National Statistical Office.

Figure 4.44 Average Number of Cigarettes Smoked per Day by A Regular Smoker Aged 11 Years and Over by Gender, 2001 and 2003



- Source:**
1. Preliminary Results of Population's Smoking and Drinking Behaviours Survey, 2001. National Statistical Office.
 2. Health and Welfare Survey, 2003. National Statistical Office.

Table 4.62 Percentage of Population Aged 11 and Over, Using Tobacco Products Regularly by Product Category, Before and After the Economic Crisis

Product category (most frequently used)	Before the crisis		After the crisis	
	1993	1996	1999	2001
Local cigarettes	44.9	55.6	44.3	46.0
Imported cigarettes	0.9	1.1	1.3	1.2
Self-rolled cigarettes	54.0	42.5	54.1	52.7
Cigars	< 0.1	0.2	0.1	} 0.1
Pipe	0.1	0.2	0.2	
Unknown	0.1	0.4	-	

Sources: 1. Report on Health and Welfare Survey. National Statistical Office.
 2. Report on Survey of Population's Tobacco Use Behaviours, 1999. National Statistical Office.
 3. Summary Results of Population's Tobacco and Liquor Consumption Survey, 2001. National Statistical Office.

Table 4.63 Market Share of Domestic and Imported Cigarettes, 1991-2003

Fiscal year	Market share (percent)	
	Local cigarettes	Imported cigarettes
1991	99.4	0.6
1992	97.4	2.5
1993	97.2	2.8
1994	97.0	3.0
1995	96.7	3.2
1996	96.8	3.1
1997	95.9	4.1
1998	91.5	8.4
1999	86.4	13.5
2000	86.7	13.3
2001	85.0	15.0
2002	84.7	15.3
2003	85.9	14.1

Source: Thailand Tobacco Monopoly, Ministry of Finance.

10.4 Alcoholic Beverage Consumption

Thai people tend to consume more alcoholic beverages. In the past decade, alcohol use rose from 721.8 million litres in 1988 to 1,604.3 million litres in 1997, a two-fold increase. After the economic crisis, alcohol consumption had a declining trend from 1,689.8 million litres in 1998 to 1,340.9 million litres in 1999. However, after the economic recovery in 2003, alcohol use appears to rise to 3,783.7 million litres. The Food and Agriculture Organization estimated that the amount of alcohol consumed per capita per day of Thai people in 2000 was highest, compared with those in France, the U.S.A., Japan and the Philippines²¹ (Figure 4.45).

By type of alcoholic beverages, the rate of liquor consumption seemed to be stable while those for beer and wine were rising (Table 4.64 and Figure 4.46) as a result of the government's free trade policy beginning in 1992. After that many beer brewery and winery plants have been operational (Figure 4.47); coupled with lower prices, the sales volumes and amounts of beer consumed were higher than those for liquor.

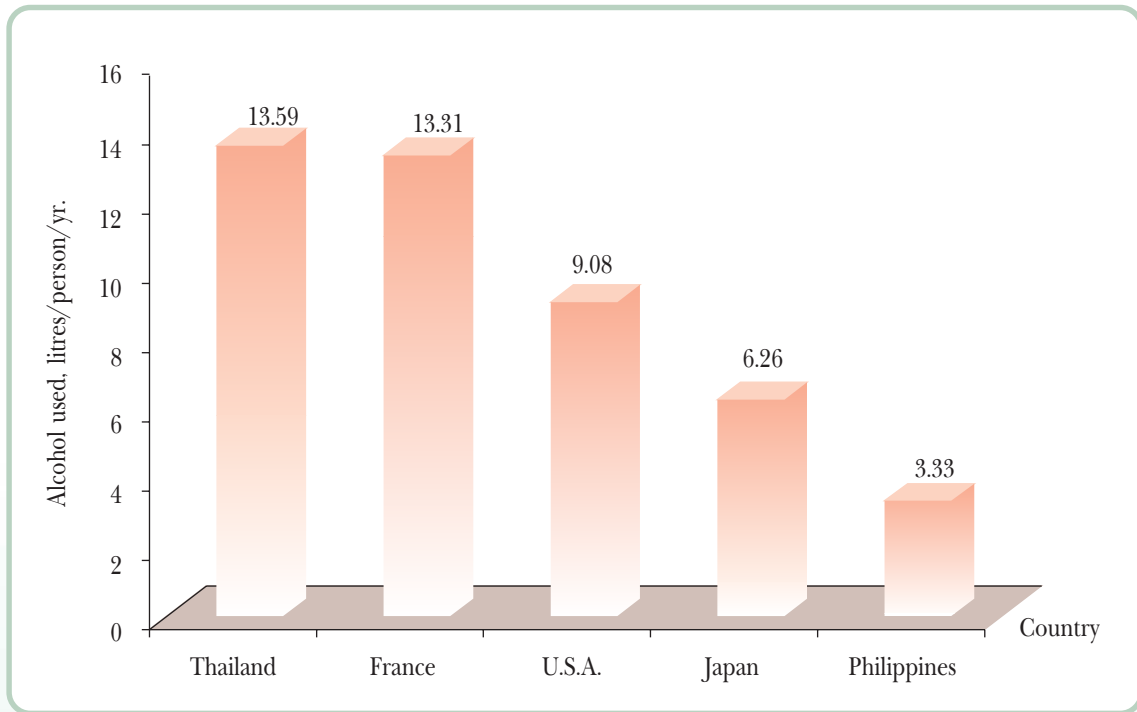
The health examination survey (1996-1997) revealed a similar result, i.e. one-third of working-age population drink alcohol. By sex, males are four times more likely to drink than females. It is noteworthy that during the eight-year period (1996-2003), the proportion of female drinkers has been rising in all age groups, particularly those aged 15-19 years, an almost six-fold increase from 1.0% to 5.6% (Table 4.66). Another survey conducted by the Institute of Population and Social Research of Mahidol University revealed that about one-third (30.7%) of Thai youths (aged 15-24 years) drink alcohol²² and a survey on drug abuse among schoolchildren revealed a rising proportion of students drinking alcohol (Table 4.76).

Regarding drinking frequency among drinkers, it was found that about half of them drank occasionally, but the proportion of regular drinkers was rising from 8.6% in 1996 to 9.4% in 2003 (Table 4.67). An analysis and forecast, based on NSO data, conducted by Dr. Virasakdi Chongsuvivatwong of the Faculty of Medicine, Prince of Songkla University, revealed that alcohol use has been rising in both sexes and all age groups, females having a chance to drink more alcohol, more than 3-4 times per week. The reasons are to socialize, to follow friends' behaviour and to try (Table 4.68), and the influence of advertisements. The values or billings of alcohol advertisements have been rising, particularly during 1999-2002, to more than 2,000 million baht each year (Table 4.69). Thus, the government set a measure in 2003 banning alcohol advertisements during 05:00-22:00 hrs, effective 1 October 2003.

²¹ Yonyout Kachondham. Advertisements of Alcoholic Drinks and Losses. Thai Health Promotion Foundation, 2004.

²² Population and Social Research Institute, Mahidol University. Survey of Situation of Thai Youths, 1998.

Figure 4.45 Comparison of Alcohol Consumption per Person, 2000



Source: WHO Alcohol Consumption Database, referred to in Yongyout Kachondham. “Advertisements and Consumption of Alcohol and Losses.” Thai Health Promotion Foundation, 2003.

Table 4.64 Alcohol Consumption in Thailand, 1988-2003

Category	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total liquor consumption (thousand litres)	561,857.8	499,619.2	611,926.2	681,767.7	670,922.5	678,011.1	557,634.5	743,825.6	795,633.1	736,616.0	734,879.4	666,275.5	641,487.0	760,556.5	711,280	1,108,704.9
Average liquor consumption per person (litres)	15.7	13.9	16.3	17.6	17.0	16.7	13.8	17.4	18.4	16.7	16.5	14.7	14.0	16.4	14.7	23.9
Total beer consumption (thousand litres)	157,801.3	178,530.0	260,805.8	278,479.6	320,150.9	419,759.4	509,367.7	616,389.1	714,899.1	863,914.6	950,696.7	666,275.5	1,148,409.2	1,149,184.1	1,248,550	2,509,129.4
Average beer consumption per person (litres)	4.4	5.0	6.9	7.2	8.1	10.3	12.1	14.4	16.5	19.6	21.3	14.7	25.1	24.8	25.8	54.1
Total wine consumption (thousand litres)	2,148.3	899.7	885.2	1,490.8	1,523.5	1,516.4	1,396.5	2,390.8	4,404.8	3,854.9	4,300.8	8,396.3	12,915.7	16,345.7	19,200.0	167,957.9
Average wine consumption per person (litres)	0.06	0.03	0.02	0.04	0.04	0.04	0.03	0.06	0.10	0.09	0.10	0.20	0.30	0.35	0.40	3.6
Total alcohol consumption (thousand litres)	721,807.5	679,049.0	873,567.3	961,738.2	992,597.0	1,099,287.0	1,088,394.8	1,362,605.6	1,514,937.0	1,604,385.5	1,689,876.9	1,340,947.3	1,802,812.0	1,926,086.4	1,979,030	3,783,792.2
Average alcohol consumption per person (litres)	20.2	18.9	23.3	24.8	25.2	27.1	25.9	31.9	35.0	36.4	37.9	29.5	39.3	41.6	40.9	81.7
Amount of imported liquor (thousand litres)	-	-	-	-	12,783.3	14,801.3	18,165.9	20,700.4	33,334.5	32,749.2	17,467.4	28,728.5	39,728.3	48,921.7	57,154.1	92,446.2
Taxes on imported liquor (million baht)	-	-	-	-	1,105.5	1,227.2	1,671.1	1,603.3	2,536.6	2,525.0	1,959.9	2,998.5	3,358.3	5,377.7	6,146.1	7,223.4

Source: The Excise Department, Ministry of Finance.

Note: Average consumption per person aged 15 and over.

Table 4.65 Number and Proportion of Alcoholic Beverage Drinkers, 1991-2003

Year	Population (millions)	No. of drinkers (millions)			Proportion of drinkers (percent)		
		Total	Males	Females	Total	Males	Females
1991	39.5	12.4	10.5	1.8	31.5	53.7	9.5
1996	43.4	13.7	11.9	1.7	31.6	55.4	8.1
2001	46.9	15.3	13.0	2.3	32.6	55.9	9.8
2003	35.8	12.7	9.8	2.8	35.5	60.8	14.5

Source: Report on Health and Welfare Surveys, 1991, 1996, 2001 and 2003. National Statistical Office.

