

Chapter II

6

ESOPHAGUS

ICD-10 C15

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Incidence

Compared with other parts of the world, Thailand is among the low incidence countries for esophagus cancer. The estimated incidence rate of esophagus cancer in Thailand is 4.1 and 1.6 per 100 000 population in males and females respectively. The highest incidence of esophagus cancer is observed in the southern half of the country near the sea, from Rayong and Prachuap Khiri Khan to Songkhla in both sexes and markedly lower in the Northern and Northeastern regions (Figure 2.6.1). The incidence rate in males is about 2-5 times higher than in the other provinces except Bangkok. The incidence rate is much less in females than in males. Very low below the age of 40 years, the age-specific incidence rates of esophagus cancer rapidly rise with age and tend to drop at the very old age group (Figure 2.6.2).

Such a relation of the cancer to coastal region has just been observed since the registries of

Rayong and Prachuap Khiri Khan started their operation later than the others and not included in the previous volumes of Cancer in Thailand. Investigation should be made whether the phenomenon is related to environment or genetics of the population.

Risk factors

One of the known risk factors for esophagus cancer is tobacco consumption. The fact that the population of Chiang Mai has a low incidence rate, while it has the highest rate for lung cancer, strongly suggests that other important risk factors must be involved. A case-control study (Chongsuvivatwong, 1990) found that tobacco smoking alone was not associated with a significantly elevated risk. The risk for non-smoking alcohol drinkers was 4.7 (non-significant because of small numbers). Subjects who both smoked and consumed alcohol were at a significantly higher risk (5.7) than abstainers. A study by Boonyaphaphat (2002) found that

