

Chapter
II

CANCER INCIDENCE IN THAILAND

Chapter II

1

CANCER
INCIDENCE AND
LEADING SITES

Nimit Martin, M.D.
Nilubol Patel, M.D.

Cancer incidence refers to the number of new cases of cancers seen in the population of defined geographic area over a definite period of time. Site-specific annual cancer incidence rates are the numbers of site-specific cancers in a year per 100 000 persons at risk. The data of the three-year periods (1995-1997 and 1998-2000) from each of five registries are shown in Appendices A-F.

The geographic area covered by the five population based registries are shown in Table 2.1.1 and Figure 2.1.1

The age-standardized incidence rates (ASR) of all cancer sites ranged from 91.4 per 100 000 in male in Songkhla to 182.5 per 100 000 in Khon Kaen and from 81.3 per 100 000 in female in Songkhla to 148.6 per 100 000 in Chiang Mai (Table 2.1.2 and Figure 2.1.2).

Figures 2.1.3-2.1.8 show the 10 leading cancers in each registry, in terms of age-standardized incidence rate and the estimated age-standardized incidence rate for the whole country.

In Chiang Mai, the leading cancer in men is lung cancer, followed by liver cancer and colorectal cancer. In women, cervix cancer is the first, followed by lung cancer and breast cancer. The incidence of cervix cancer in women is the highest among the five registries and lymphoma is the highest in men (Figure 2.1.4).

In Lampang during 1995-1997, lung cancer is the most important cancer in both males and females. Liver cancer is in the second place in men whereas cervix cancer is in women. The incidences of lung cancer and gallbladder cancer including that of extra-hepatic bile duct in Lampang are

Table 2.1.1 Land area and estimated population in 1996

	Population density (Person/km ²)	Land area (km ²)	Doctor/ Population ratio	Estimated population Male	Estimated population Female
Chiang Mai	79.1	20 107	1:2 082	716 202	716 186
Lampang	60.1	12 534	1:4 193	378 468	374 773
Khon Kaen	159.0	10 886	1:2 928	836 531	842 914
Bangkok	4 061.0	1 565	1:793	2 921 143	3 181 895
Songkhla	154.1	7 394	1:3 086	538 258	601 170

Table 2.1.2 Age-standardized incidence rates (ASR), all sites, 1995-1997

	Male		Female	
	Cases	ASR	Cases	ASR
Chiang Mai	3 029	142.5	3 325	148.6
Lampang	2 196	178.0	1 991	146.1
Khon Kaen	3 661	182.5	2 899	125.3
Bangkok	9 447	143.6	10 807	125.9
Songkhla	1 355	91.4	1 383	81.3
Thailand	35 539	149.2	38 467	125.0

the highest among five registries in both males and females (Figure 2.1.5).

In Khon Kaen, liver cancer is the most common cancer in both males (ASR = 85.0) and females (ASR = 32.7). The incidence of liver cancer is the highest among five registries in both sexes. In males liver cancer is in the first rank followed by lung cancer and colorectal cancer. Liver cancer is in the first rank in females followed by cervix and breast cancers (Figure 2.1.6).

In Bangkok, lung cancer is the most common cancer in men, followed by colorectal cancer and then liver cancer. In women, breast cancer is the first leading cancer followed by cancer of cervix. Colorectal cancer is the third in frequency. The incidence of breast cancer in females and colorectal cancer in both sexes are the highest among the five registries (Figure 2.1.7).

In Songkhla, lung cancer is in the first rank (ASR = 13.6) followed by oral cavity cancer (ASR = 7.8) and colorectal cancer among men. Cervical cancer is the first followed by breast cancer and thyroid cancer among women. The incidence rates of oral cavity cancer and esophageal cancer in males are higher than elsewhere. In females, the incidence rate of thyroid cancer is the highest among five registries; liver cancer is not even in the first ten cancers (Figure 2.1.8).

The estimated total number of new cancer cases in the year 1996 is 35 539 (ASR = 149.2) in males and 38 467 (ASR = 125.0) in females. Comparison of the estimated incidence rates of cancer in Thailand from 1990 to 1996 is shown in Table 2.1.3

Figure 2.1.1 Thailand : regions and areas covered by the cancer registries.



Table 2.1.3 Estimated cancer incidence in Thailand.