Note: In the 2003 Health and Welfare Survey, the interview was undertaken only when the interviewee was present; thus, the total population surveyed was smaller than the overall population of the country.

Table 4.66 Alcohol Drinking Rate among Population Aged 11 and Over by Age and Sex

Age group (years)	1991		1996		2001		2003	
	Males	Females	Males	Females	Males	Females	Males	Females
11-14	-	-	0.2	0.05	-	-	0.5	0.4
15-19	21.7	2.1	20.8	1.0	19.9	1.9	33.5	5.6
20-24	59.5	5.4	56.0	5.7	55.8	7.2	70.4	11.8
25-29	66.7	9.2	67.6	6.9	68.1	10.2	75.7	16.8
30-34	68.6	11.9	67.7	9.5	67.0	12.3	76.5	20.0
35-39	66.2	15.3	69.0	12.2	69.2	14.2	73.3	19.2
40-49	65.1	15.6	65.8	12.9	67.5	14.2	73.0	21.7
50-59	56.1	14.2	59.9	10.1	58.7	11.5	64.5	14.4
60 and over	38.0	8.5	36.8	6.3	37.0	5.7	41.9	8.6
Total	53.7	9.5	50.1	7.4	55.9	9.8	60.8	14.5

Source: A reanalysis of the Health and Welfare Survey Database. National Statistical Office.

Table 4.67 Percentage of Drinking Population by Frequency of Drinking, 1996, 2001 and 2003

Drinking Frequency	1996 ¹	2001 ²	2003 ¹
Every day	8.6	7.9	9.4
Quite frequent (3-4 times/wk.)	10.7	9.9	10.7
Some day (1-2 times/wk.)	17.4	17.2	17.7
1-2 times/month	16.4	15.3	12.2
Occasionally	46.2	49.4	50.0
Unknown	0.6	0.3	-

Sources: 1. Reports on Health and Welfare Surveys, 1996 and 2003. National Statistical Office.

2. Report on Population's Smoking and Drinking Behaviours Survey, 2001. National Statistical Office.

Notes: ¹ Population aged 15 years and over.

² Population aged 11 years and over.

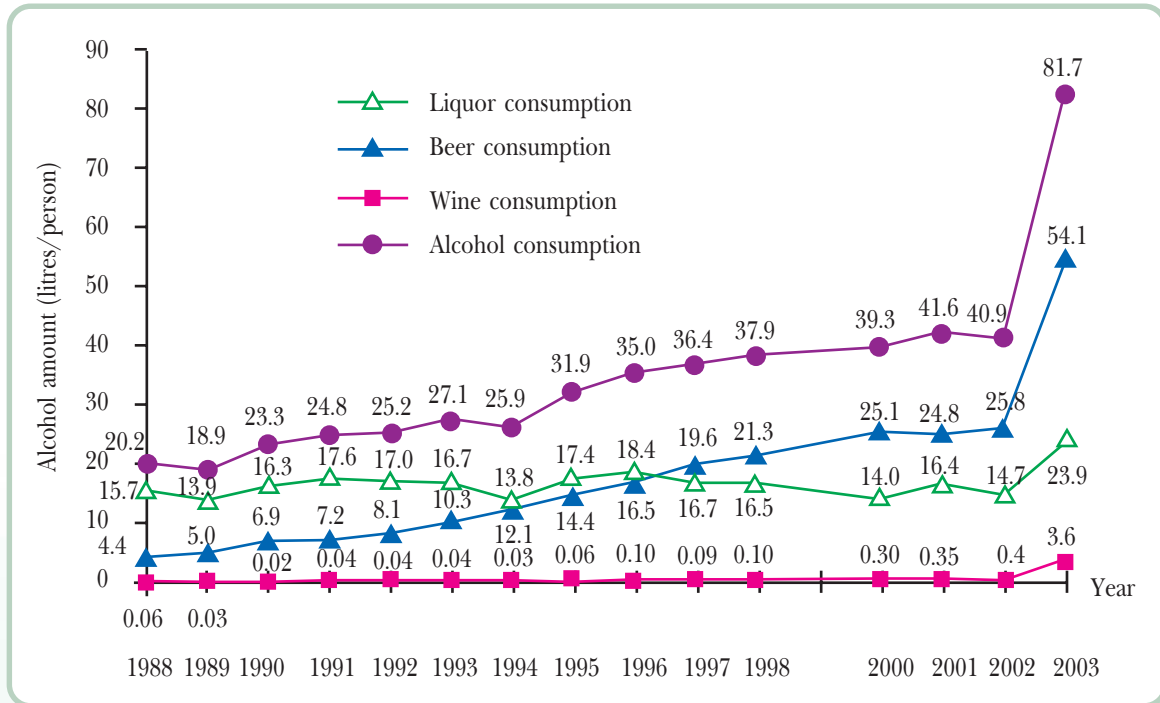
Table 4.68 Percentage of Alcohol Drinkers by Age at First Drinking and Drinking Motive, 1991, 1996 and 2001

Drinking motive	Males									Females								
	<20 years			20 years and over			Total			<20 years			20 years and over			Total		
	1991	1996	2001	1991	1996	2001	1991	1996	2001	1991	1996	2001	1991	1996	2001	1991	1996	2001
Trying	7.3	11.5	11.5	6.2	5.4	6.0	13.5	16.9	17.5	3.0	2.5	4.0	7.7	4.6	5.9	10.7	7.1	9.9
Socializing	12.8	16.4	18.9	21.1	21.5	22.7	33.9	37.9	41.6	7.8	8.9	8.9	31.9	43.5	45.5	39.7	52.4	54.4
Following friends (fashion, adult looks, imitating actors, nothing to do)	27.2	22.9	23.4	22.3	17.6	13.3	49.5	40.5	36.6	7.4	6.0	6.8	23.1	15.6	13.0	30.5	21.6	19.8
Anxiety (drinking for relieving disappointments)	0.4	1.2	1.8	0.6	2.1	2.4	1.0	3.3	4.1	0.1	0.8	1.3	2.2	16.3	13.6	2.3	17.1	14.9
Others (no reason)	0.5	0.5	0.1	1.4	0.8	0.1	1.9	1.3	0.2	2.8	0.4	0.6	14.1	1.4	0.3	16.9	1.8	1.0
Total	48.3	52.6	55.6	51.7	47.4	44.4	100.0	100.0	100.0	21.0	18.6	21.7	79.0	81.4	78.3	100.0	100.0	100.0

Sources: 1. Reports on Health and Welfare Surveys, 1991 and 1996. National Statistical Office.

2. Report on Survey of Population's Tobacco and Liquor Consumption Survey, 2001. National Statistical Office.

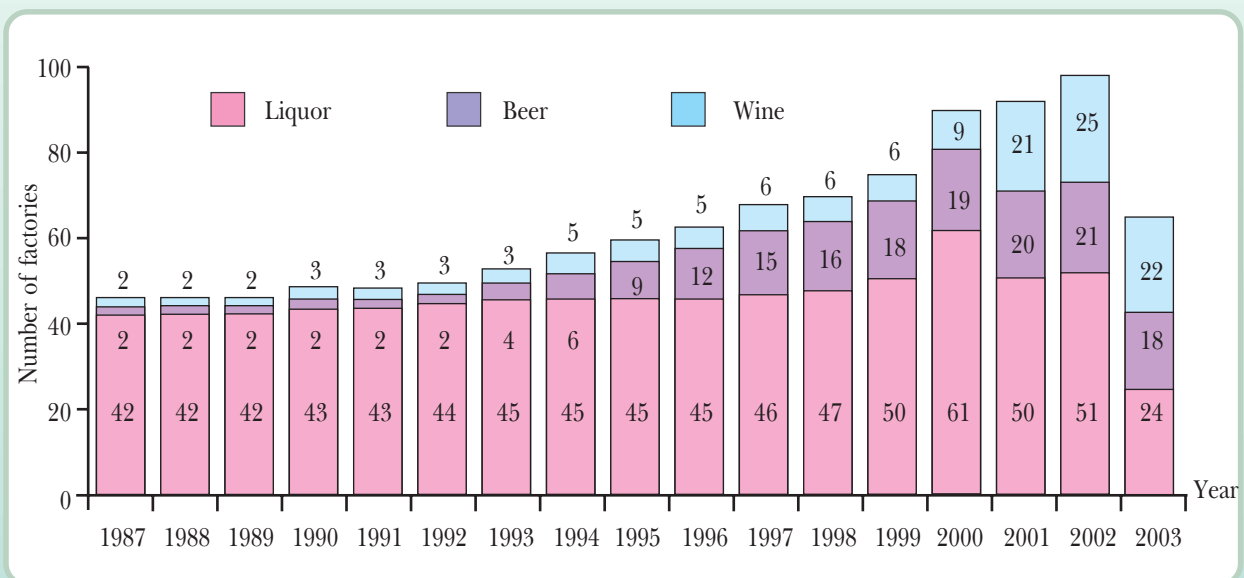
Figure 4.46 Sales Quantities of Liquor, Beer and Wine, and Amount of Alcohol per Person Aged 15 Years and Over, 1988-2003



Source: The Excise Department, Ministry of Finance.

Note: Average consumption per person aged 15 years and over.

Figure 4.47 Numbers of Liquor, Beer and Wine Factories, 1987-2003



Source: Department of Industrial Works, Ministry of Industry.

Note: In 2003, the number of liquor factories decreased due to factory closure and merger.

Table 4.69 Alcohol Advertisements Billings, 1989-2003

Year	Advertisement billings (million baht)	Increase (percent)
1989	255	-
1990	347	+36.1
1991	460	+32.6
1992	514	+11.7
1993	705	+37.2
1994	772	+9.5
1995	1,318	+70.7
1996	2,169	+64.6
1997	1,859	-14.3
1998	1,264	-32.0
1999	1,812	+43.4
2000	2,522	+39.2
2001	1,910	-24.3
2002	2,180	+14.1
2003	2,025	-7.1

Source: Media Data Resources (MDR).

10.5 Consumption of Caffeine Drinks

As a result of all kinds of sales promotion, the volume of caffeine drinks consumed rose from 131.10 million litres in 1992 to 310.05 million litres in 1997. During the economic crisis, the consumption of such drinks dropped markedly, but after the economic recovery, the consumption rose again to 433.21 million litres in 2003 (Table 4.70).