Figure 2.6.1 Esophagus cancer in different regions, 1998-2000

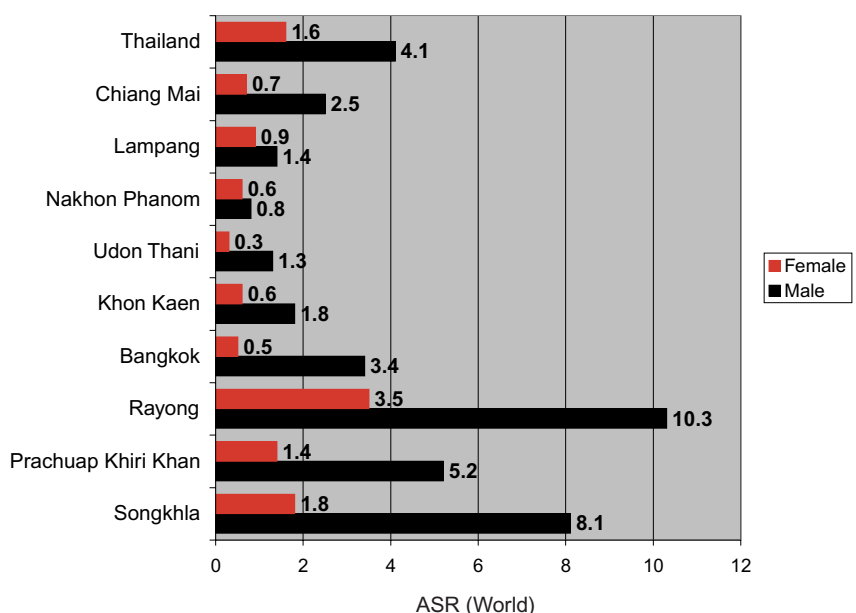
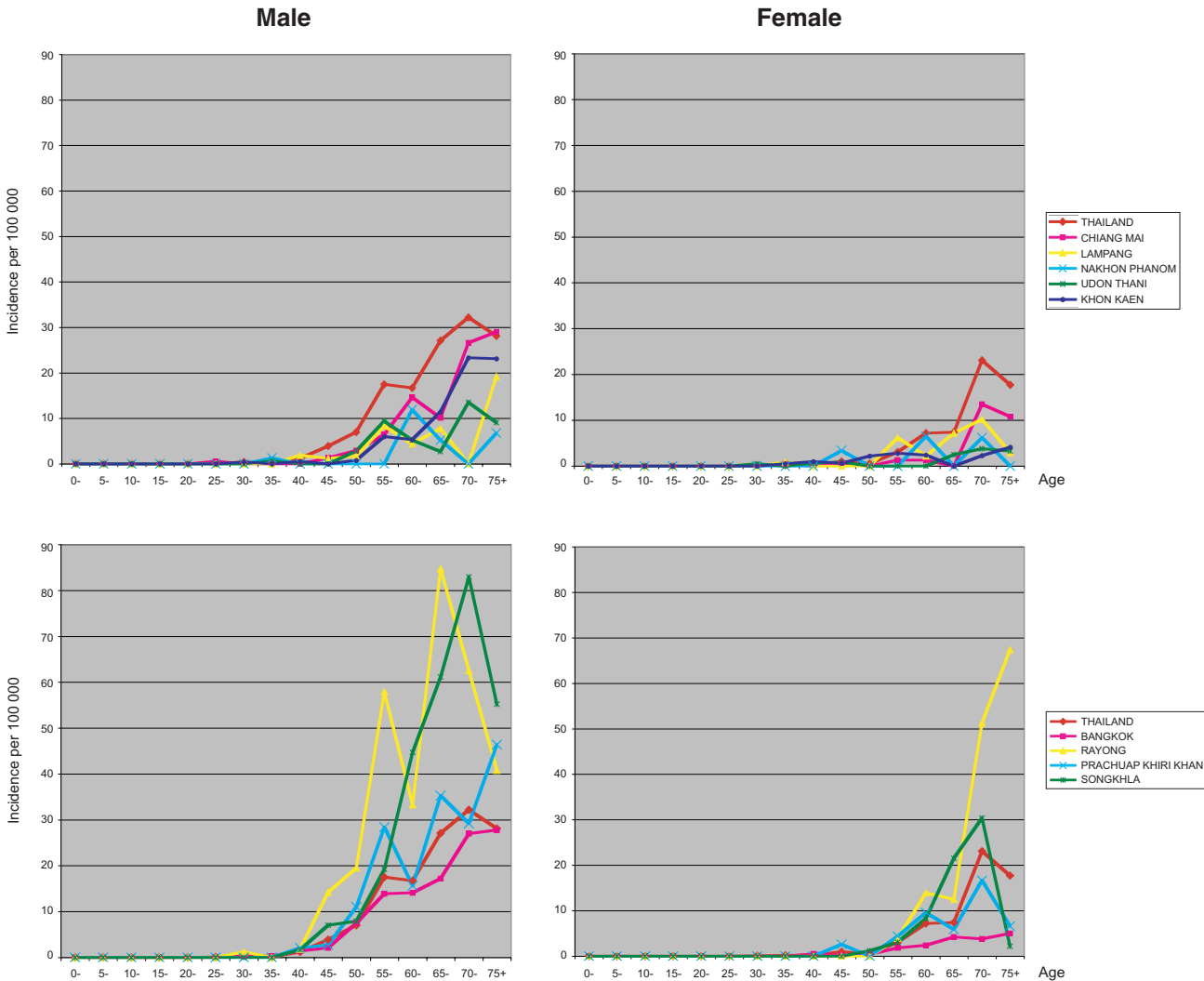


Figure 2.6.2 Age-specific incidence rates of esophagus, 1998-2000



RR for alcohol consumption, tobacco smoking, and betel chewing of 5.8, 5.7 and 4.7 respectively. Another case-control study (Chanvitan *et al.*, 1990) revealed that past consumption of two species of bean, *Archidendron jiringa* (“Luk Nieng”) and *Parkia timoriana* (“Luk Rieng”), increased risk; in contrast, consumption of raw beans of *Parkia*

speciosa (“Sataw”) was found to be protective. Consumption of radium contaminated well water was also found to be an important risk factor (Hiranwatthanakul *et al.*, 2006).

There was one study on alcohol dehydrogenase (ADH) and aldehyde dehydrogenase (ALDH) in Thailand (Boonyaphiphat *et al.*,

2002) showing an OR of ADH2*1/*1 genotype of 1.6 and of ALDH2*1/*2 genotype of 1.6 (but not statistically significant). If one have both types of polymorphism, the risk increased up to 4 times and heavy drinkers harboring ADH2*1/*1 or ALDH2*1/*2 had about an 11-fold increased risk.