	Male		Female	
	Number	ASR	Number	ASR
1990	29 195	149.6	28 773	125.2
1993	32 801	151.3	30 940	123.8
1996	35 539	149.2	38 467	125.0

In 1996, liver cancer is the most common cancer in males (9 031 cases, ASR = 37.6), followed by lung cancer (5 916 cases, ASR = 25.9), colorectal cancer (2 533 cases, ASR = 10.8), and cancer of the oral cavity and pharynx (1 576 cases, ASR = 7.1). In females, cervix cancer is the most common (6 268 cases, ASR = 19.5), followed by breast (5 592 cases, ASR = 17.2), liver cancer (4 696 cases, ASR = 16.0) and lung cancer (2 964 cases, ASR = 10.0) (Table 2.1.4).

Figure 2.1.2 Age-standardized incidence rates in different regions

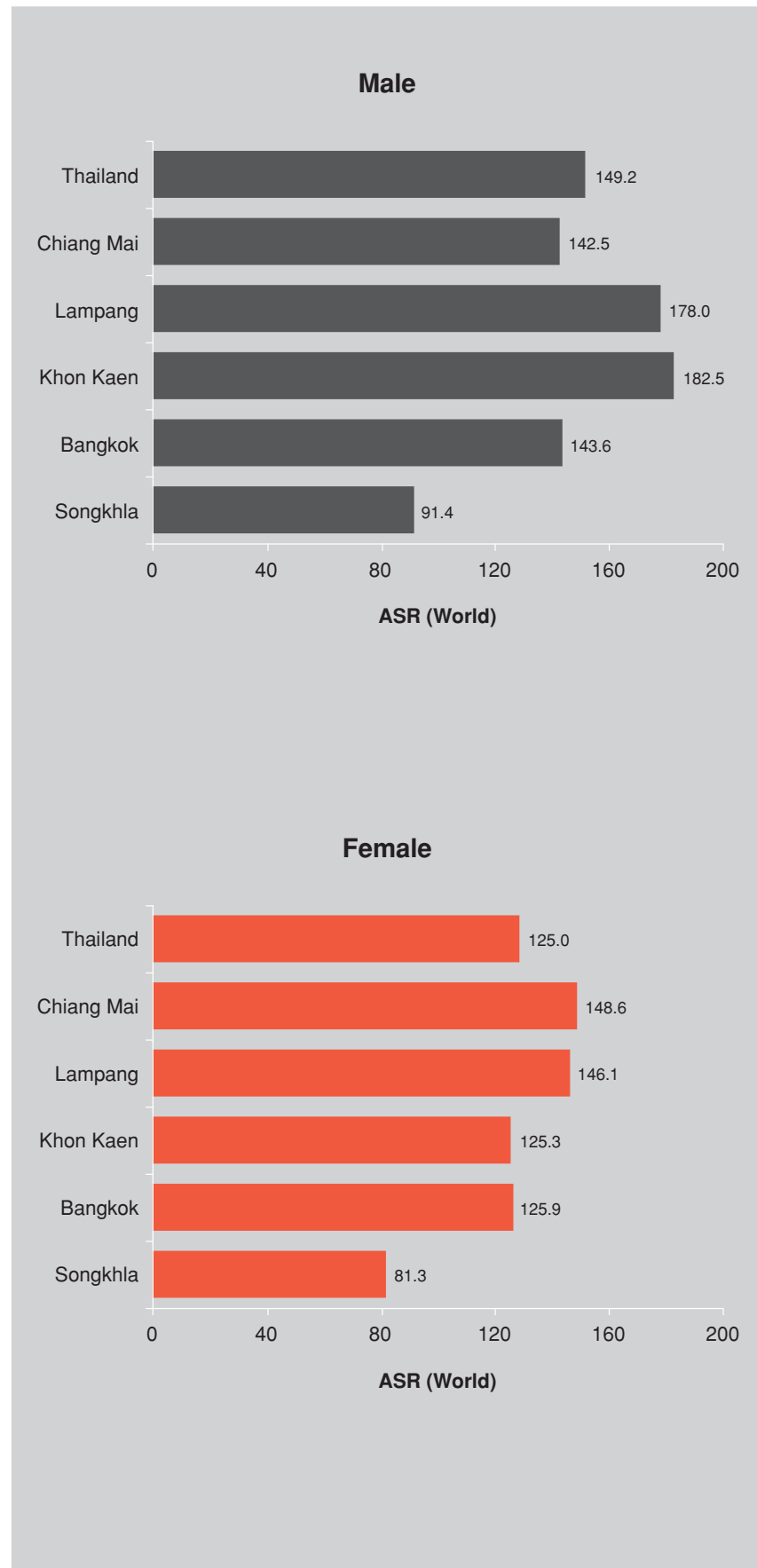


Table 2.1.4 Thailand (estimate) 1996

Site	All Ages	Age Unk.	Annual Incidence per 100 000 by Age Group (years) - Male														Crude Rate	ASR (W)	ICD (10th)		
			0	5	10	15	20	25	30	35	40	45	50	55	60	65				70	75+
Oral & pharynx	1 576	0	-	-	0.2	0.3	0.8	0.4	0.8	2.4	4.0	6.7	11.5	21.1	25.7	39.8	47.8	60.5	5.5	6.8	C00-C10; C12-C14
Nasopharynx	872	0	-	-	0.2	0.4	0.1	1.1	1.7	3.5	4.6	5.6	8.3	12.0	10.5	16.7	14.4	10.4	3.1	3.4	C11