Table 4.70 Volumes of Caffeine Drinks (Energy Drinks) in Thailand, 1992-2003

Year	Production volume (million litres)	Sales volume (million litres)	Per capita consumption (litres/yr.)	Change in per capita consumption (percent)
1992	138.40	131.10	3.32	-
1993	173.75	329.26	8.10	+144.0
1994	183.62	181.84	4.33	-46.5
1995	209.31	217.08	5.08	+17.3
1996	180.87	182.92	4.22	-16.9
1997	308.08	310.05	7.03	+66.6
1998	134.73	126.12	2.82	-59.9
1999	174.59	155.44	3.42	+21.3
2000	337.56	332.47	7.25	+112.0
2001	364.84	355.14	7.66	+5.6
2002	366.30	433.59	8.95	+16.8
2003	445.47	433.21	8.90	-0.6

Source: The Excise Department, Ministry of Finance.

Note: Per capita consumption among population aged 15 years and over.

In 2000, the Food and Drug Administration, the Institute of Nutrition of Mahidol University, and the Health Systems Research Institute jointly conducted a study on consumption behaviours of caffeine drinks among Thai people aged 12 years and over. The study revealed that approximately two-fifths of respondents (38.6%) drank caffeine drinks, approximately two-thirds (66.6%) drank coffee or tea, and approximately three-fourths (77.0%) drank carbonated caffeine drinks. Moreover, it was found that the prevalence of Thais drinking all three kinds of drinks was 23.7% of respondents, 36.6% for males and 11.1% for females, four times higher in males (Table 4.71); the reasons being for preventing sleepiness, refreshment and their good taste (Table 4.72).

Table 4.71 Number and Prevalence of Caffeine Drinkers Aged 13-70 Years by Sex

Drinking behaviour	Caffeine drinkers			Coffee and tea drinkers			Carbonated caffeine drinkers		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
Drinking	1,257	442	1,699	1,541	1,592	3,133	1,656	1,925	3,581
Used to drink	266	192	458	202	209	411	175	200	375
Never drink	648	1,830	2,478	428	663	1,091	338	337	675
Total	2,171	2,464	4,635	2,171	2,464	4,635	2,169	2,462	4,631
Prevalence									
Drinking	57.9%	17.9%	36.7%	71.0%	64.6%	67.6%	76.3%	78.2%	77.3%
Used to drink	12.3%	7.8%	9.9%	9.3%	8.5%	8.9%	8.1%	8.1%	8.1%
Never drink	29.8%	74.3%	53.5%	19.7%	26.9%	23.5%	15.6%	13.7%	14.6%
Adjusted prevalence*									
Drinking	59.8%	17.8%	38.6%	70.1%	63.1%	66.6%	76.3%	77.6%	77.0%
Used to drink	10.9%	7.5%	9.2%	9.1%	8.3%	8.7%	7.6%	7.7%	7.6%
Never drink	29.3%	74.7%	52.3%	20.8%	28.6%	24.8%	16.1%	14.7%	15.4%

Sources: Food and Drug Administration, Institution of Nutrition of Mahidol University and Health Systems Research Institute. Report on Consumption Behaviours of Thai People Drinking Caffeine Drinks, 2000.

Note: * Adjusted prevalence was calculated based on the proportion of the population by sex.

Table 4.72 Percentage of Respondents Drinking Caffeine Drinks and Reasons, 2000

Reason for drinking (more than one choice can be specified)	Caffeine drinks (N = 1,699)	Coffee and tea (N = 3,133)	Carbonated caffeine drinks (N = 3,581)
Anti-sleepiness/refreshment	70.8	64.0	29.0
Making energetic, anti-weakness	58.7	25.0	5.7
Anti-uneasiness, addictedness	6.7	10.5	1.8
Wishing to send labels or caps for lucky draws	3.5	0.8	0.6
As tonics	7.4	3.2	1.1
Favouring the taste	32.3	38.5	43.7
Habitual drinking	11.9	28.4	10.0
Anti-thirst	15.8	19.8	84.4
Advertisement influence	3.4	1.5	3.4

Source: Food and Drug Administration, Institution of Nutrition of Mahidol University and Health Systems Research Institute. Report on Consumption Behaviours of Thai People Drinking Caffeine Drinks, 2000.

10.6 Drug Dependence and Abuse

The narcotic problem is complicated in line with economic and social changes by ramifying into communities, business facilities or even educational institutions. In Thailand, despite the fact that there are numerous legal measures and continuous campaigns for drug control and suppression, the illicit drug problem situation is still prevalent. Currently, the major narcotic widely used is methamphetamine or ya ba. Although the country is encountering the economic crisis, drug smuggling does not decline, but it tends to increase. Significant examples include a rising number of methamphetamine-crime arrests, especially in northern border areas where the proportion of arrests has risen from 16.7% in 1995 to 46.5% in 2003 or up to 33 million tablets during the past ten years (Table 4.73).

Table 4.73 Statistics of Methamphetamine Seizures, 1993-2003

Year	Whole country (tablets)	The North	
		Tablets	Percent
1993	7,000,000	40,000	0.6
1994	4,000,000	600,000	15.0
1995	6,000,000	1,000,000	16.7
1996	9,000,000	3,500,000	38.9
1997	15,000,000	9,000,000	60.0
1998	31,770,127	17,689,136	55.7
1999	49,887,050	33,137,431	66.4
2000	83,000,000	34,000,000	41.0
2001	93,800,000	55,670,540	59.3
2002	95,900,000	37,810,500	39.4
2003	71,400,000	33,227,800	46.5

Source: Office of the Narcotics Control Board.

After the economic crisis, the number of new drug addicts admitted to drug dependence treatment facilities has risen from 36.1% in 1996 to 52.2% in 2002 (Table 4.74). The serious concern, during the past ten years (1992-2002), has been a remarkable increase in the number of students undergoing the drug treatment. In particular, after the economic crisis, almost 80% of the students attending the treatment centres are new cases. This indicates that each year the number of new drug addicts is soaring (Table 4.75). The rate of stimulant or methamphetamine use has escalated from 0.2% in 1985 to 1.5% in 1999 or a 7.5-fold increase (Table 4.76).

Table 4.74 Number of Drug Addicts Registered at Drug Dependence Treatment Facilities in Thailand, 1987-2002

Year	Total number of drug addicts	Number of readmitted addicts	New drug addicts	
			No.	Percentage of total addicts
1987	57,874	42,748	14,895	25.7
1988	61,218	46,766	13,779	22.5
1989	60,000	44,048	13,723	22.9
1990	58,327	41,942	13,984	24.0
1991	66,465	46,253	18,398	27.7
1992	63,978	44,816	19,162	30.0
1993	82,620	51,053	29,468	35.7
1994	80,618	49,644	30,189	37.4
1995	101,145	61,490	38,565	38.1
1996	81,050	50,774	29,223	36.1
1997	62,362	39,075	21,956	35.2
1998	73,079	45,001	28,060	38.4
1999	64,232	37,150	27,082	42.2
2000	67,155	38,778	28,377	42.3
2001	72,646	41,265	31,381	43.2
2002	68,623	32,772	35,851	52.2

Source: Department of Medical Services, MoPH.

Table 4.75 Number of Students Registered for Drug Dependence Treatment, 1992-2002

Year	New cases		Readmitted cases		Total
	No.	Percent	No.	Percent	
1992	1,119	86.8	170	13.2	1,289
1993	2,390	84.8	429	15.2	2,819
1994	3,091	79.6	793	20.4	3,884
1995	3,998	76.5	1,231	23.5	5,229
1996	3,147	73.5	1,137	26.5	4,284
1997	3,389	77.6	980	22.4	4,369
1998	8,109	88.2	1,084	11.8	9,193
1999	6,133	86.3	976	13.7	7,109
2000	6,862	90.8	698	9.2	7,560
2001	5,631	86.6	868	13.4	6,499
2002	5,903	78.1	1,659	21.9	7,562

Sources: For 1992-2001, Office of the Narcotics Control Board.

For 2002, Department of Medical Services, MoPH.

Table 4.76 Percentage of Drug/Narcotic Usage among Secondary School Students, 1985-1999

Types of drug/narcotic	1985	1987	1989	1996	1999
	(n=155,541)	(n=30,097)	(n=4,986)	(n=15,306)	(n=24,110)
Tobacco	9.16	6.73	7.62	7.60	5.28
Liquor	9.79	5.96	7.97	14.00	13.56
Marijuana	1.05	0.92	1.78	1.18	0.80
Inhalants	0.52	1.78	2.38	0.85	0.44
Stimulants/methamphetamine	0.18	0.73	0.60	1.64	1.52
Dry liquor (LSD)	0.19	0.28	0.28	0.55	0.37
Tranquilizers	0.12	0.26	0.40	0.92	0.42
Heroin	0.74	0.12	0.46	0.33	0.19

Source: Survey of Drug Abuse among Secondary School Students. Department of General Education and Office of the Narcotics Control Board, 1999.

According to the estimates of the number of students with illicit drug use nationwide by ABAC-KSC Internet Research Institute (ABAC Poll) in 2001, about 6.2% of students had drug use behaviours (Table 4.77). Methamphetamine was the drug that they used the most (58.5%; Table 4.78).

Table 4.77 Estimated Number of Students Using Drugs, 2001

Behaviours of drug use	Estimated number of students	Percent
Using drugs (excluding liquor and tobacco)	374,653	6.2
Never use drugs	5,717,819	93.8
Total	6,092,472	100.0

Source: Estimation of Students Using Drugs: A Case Study of Students from All Educational Institutions Nationwide. ABAC-KSC Internet Research Institute (ABAC Poll), 2001.

Table 4.78 Estimated Number of Students Using Drugs by Drug Category, 2001

Rank	Narcotic category	Estimated number of students	Percent
1	Methamphetamine	219,284	58.5
2	Marijuana	158,065	42.2
3	Tranquilizers, e.g. Domicum, Valium	125,918	33.6
4	Inhalants, rubber glue, lacquer	62,354	16.6
5	“Ecstasy” drug	42,443	11.3
6	“Love” drug	39,349	10.5
7	“K” drug (ketamine)	32,655	8.7
8	Heroin	28,402	7.6
9	Opium	20,807	5.6
10	Cocaine	18,249	4.9
11	Morphine	18,231	4.9

Source: Estimation of Students Using Drugs: A Case Study of Students from All Educational Institutions Nationwide. ABAC-KSC Internet Research Institute (ABAC Poll), 2001.

Note: There were totally 374,653 students using drugs.

However, after the government implemented the war on drug policy in 2001, the Office of the Narcotics Control Board has estimated that the proportion of drug users has declined from 16.4% in 2001 to 6.9% in 2003, a more-than-50% decrease (Table 4.79).

Table 4.79 Number of Drug Users Nationwide by Type of Use Duration, 2001 and 2003

Drug	2001			2003		
	Drug users in thousands (and percent)			Drug users in thousands (and percent)		
	Ever used	Ever used in 1 year	Ever used in 30 days	Ever used	Ever used in 1 year	Ever used in 30 days
Any kind of drug	7,312.2(16.4)	1,942.1(4.3)	998.7(2.2)	3,155.5(6.9)	455.5(1.0)	257.8(0.6)
Methamphetamine	3,491.6(7.8)	1,092.5(2.4)	490.3(1.1)	1,094.0(2.4)	83.8(0.2)	34.1(0.1)
Drug E or Love	360.1(0.8)	46.5(0.1)	17.7(0.0)	119.7(0.3)	13.3(0.0)	7.4(0.0)
Ketamine	40.7(0.1)	7.2(0.0)	1.2(0.0)	23.4(0.1)	1.0(0.0)	0.04(0.0)
Cocaine	52.8(0.1)	4.9(0.0)	1.1(0.0)	29.4(0.1)	7.4(0.0)	1.0(0.0)
Marijuana	5,425.3(12.1)	667.2(1.5)	210.0(0.5)	2,019.1(4.4)	83.4(0.2)	18.7(0.0)
Kratom (khat/eave)	2,105.8(4.7)	643.8(1.4)	364.2(0.8)	1,160.0(2.6)	344.7(0.8)	221.6(0.5)
Opium	907.0(2.0)	38.6(0.1)	12.3(0.0)	323.7(0.7)	0.6(0.0)	0.3(0.0)
Heroin	274.2(0.6)	22.7(0.1)	9.4(0.0)	192.6(0.4)	1.4(0.0)	-
Thinner:glue,benzene	933.9(2.1)	199.7(0.4)	101.2(0.2)	447.9(1.1)	21.2(0.1)	13.2(0.0)

Source: Office of the Narcotics Control Board. Report on Estimation of Drug Users in Thailand, 2003.

10.7 Physical Activity and Relaxation

10.7.1 Physical Activity

The 2002 survey of the National Statistical Office revealed that approximately 29% of Thai people regularly exercised²³ (Table 4.80). The result is consistent with those of the 1998 survey of the Population and Social Research Institute of Mahidol University, which revealed that one-third of youths aged 15-20 years regularly exercised; the results being close to the 34.7% found by the 1998 survey of the Rajabhat Institute Suan Dusit poll.

²³ Exercise or physical activity means any movement of the body or part of body or part of body for health promotion, entertainment, and socialization, using simple activities or simple rules, such as walking, running, rope-jumping, body-stretching, and weight-lifting (except for exercise while working or body movement in daily life).

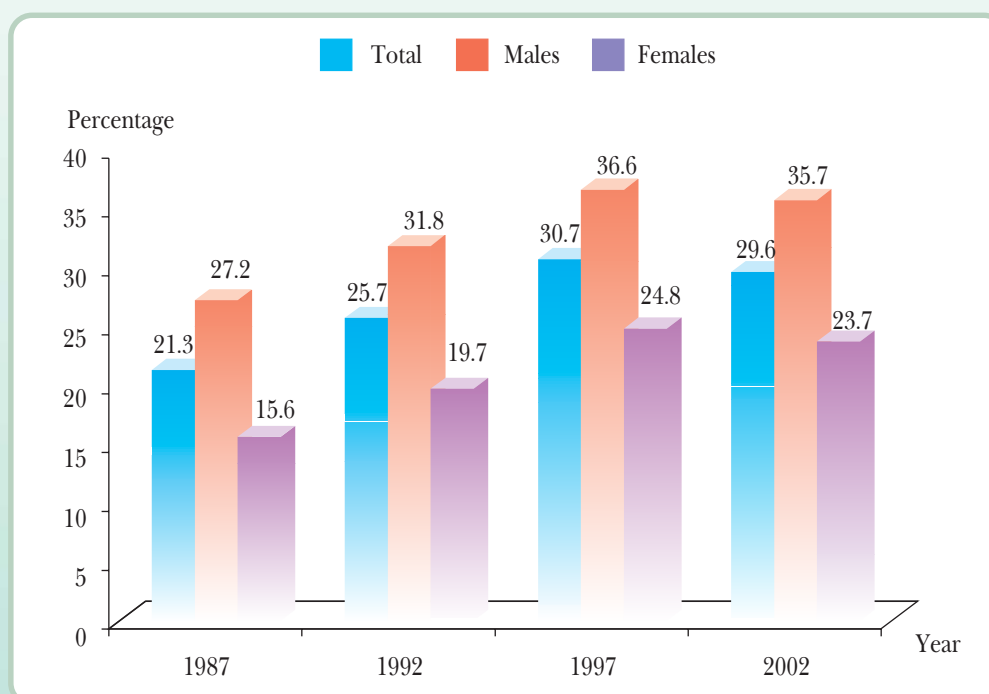
Table 4.80 Percentage of Thai People Who Regularly Exercised, 1987-2002

Year	People regularly exercising	
	Percent	Change (percent)
1987	21.3	-
1992	25.7	+20.7
1997	30.7	+19.5
2002	29.6	-3.6

Sources: Reports on Surveys of People Aged 6 Years and Above Playing or Watching Sports, 1987, 1992, 1997 and 2002. National Statistical Office.

However, considering the trends in regular exercising during 1987-2002, on average the number of **Thai people exercising increased** by 20% each year (Table 4.80); **particularly males are more likely to exercise than females** (Figure 4.48).

Figure 4.48 Percentage of Thai People with Regular Physical Activity, 1987-2002



Sources: Reports on Surveys of People Aged 6 Years and Above Playing or Watching Sports, 1987, 1992, 1997 and 2002. National Statistical Office.

Considering the exercise behaviour based on the criteria of **physical activity for health**, it was found that **more than 60% of the people exercise more than three days a week and approximately 80-90% exercise for 30 minutes or longer each day** (Tables 4.81 and 4.82).

Table 4.81 Percentage of Population Aged 6 Years and Over Exercising Each Week, 1987-2002

Days exercised each week	1987	1992	2002
1 day	23.8	20.7	17.9
2 days	14.6	16.3	13.9
3-4 days	28.6	30.5	28.0
5-6 days	14.7	17.8	25.1
7 days	18.3	14.6	15.1
Total	100.0	100.0	100.0

Sources: Reports on Surveys of People Aged 6 Years and Above Playing or Watching Sports, 1987, 1992 and 2002. National Statistical Office.

Table 4.82 Percentage of Population Aged 6 Years and Over Exercising Each Day, 1987-2002

Time period exercised each day	1987			1992			1997			2002		
	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females
<30 minutes	25.8	21.3	34.9	21.1	17.7	26.5	12.0	10.3	14.7	4.1	3.0	5.7
≥30 minutes	74.2	78.7	65.1	78.8	82.2	73.5	87.9	89.6	85.2	95.9	97.0	94.3
Unspecified	-	-	-	0.1	0.1	-	0.1	0.1	0.1	-	-	-
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Sources: Reports on Surveys of People Aged 6 Years and Above Playing or Watching Sports, 1987, 1992, 1997 and 2002. National Statistical Office.

The types of sports most favoured are soccer, volleyball, physical workouts, athletics, and jogging for health. Males mostly prefer soccer and takraw (rattan ball), while females prefer volleyball and physical workouts (Table 4.83). Where they want to play or exercise depends on the type of exercise, their own readiness and venue's convenience. It was found that **sports grounds of educational institutions** are mostly used for exercising, followed by empty grounds in a community and household grounds (Table 4.84).

Table 4.83 Percentage of Population with Physical Activity by Sports Category, 1987-2002

Sports category	1987			1992			1997			2002		
	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females
Soccer	33.9	50.9	4.4	28.9	44.6	3.5	38.1	61.0	4.7	39.4	61.7	6.2
Volleyball	10.4	2.4	24.4	12.0	2.6	27.2	19.2	6.4	38.0	12.3	2.4	27.0
Athletics	10.2	6.5	16.4	5.6	3.9	8.3	15.8	11.4	22.2	3.2	2.0	5.1
Jogging	7.5	7.1	8.2	16.0	13.1	20.6	9.1	9.2	8.9	10.0	8.8	11.9
Physical workouts	14.0	9.3	22.3	9.4	6.5	14.1	10.6	8.2	14.2	7.6	3.9	13.2
Takraw	9.2	14.3	0.4	11.7	18.8	0.4	15.1	23.9	2.2	4.6	7.0	0.9
Badminton	3.8	2.0	6.9	3.9	1.7	7.5	7.5	4.1	12.4	5.7	1.9	11.4
Table tennis	1.0	0.9	1.1	1.6	1.1	2.5	4.8	3.9	6.2	1.2	0.4	1.6
Swimming	1.6	1.1	2.4	2.2	1.5	3.4	2.1	1.4	3.2	1.4	0.8	2.3
Basketball	3.2	1.7	5.8	3.2	1.6	6.0	11.1	8.0	15.7	3.7	2.2	5.9
Walking for health	0.7	0.6	0.9	1.0	0.9	1.2	1.7	1.4	2.1	3.8	2.9	5.1
Chairball	1.8	0.5	4.1	1.2	0.4	2.5	1.5	0.5	2.9	0.7	0.3	1.3
Others	2.7	2.7	2.7	3.3	3.3	2.8	5.4	3.3	2.1	6.4	5.7	8.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Sources: Reports on Surveys of People Aged 6 Years and Above Playing or Watching Sports, 1987, 1992, 1997 and 2002. National Statistical Office.

Table 4.84 Percentage of Population with Physical Activity by Venue of Exercise, 1997 and 2002

Year	Total	Venue of exercise							
		Sport facilities at educational institutions	Sport facilities at government agencies	Private sport facilities	Public parks	Household	Religious areas	Empty places	Others
1997	100.0	68.2	6.9	1.7	1.7	7.1	1.7	12.4	0.3
2002	100.0	53.5	5.7	3.0	7.4	18.7	2.5	7.6	1.6

Source: Reports on Surveys of People Aged 6 Years and Above Playing or Watching Sports, 1997 and 2002. National Statistical Office.

Regarding the environment that facilitates the people to exercise more easily, according to a report of the Sports Authority of Thailand and the Bangkok Metropolitan Administration, the number of sports venues has been rising (Table 4.85). And a survey on exercise for health networks revealed that the number of exercise clubs nationwide has increased from 1,118 in 2001 to 35,532 in 2003. In addition, the policy on move for health campaigns implemented since 2002 has made the people more aware of the need for exercise (Table 4.86).