Oesophagus	720	0	-	-	-	-	-	-	0.2	0.5	1.0	3.3	3.8	12.4	15.8	18.0	19.5	31.7	2.5	3.2	C15
Stomach	945	0	-	-	-	-	-	-	0.1	1.0	2.5	3.7	5.4	11.1	17.3	28.0	29.6	36.4	3.3	4.1	C16
Colon & rectum	2 532	0	-	-	0.1	0.2	0.8	1.2	2.8	3.7	8.0	8.5	17.7	29.6	45.1	63.1	76.3	99.6	8.9	10.9	C18-C21
Liver	9 031	0	0.3	-	0.1	0.2	1.1	3.3	9.0	14.6	30.1	62.9	89.4	142.6	180.9	219.8	160.6	150.8	31.7	37.6	C22
Larynx	684	0	-	-	0.0	0.0	0.0	0.4	0.4	0.6	0.9	1.5	3.9	8.7	15.9	20.2	29.1	24.6	2.4	3.1	C32
Lung	5 916	0	-	-	0.1	0.4	1.2	2.5	4.8	5.1	11.5	17.9	44.2	86.1	137.3	177.9	171.8	161.8	20.7	25.9	C33-C34
Prostate	1 019	0	-	-	-	-	-	-	-	-	-	0.2	0.4	2.6	4.5	23.4	23.9	49.1	3.6	4.8	C61
Bladder	1 024	0	0.2	-	-	0.1	-	-	0.1	0.5	1.2	1.6	3.8	3.3	11.2	19.0	29.9	36.4	3.6	4.6	C67
Thyroid	289	0	-	0.1	-	-	-	0.5	0.8	0.2	0.9	1.5	2.9	2.0	3.4	2.6	4.1	5.5	1.0	1.1	C73
Non Hodgkin lymphoma	1 120	0	0.7	0.7	0.9	1.0	1.8	2.7	2.8	4.3	4.1	4.6	7.8	9.4	11.3	20.3	20.6	24.6	3.9	4.3	C82-C85; C95
Leukemia	1 012	0	6.0	3.0	1.6	2.3	2.4	3.5	3.2	1.6	2.5	3.5	3.8	5.9	8.8	9.7	8.8	9.7	3.5	3.9	C91-C95
All sites	35 539	0	13.2	5.9	7.5	9.6	15.3	31.7	45.2	60.8	101.4	163.7	266.9	461.7	647.6	845.2	837.2	983.2	124.6	149.2	