Table 4.85 Sports Venues by Type, 1993-2001

Sports venue	Year (places)								
	1993	1994	1995	1996	1997	1998	1999	2000	2001
Health parks ¹	-	-	-	-	-	-	-	15	30
Multipurpose sport arenas ¹	-	-	-	-	-	-	1,154	2,254	3,911
BMA sports arenas ²	-	-	-	-	-	647	1,057	1,094	1,112
Open-air sports grounds in districts and tambons ¹	62	123	182	198	219	219	231	245	260

Source: ¹ Sports Venues and Services Section, Civil Works and Engineering Division, Sports Authority of Thailand.

² Bureau of Social Welfare, Bangkok Metropolitan Administration.

Table 4.86 Exercise for Health Clubs: Number and Members, 2001-2003

Year	Number of clubs	Number of members
2001	1,118	57,302
2002	12,974	172,103
2003	35,532	4,577,277

Sources: 1. Bureau of Health Promotion, Department of Health.

2. Health Education Division, Department of Health Service Support.

Exercise is an important health behaviour and very useful for human's well-being. Regular exercise helps adjust our body to the environment and increase our activeness, flexibility and strength. It also helps us to become ready to cope with adverse environmental conditions that might affect us. However, a number of people do not exercise, mostly reasoning that they have no time and are not interested in exercise (Table 4.87).

Table 4.87 Percentage of People Not Exercising by Reason for Not Exercising, 1992-2002

Reason	1992	1997	2002
Uninterested	49.5	40.4	41.2
No time	44.5	51.4	54.1
No venue	1.0	0.9	0.8
No equipment	0.6	0.6	0.4
No supporter	-	0.2	0.1
Others	4.4	6.5	3.4
Total	100.0	100.0	100.0

Sources: Reports on Surveys of People Aged 6 Years and Above Playing or Watching Sports, 1992, 1997 and 2002. National Statistical Office.

10.7.2 Relaxation

A survey on health status of working-age population in 1996-1997 demonstrated that an average sleeping time period was 7.6 hours. Half the working-age population spent 7-8 hours on sleeping. It was also found that when they got older, the proportion of people sleeping for more than eight hours would decrease. But the opposite was noted in the 2001 survey conducted by the National Statistical Office: males and females aged 10 years and older on average slept for 8.7 hours, elders slept on average as long as 10.4 hours, followed by children, youths and working-age people, respectively (Tables 4.88 and 4.89).

With regard to time spending for recreation, it was found that each person spent two hours on average, males spending more time than females (Table 4.89).

Table 4.88 Proportion of Working-age Population by Daily Sleeping Time, 1996-1997

Age, years	Less than 6 hrs		6-7 hrs		8 hrs and over	
	Males	Females	Males	Females	Males	Females
13-19	1.8	2.0	17.8	23.6	80.4	74.5
20-34	6.3	6.7	37.5	34.1	56.2	59.2
35-44	7.6	8.2	39.5	41.1	52.9	50.7
45-59	9.9	13.8	36.6	43.4	53.5	42.8

Source: Data reanalyzed from the database of Survey on Health Status of Working-age Population, 1996-1997. Thailand Health Research Institute and Bureau of Policy and Strategy MoPH, 1998.

Table 4.89 Average Time Periods Spent on Sleeping and Recreation Each Day by Sex and Age, 2001

Activity	Age-group and time spent (hours)				
	10 - 14	15 - 24	25 - 59	60 and older	Total
Males					
Sleeping	9.2	8.4	8.4	10.6	8.7
Recreation*	2.2	2.4	2.0	2.4	2.2
Females					
Sleeping	9.2	8.4	8.40	10.6	8.7
Recreation*	1.7	1.6	1.8	2.4	1.8
Total					
Sleeping	9.3	8.6	8.5	10.4	8.8
Recreation*	2.0	2.1	1.9	2.4	2.0

Source: Report on the Time Spending of the People Survey, 2001. National Statistical Office.

Note: *Including social and cultural activities.

10.8 Driving Behaviours

10.8.1 Use of Safety Belt

A survey on safety-belt use among all driver categories reveals that, even through the law requires that all drivers and passengers use safety belts at all times, the safety-belt use rate has dropped from 35.8% in 1996 to only 23.5% in 2003 (Table 4.90).

10.8.2 Use of Safety Helmet

The rate of constant use of helmet among motorcyclists was found to be similar to that for safety belt, i.e. helmet use rate has declined from 29.0% in 1996 (the year in which the Helmet Use Royal Decree was first in effect) to only 16% in 2003 (Table 4.91).

Table 4.90 Proportion of Drivers Aged 14 Years and Over Using Safety Belts

Use of safety belt	1991 ⁽¹⁾	1996 ⁽¹⁾	1997 ⁽²⁾	2000 ⁽³⁾	2001 ⁽¹⁾	2003 ⁽¹⁾
Vehicles with safety belts						
- Constant use	4.3	35.8	35.7	25.9	27.1	23.5
- Occasional use	11.7	28.0	29.6	32.2	44.2	39.7
- Never use	12.6	6.3	34.7	13.9	12.1	32.2
Vehicles without safety belts	64.6	29.9	-	-	4.4	2.4

Sources: (1) Data for 1991, 1996, 2001 and 2003 were derived from Health and Welfare Surveys. National Statistical Office.

(2) Data for 1997 were derived from Prapapen Suwan et al. Study on Behaviours and Environmental Conditions for Health Promotion among Youths, Housewives and Factory Workers, 1997. Faculty of Public Health, Mahidol University.

(3) Data for 2000 were derived from the Survey of Health Behaviour of Working-age Population (15-59 years). Health Education Division, MoPH.

Note: Data for 2001 were derived from the survey on safety-belt use of drivers and passengers aged 15 and over in front seats.

Table 4.91 Proportion of Motorcyclists Aged 14 Years and Over Using Safety Helmets

Use of helmets	1991 ⁽¹⁾	1996 ⁽¹⁾	2000 ⁽²⁾	2001 ⁽¹⁾	2003 ⁽¹⁾
- Constant use	7.2	29.0	32.0	16.1	16.0
- Occasional use	21.7	55.4	44.2	64.3	49.5
- Never use	11.0	6.0	15.8	10.3	32.8
- No helmet	59.8	9.3	-	9.1	-

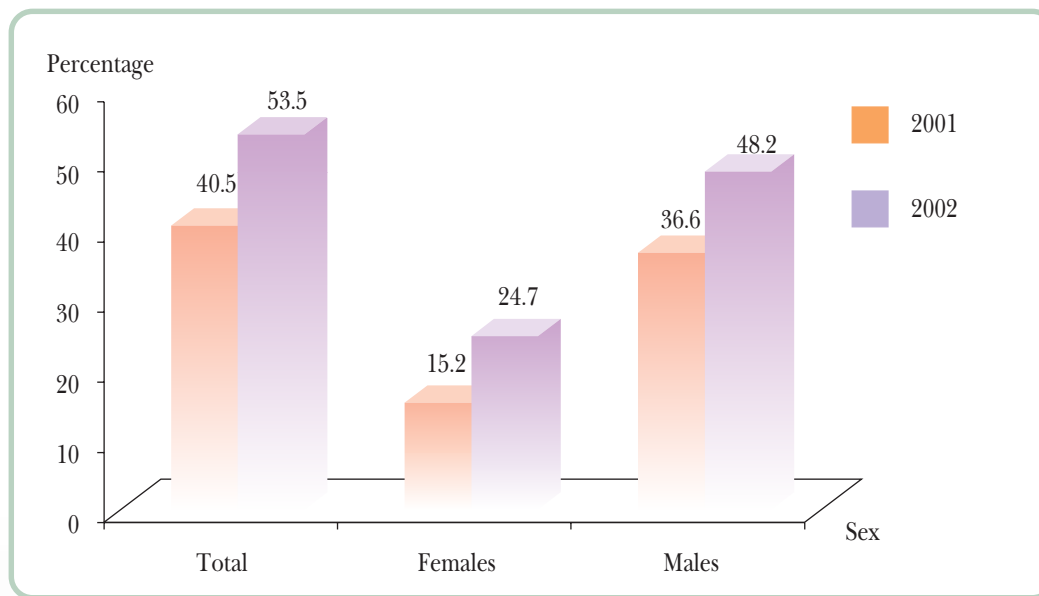
Sources: (1) Data for 1991, 1996, 2001 and 2003 were derived from Health and Welfare Surveys. National Statistical Office.

(2) Data for 2000 were derived from the Survey of Health Behaviours of Working-age Population (15-59 years). Health Education Division, Department of Health Service Support.

Note: Data for 2001 were derived from the survey on helmet use among motorcyclists and passengers aged 15 and over.

Alcohol drinking and driving is a major factor causing road traffic accidents/injuries. Even though Thailand has launched campaigns against drunk driving, having law prohibiting driving for any person with a blood alcohol concentration exceeding the specified limit, the number of drunk drivers has risen by 30%, i.e. rising from 40.5% in 2001 to 53.5% in 2003; males being twice more likely to do so than females (Figure 4.49).

Figure 4.49 Proportion of Drunk Drivers by Sex, 2001 and 2002



Sources: Reports on Health and Welfare Surveys, 2001 and 2003. National Statistical Office.

10.9 Sexual Behaviours

Unhealthy sexual practices are a prime health determinant in spreading sexually transmitted infections (STIs), especially HIV/AIDS. Owing to intensive campaigns, people are more aware of contracting HIV when having sex with a female commercial sex worker (CSW). This brings about a higher condom use rate in CSWs from 25% in 1989 to 96.9% in 2003 (Figure 4.50). However, it has been recently discovered that people are more likely to have sex with other women who are not CSWs. In particular youths tend to have first sex at a younger age and practise unsafe sex.