Annual Incidence per 100 000 by Age Group (years) - Female

Site	All Ages	Age Unk.	Annual Incidence per 100 000 by Age Group (years) - Female														Crude Rate	ASR (W)	ICD (10th)		
			0	5	10	15	20	25	30	35	40	45	50	55	60	65				70	75+
Oral & pharynx	1 386	0	-	-	-	0.3	0.1	0.2	1.2	1.1	3.1	2.5	4.7	9.8	21.1	32.3	36.0	48.6	4.6	4.6	C00-C10; C12-C14
Nasopharynx	405	0	-	-	-	-	0.4	0.7	0.6	1.7	2.1	2.3	4.1	3.5	4.7	4.8	2.9	2.1	1.3	1.3	C11
Oesophagus	248	0	-	-	-	-	-	0.2	-	0.1	0.1	0.8	0.3	2.0	3.4	6.5	10.1	7.2	0.8	0.9	C15
Stomach	793	0	-	-	-	-	0.1	0.7	1.5	1.8	2.9	3.1	4.3	5.3	10.5	14.4	15.1	18.5	2.6	2.6	C16
Colon & rectum	2 215	0	-	-	-	0.6	1.2	2.2	3.0	7.5	7.5	10.1	11.3	18.8	34.9	37.7	47.2	50.8	7.4	7.3	C18-C21
Liver	4 696	0	0.6	0.1	-	0.5	0.6	0.6	1.2	3.6	9.3	19.2	41.9	58.6	80.8	98.6	87.2	70.5	15.6	16.0	C22
Larynx	79	0	-	-	-	-	-	-	0.1	0.1	0.1	-	0.4	0.8	0.9	2.7	2.5	2.0	0.3	0.3	C32
Lung	2 984	0	-	0.1	0.1	0.1	0.7	0.8	2.3	3.1	5.6	11.0	20.9	33.7	50.3	62.9	61.9	51.6	9.9	10.0	C33-C34
Breast	5 592	0	-	-	0.1	0.5	3.1	10.5	23.1	39.9	39.9	54.2	48.8	49.8	48.4	44.9	41.2	36.5	18.6	17.2	C50
Cervix uteri	6 268	0	-	-	0.1	0.4	1.0	3.6	11.4	24.4	40.5	51.0	56.6	63.0	64.8	56.1	53.8	39.1	20.9	19.5	C53
Bladder	324	0	-	-	-	-	0.1	0.4	0.2	0.3	0.4	1.6	1.6	5.0	7.6	7.6	8.7	12.8	1.1	1.1	C67
Thyroid	39 514	0	-	9.6	9.0	15.1	21.0	43.4	73.9	125.2	200.3	259.1	306.6	353.1	424.6	427.8	410.9	422.3	4.0	3.6	C73
Non Hodgkin lymphoma	964	0	0.7	0.4	0.5	0.8	1.1	1.9	2.0	2.9	2.1	3.7	4.7	7.3	9.6	16.6	13.8	17.1	3.2	3.1	C82-C85; C95
Leukemia	988	0	5.5	2.8	2.0	1.3	1.6	1.7	1.0	2.5	3.2	5.0	4.9	5.7	6.8	6.3	6.8	10.3	3.3	3.5	C91-C95
All sites	38 467	0	13.4	6.3	5.9	9.5	14.7	30.1	55.5	96.6	158.5	221.0	281.6	363.0	486.3	540.9	551.0	530.0	128.1	125.0	

Figure 2.1.3 *Leading cancers in Thailand (estimated), 1996*

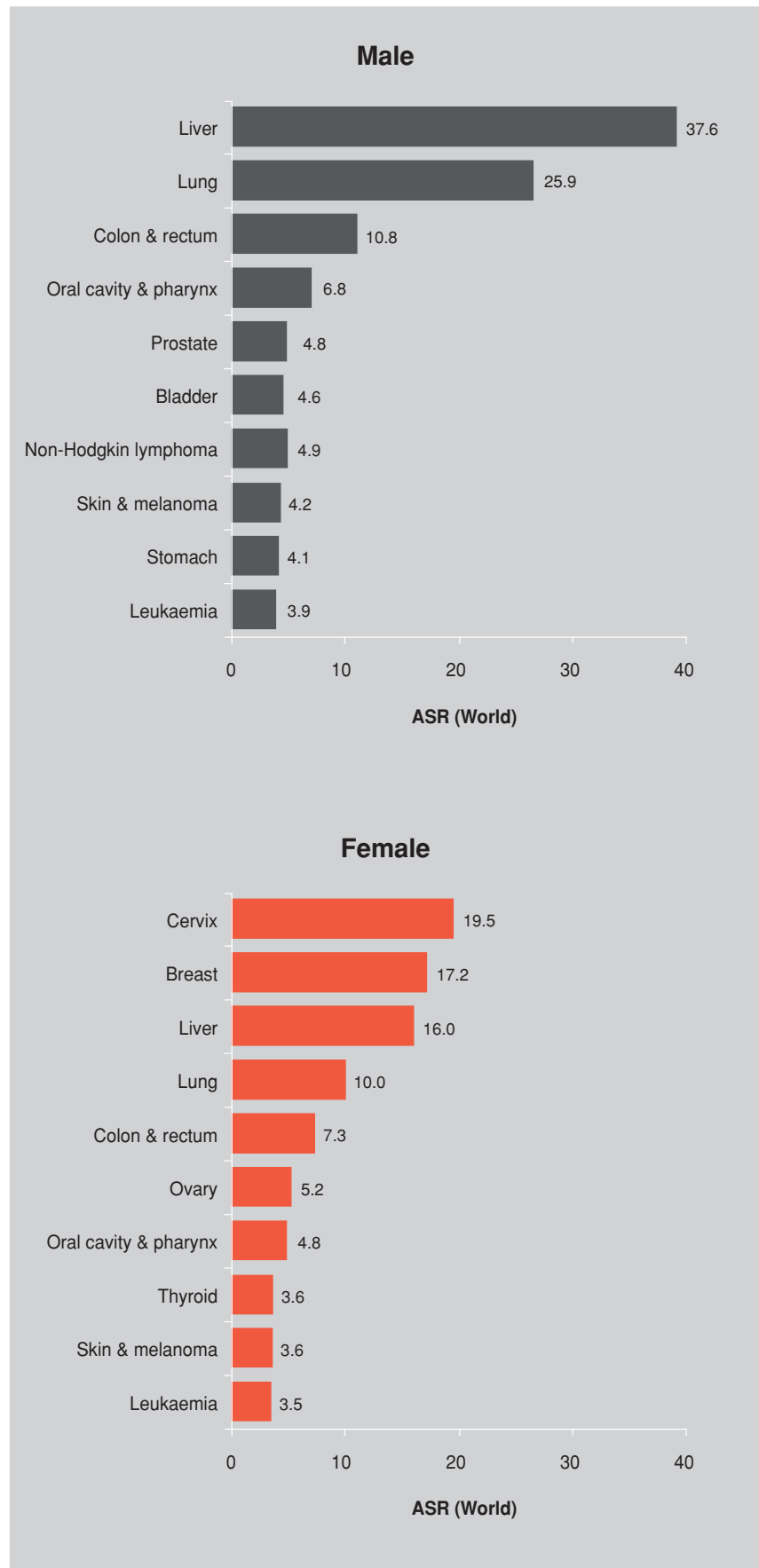


Figure 2.1.4 Leading cancers in