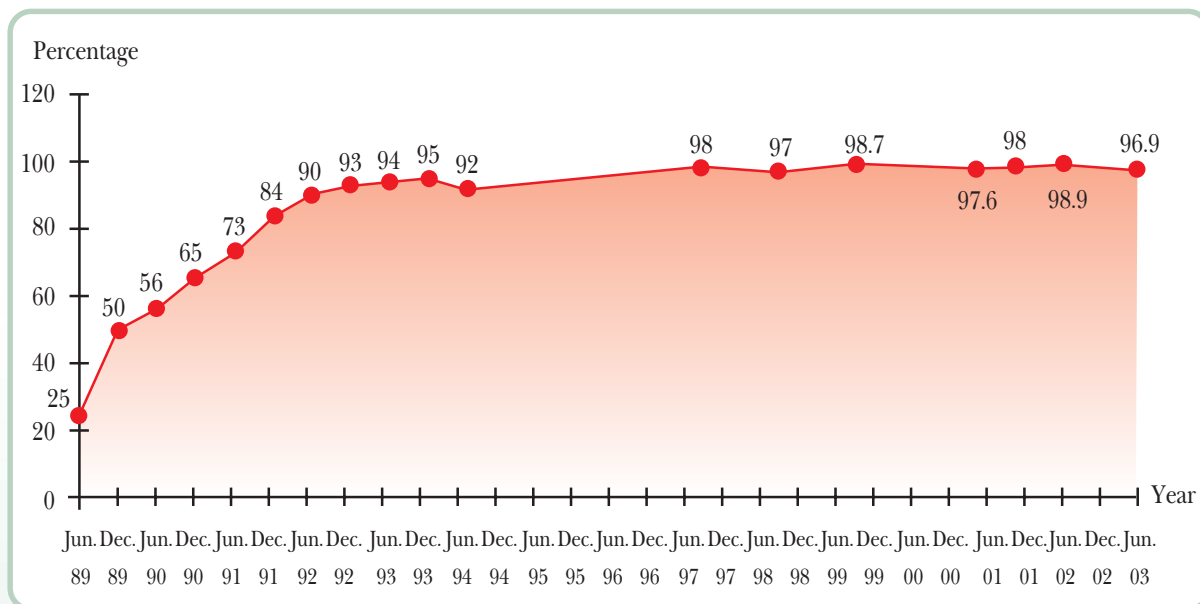
According to Thailand's surveillance of HIV/AIDS risk behaviours in the past nine years (1995-2003), the proportions of military recruits and male industrial workers having sex with CSWs and other women were **declining** except for a slightly rising rate in 2003 (Figures 4.51 and 4.52). The constant condom use rate among military recruits having with CSWs was higher than with other women they superficially know (Figures 4.53 and 4.54). Regarding female industrial workers and pregnant women attending an antenatal clinic (ANC), there was a **reduction** in sexual relations with several partners in the past four years (Figures 4.55 and 4.56). And the rate of constant condom use when having sex was increasing except for 2002 when the rate decreased markedly (Figures 4.57 and 4.56).

For youths, it was revealed that there was an elevation in sexual relations with girlfriends, lovers, close friends and males while the proportion of sexual relations with CSWs and other women was lower (Figure 4.58). They were more likely to use a condom when having sex with CSWs than with other kinds of sex partners (Figure 4.59), which is consistent with the results of Boonyong Kiewkarnka and colleagues' study (2002)²⁴ which revealed that high-school students (grade 11) had sex mostly with their lovers or boy/girl friends. But they did not like to use condom as they disliked it or it was unpleasurable. However, they constantly used condom when having sex with CSWs as they would be safe from STIs. Besides, a worldwide

²⁴ Boonyong Kiewkarnka et al. Surveillance of HIV/AIDS Risk Factors in Seven Population Groups in Bangkok, 2002. ASEAN Institute of Health Development, Mahidol University, 2002.

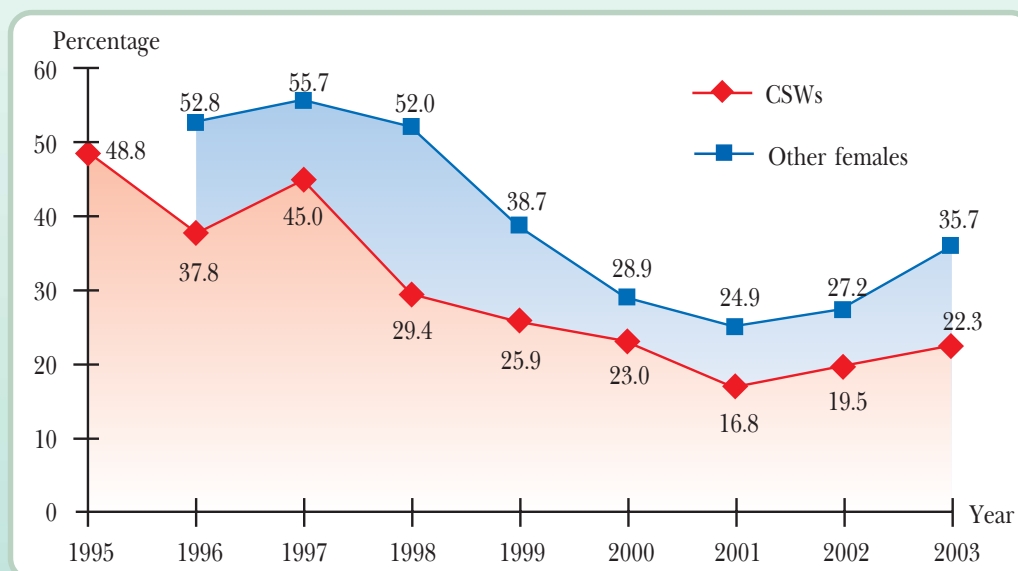
survey²⁵ revealed that youths had their first sex at age 16 and one youth would have on average five sex partners and totally 89 sexual encounters each year. Among Thai youths who have had sex, it was found that 12% of them never used condoms when having sex with a stranger as they did not have any condom at that time.

Figure 4.50 Condom Use Rate among Female Commercial Sex Workers, 1989-2003



Source: Bureau of Epidemiology, Department of Disease Control.

Figure 4.51 Proportion of Military Recruits' Sex Partners in the Past Year According to Survey on HIV/AIDS Risk Behaviours in Thailand, 1st-9th Rounds, 1995-2003

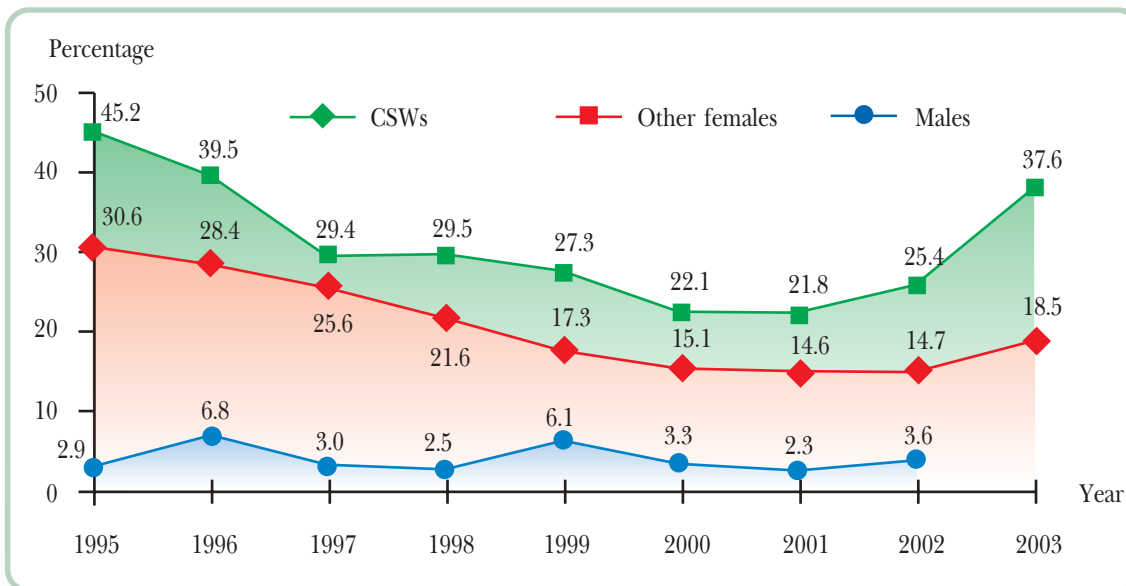


Source: Bureau of Epidemiology, Department of Disease Control.

Note: The Bureau of Epidemiology deployed the new data analysis method for the 1st-9th rounds of survey (1995-2003).

²⁵ Survey in 27 countries world wide by the Durex Sex Survey Program, 2002.

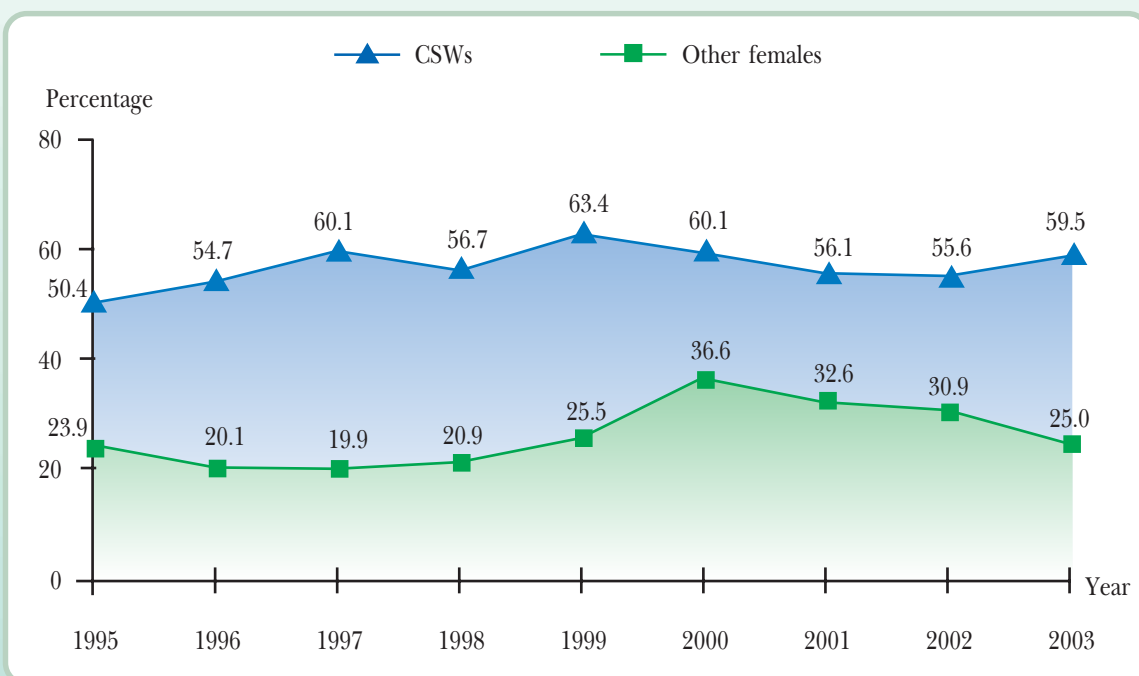
Figure 4.52 Proportion of Male Industrial Workers' Sex Partners in the Past Year According to Survey on HIV/AIDS Risk Behaviours in Thailand, 1st-9th Rounds, 1995-2003



Source: Bureau of Epidemiology, Department of Disease Control.