Chiang Mai, 1995-1997

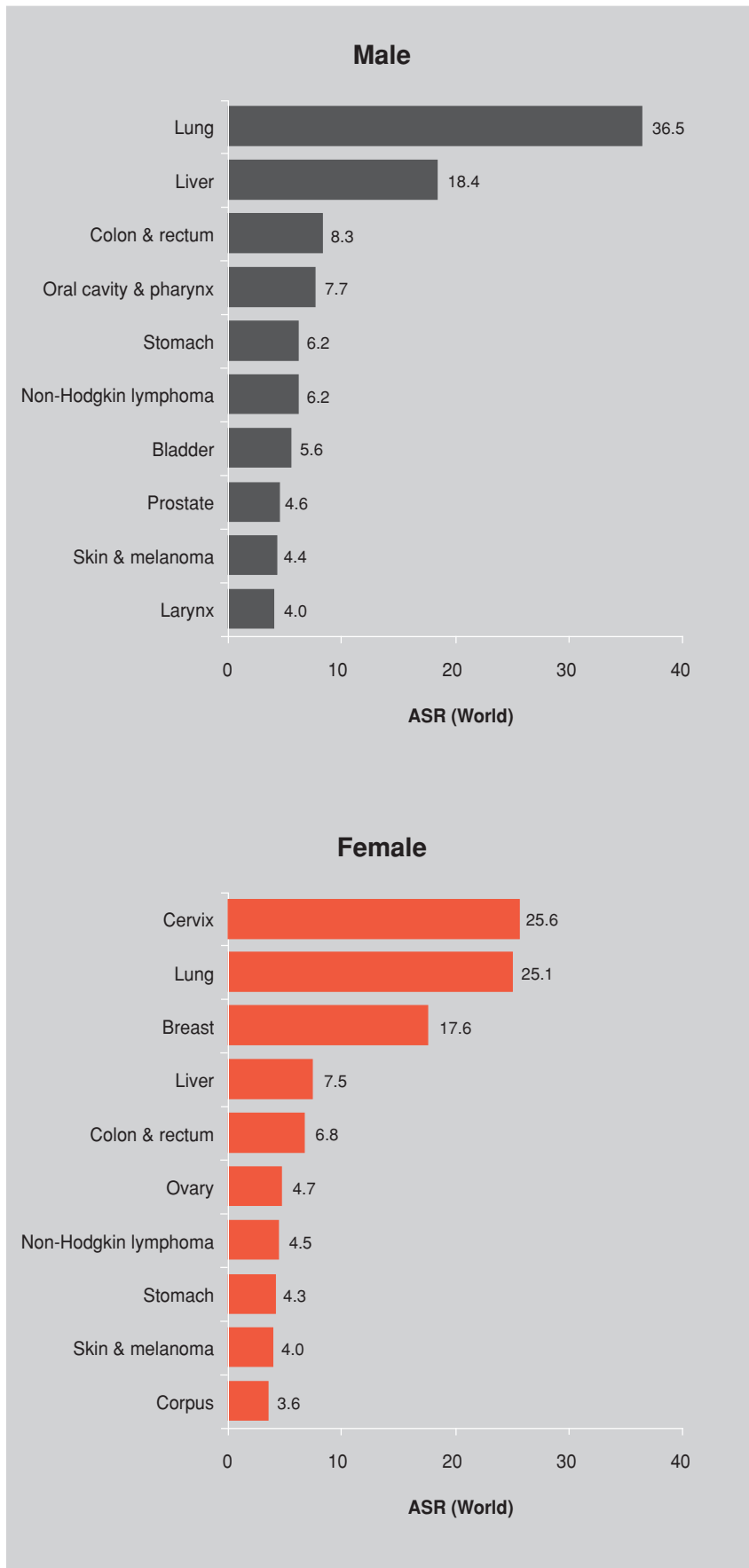


Figure 2.1.5 *Leading cancers in Lampang, 1995-1997*