Note: The Bureau of Epidemiology deployed the new data analysis method for the 1st-9th rounds of survey (1995-2003).

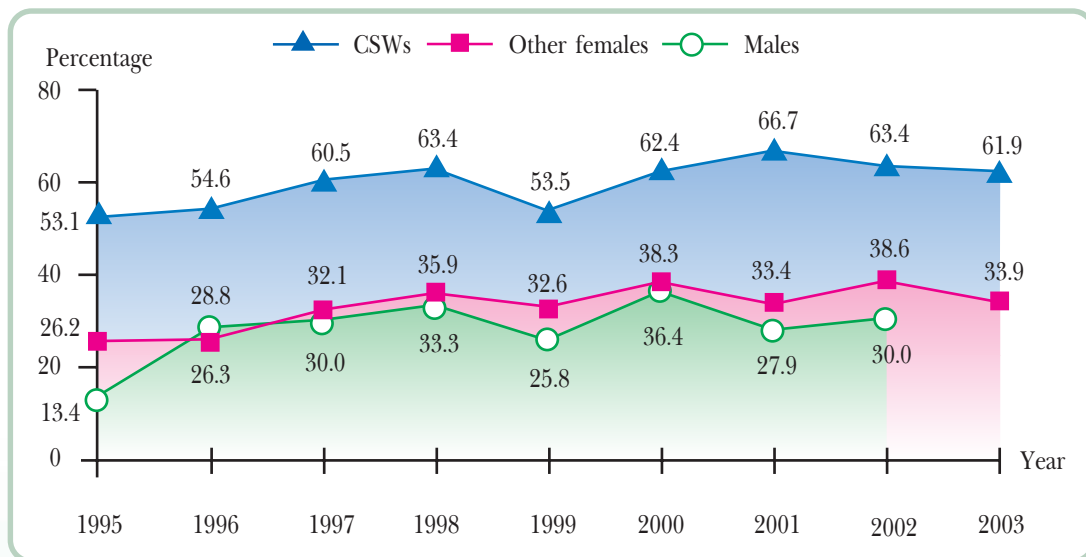
Figure 4.53 Rate of Constant Condom Use during Sexual Encounters in the Past Year of Military Recruits According to Survey on HIV/AIDS Risk Behaviours in Thailand, 1st-9th Rounds, 1995-2003



Source: Bureau of Epidemiology, Department of Disease Control.

Note: The Bureau of Epidemiology deployed the new data analysis method for the 1st-9th rounds of survey (1995-2003).

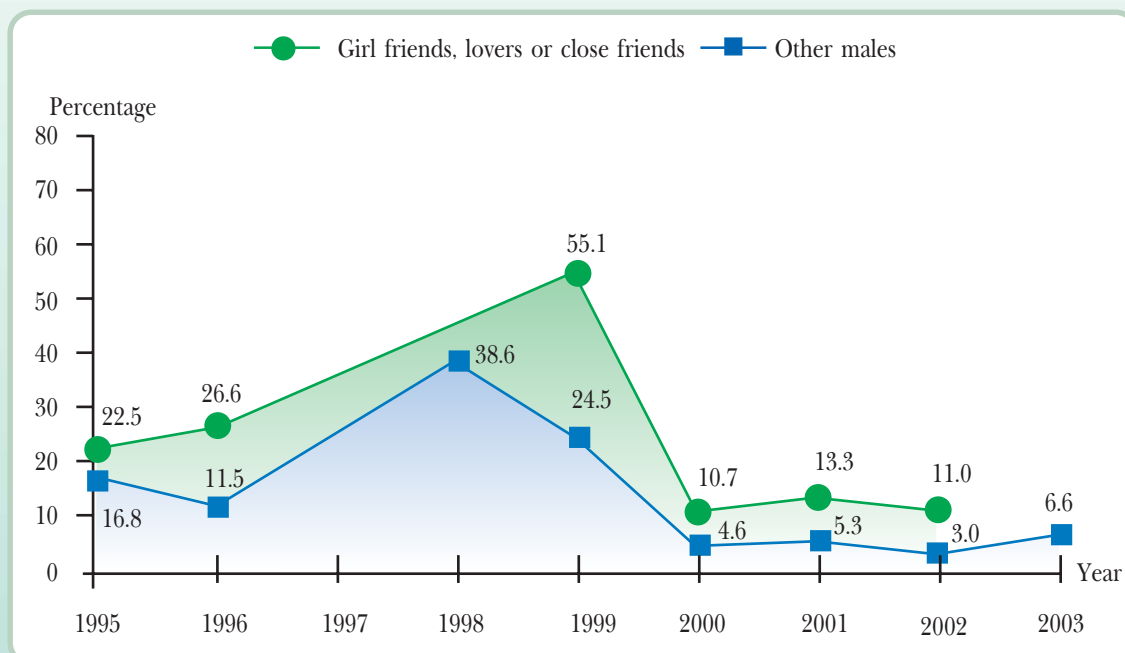
Figure 4.54 Rate of Constant Condom Use during Sexual Encounters in the Past Year of Male Industrial Workers According to Survey on HIV/AIDS Risk Behaviours in Thailand, 1st-9th Rounds, 1995-2003



Source: Bureau of Epidemiology Division, Department of Disease Control.

Note: The Bureau of Epidemiology deployed the new data analysis method for the 1st-9th rounds of survey (1995-2003).

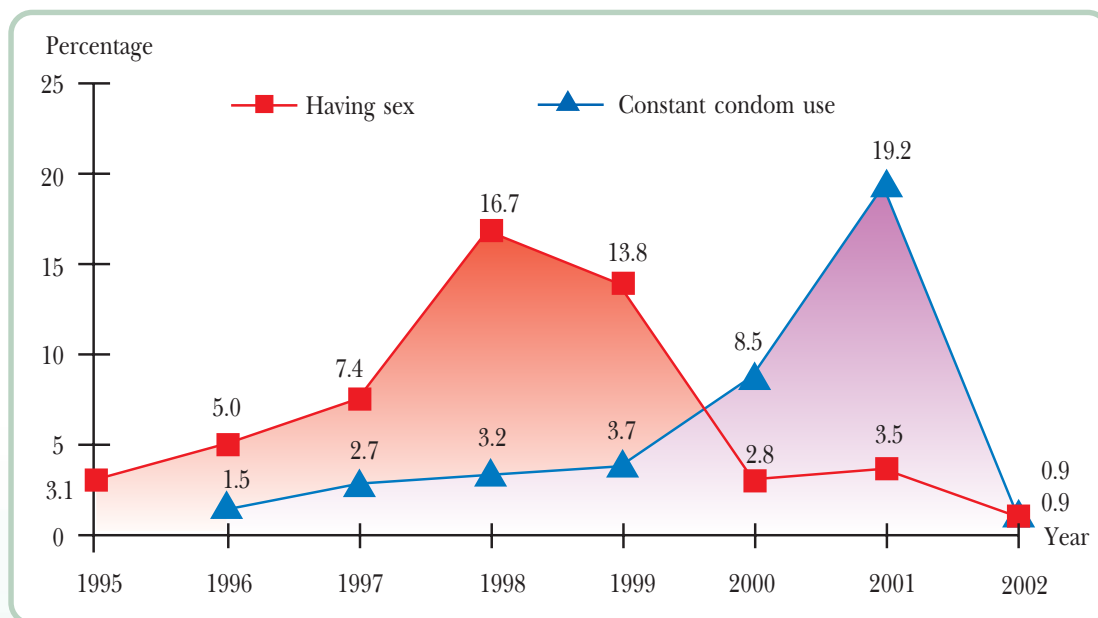
Figure 4.55 Proportion of Female Industrial Workers Having Sexual Encounters in the Past Year According to Survey on HIV/AIDS Risk Behaviours in Thailand, 1st-9th Rounds, 1995-2003



Source: Bureau of Epidemiology, Department of Disease Control.

Note: The Bureau of Epidemiology deployed the new data analysis method for the 1st-9th rounds of survey (1995-2003).

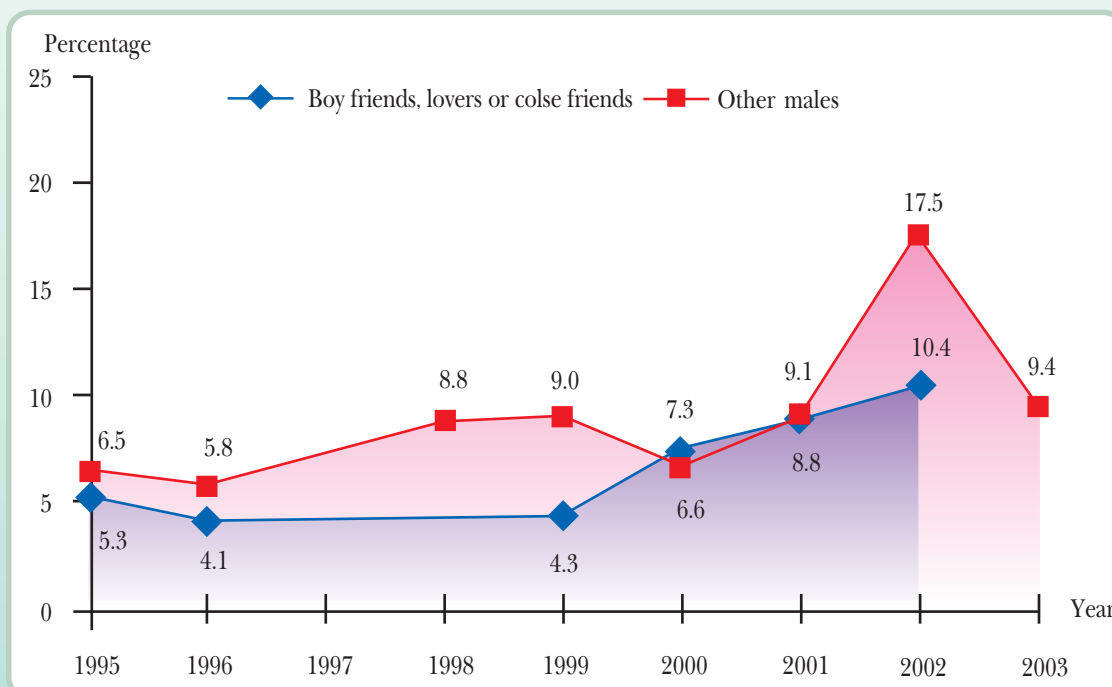
Figure 4.56 Proportion of Pregnant Women Attending ANC Having Sex with Other Males and Constant Condom Use Rate According to Survey on HIV/AIDS Risk Behaviour in Thailand 1st-8th Rounds, 1995-2002



Source: Bureau of Epidemiology, Department of Disease Control.

Note: The Bureau of Epidemiology deployed the new data analysis method for the 1st-8th rounds of survey (1995-2002).

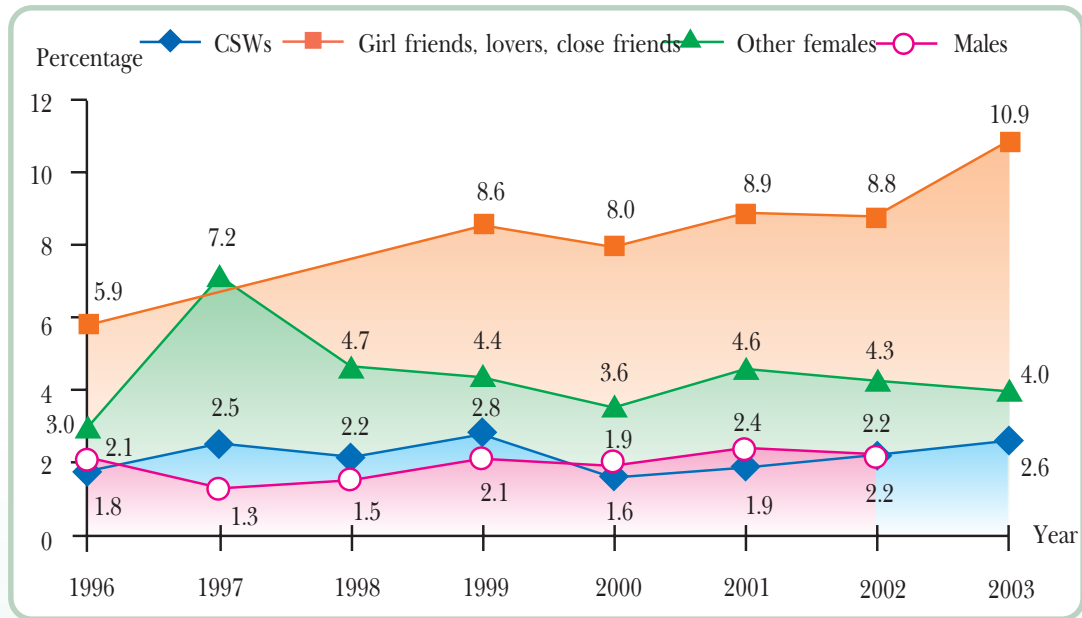
Figure 4.57 Rate of Constant Condom Use during Sexual Encounters in the Past Year of Female Industrial Workers According to Survey HIV/AIDS Risk 1st-9th rounds, 1995-2003



Source: Bureau of Epidemiology, Department of Disease Control.

Note: The Bureau of Epidemiology deployed the new data analysis method for the 1st-9th rounds of survey (1995-2003).

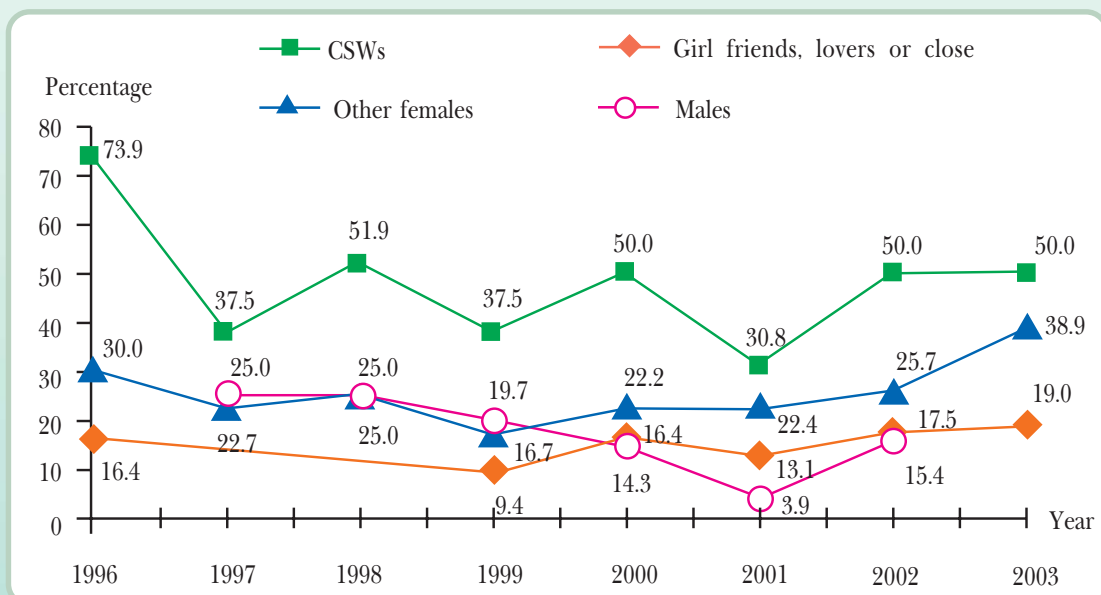
Figure 4.58 Proportion of Male Secondary School Students (Mathayomsuksa 5 or Grade 11) Having Sex in the Past Year According to Surveys on HIV/AIDS Risk Behaviours in Thailand, 2nd-9th Rounds, 1996-2003



Source: Bureau of Epidemiology, Department of Disease Control.

Note: The Bureau of Epidemiology deployed the new data analysis method for the 2nd-9th rounds of survey (1996-2003).

Figure 4.59 Rate of constant Condom Use during Sexual Encounters in the Past Year of Male Secondary School Students (Mathayomsuksa 5 or Grade 11) According to Surveys on HIV/AIDS Risk Behaviours in Thailand, 2nd-9th Rounds, 1996-2003



Source: Bureau of Epidemiology, Department of Disease Control.

Note: The Bureau of Epidemiology deployed the new data analysis method for the 2nd-9th rounds of survey (1996-2003).

10.10 Self-Health Care and Health Care Seeking Behaviours

People's health care seeking behaviours have been changing. Overall, the proportion of people seeking care at public health facilities rose from 15.5% in 1970 to 53.9% in 1996, while the rate of self-medication decreased from 51.4% in 1970 to 17.1% in 1996; and the rate of health care seeking at private clinics and hospitals slightly rose from 22.7% in 1970 to 24.2% in 1996. Nonetheless, after the economic crisis, more people have turned to buying medicine for self-care, climbing from 17.1% in 1996 to 20.9% in 2004, whereas the use of private clinics and hospitals has declined from 24.2% in 1996 to 22.7% in 2003 (Table 4.92).

Table 4.92 Pattern of Health Care Seeking Behaviours among Thai Population (percent)

Care or health facility attended	1970 IPSR	1979 IPSR	1985 IPSR	1991 HWS	1996 PHS	1996 HWS	2001 HWS	2003 HWS	2004 HWS
Both rural and urban areas									
Nothing	2.7	4.2		15.9	0.5	6.9	5.4	5.9	5.3
Traditional care or others	7.7	6.3	2.4	5.7	4.2	2.8	2.5	2.9	4.4
Self-medication	51.4	42.3	28.6	38.3	17.1	37.9	24.2	21.5	20.9
Health centres	4.4	16.8	14.7	14.8	34.5	20.8	17.4	23.9	24.6
Public hospitals	11.1	10.0	32.5	12.9	19.4	12.9	34.8	33.1	30.2
Private clinics/hospitals	22.7	20.4	21.8	12.4	24.2	18.7	15.0	19.4	22.7
Rural areas									
Nothing				15.6	0.4	6.7	5.8	6.0	5.0
Traditional care or others				5.8	6.2	2.5	2.6	3.0	4.4
Self-medication				38.6	11.6	38.4	22.1	19.9	18.7
Health centres				17.0	49.6	24.6	22.3	29.5	30.8
Public hospitals				12.8	20.0	13.8	35.2	34.4	31.0
Private clinics/hospitals				10.2	12.3	14.0	11.4	15.4	19.5
Urban areas									
Nothing				17.9	0.7	7.5	4.4	5.4	6.1
Traditional care or others				4.7	1.3	4.3	2.1	2.6	4.7
Self-medication				36.9	25.2	36.0	29.4	25.6	27.0
Health centres				2.7	12.8	3.5	5.5	9.6	7.1
Public hospitals				13.1	18.5	8.9	33.9	30.2	28.3
Private clinics/hospitals				24.7	41.6	39.8	24.0	29.8	32.0

- Sources:**
1. IPSR: Institute for Population and Social Research, Mahidol University, 1988.
 2. HWS: Health and Welfare Surveys, NSO, 1991, 1996, 2001, 2003 and 2004.
 3. PHS: Provincial Health Survey, BHPP, 1996.

- Notes:**
1. Different definitions of illness in different sources.
 2. More than one answers could be mentioned.

Health promotion and disease prevention services are part of the policies under the Universal Coverage of Healthcare (30-baht healthcare) Scheme. According to the 2003 survey conducted by the National Statistical Office, 5.3% of all population used health promotion services (Table 4.93).

Table 4.93 Percentage of Population Using Health Promotion Services, 2003

Use, non-use, and type of services	Total	Males	Females
Use of services	5.3	4.0	6.7
Non-use of services	94.7	96.0	93.3
Type of services used			
Immunization	33.2	45.6	26.0
Antenatal care	7.1	-	11.3
Family planning	2.6	0.5	3.8
Post-natal care	3.6	-	5.6
Health checkups	33.5	32.2	34.3
Dental care	8.1	8.8	7.7
Other services	11.9	12.9	11.3

Source: Report on Health and Welfare Survey, 2003. National Statistical Office.

Regarding types of services, one-third of the clients came for health checkups and immunization (33.5% and 33.2%, respectively; Table 4.93). As for health facilities, one-third attended rural or urban health centres (34.2%), followed by community hospitals (28.7%), and general/regional hospitals (11.3%; Table 4.94).

Table 4.94 Percentage of Population Using Health Promotion Services by Type of Health Facility, 2003

Health facility	Total	Males	Females
Drugstores	0.3	0.2	0.3
Health centres	34.2	36.5	32.9
Community health centres	1.2	1.0	1.3
State-run hospitals	47.2	47.5	47.1
- Community hospitals	28.7	30.2	27.8
- General/regional hospitals	11.3	10.6	11.8
- University hospitals	0.9	1.0	0.8
- Other public hospitals	6.3	5.7	6.7
Private clinics	9.2	7.4	10.2
Private hospitals	6.0	5.0	6.6
Others	1.9	2.4	1.6

Source: Report on Health and Welfare Survey, 2003. National Statistical Office.