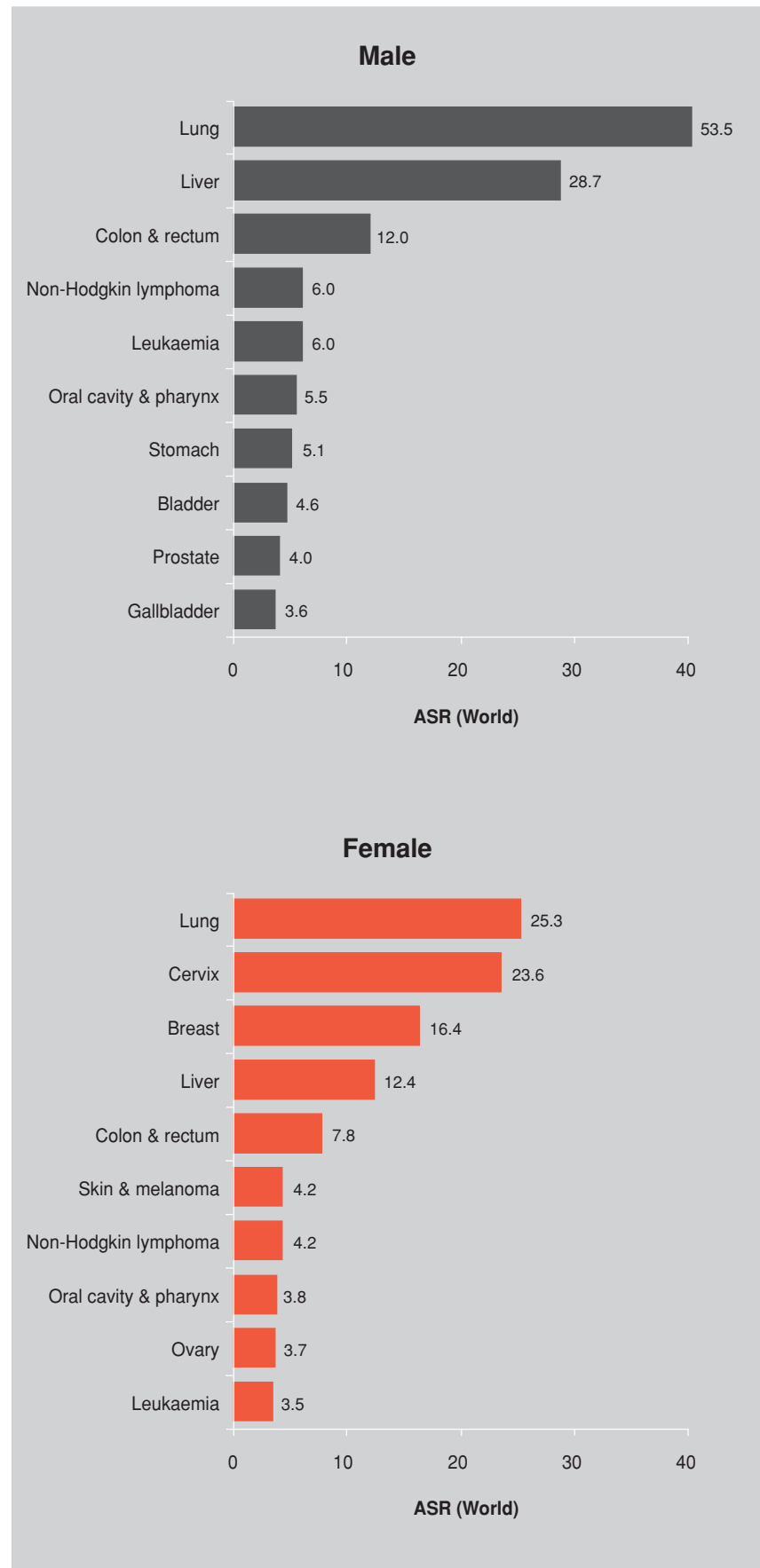


Figure 2.1.6 Leading cancers in Khon Kaen, 1995-1997

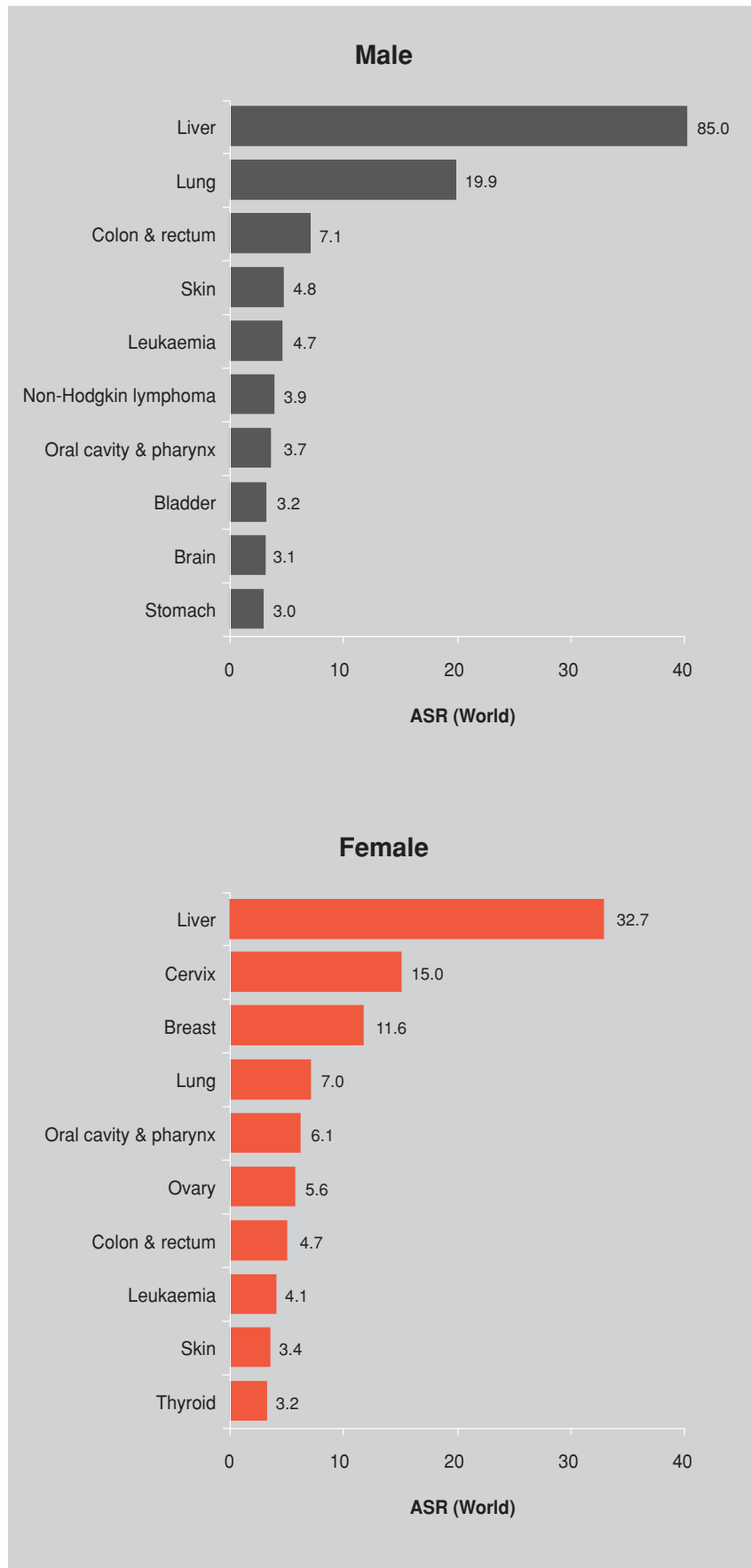


Figure 2.1.7 Leading cancers in Bangkok, 1995-1997

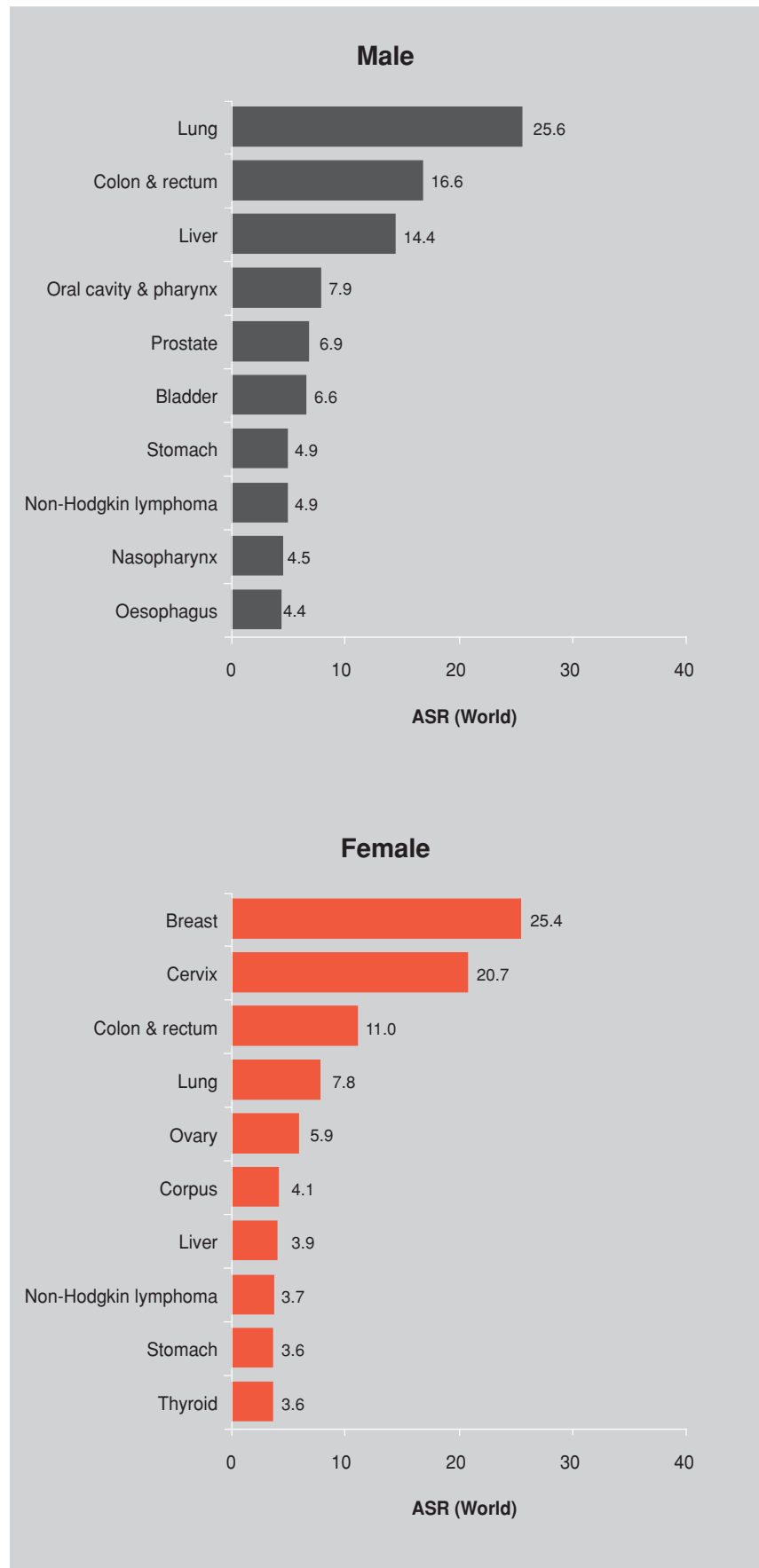


Figure 2.1.8 Leading cancers in Songkhla, 1995-1997

