

CANCER REGISTRATION IN VIETNAM

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History of Cancer Registration in Vietnam

Vietnam is a very populous developing country with the population in 1999's census of more than 76 million and population density of 231 pers/km². The annual population grow rate in 1999 was 1.8%. It is an "young" population with 50% inhabitants under the age of 25. The life expectancy at birth is 65 in males and 70 in females. The country is divided into 8 ecological regions and 61 provinces. The income estimated in 1999 is about 400 USD per capita. It is still a largely agriculture economy with two thirds of its population still dependent on agriculture for living. The first population based cancer registry had been established in Hanoi in 1988 by the National Cancer Institute collecting the information of cancer patients from 22 different hospitals and medical research institutes in the city. The population of city following the 1999 census was 2672122. In 1990, a population-based cancer registry of Ho Chi Minh City had been founded by the oncology center of HCMC (Table 1). The population of city in 1999 was 5037155. Population based cancer registries of other provinces such as Hue, Hai phong, and Thai Nguyen are now being founded.

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Incidence Data

Table 2 presents an estimation of cancer incidence in Vietnam in 2000 based on the most recent results of Hanoi and HCMC cancer registries. It was estimated that the incidence of all cancer combined but not including skin cancer was 91.5 per 100000 in males and 81.5 per 100000 in females. The age-standardized incidence rate was 141.6 in males and 101.6 in females respectively. It was estimated that in 2000, in the country, at least 36024 new cancer cases in males and 32786 new cases in females would be diagnosed.

The figure 1 presents ten leading cancers in Vietnamese males and females. The most important cancers in males are those of lung, liver, stomach, colon-rectum and nasopharynx. In females the most frequent cancers are of breast, cervix uteri, stomach, colon-rectum, lung.

Regional variation

Nevertheless, the pattern of cancer in Vietnam is not homogenous. Figure 2 presents ten leading cancers in males and females in Hanoi and Ho Chi Minh City. The figure 3

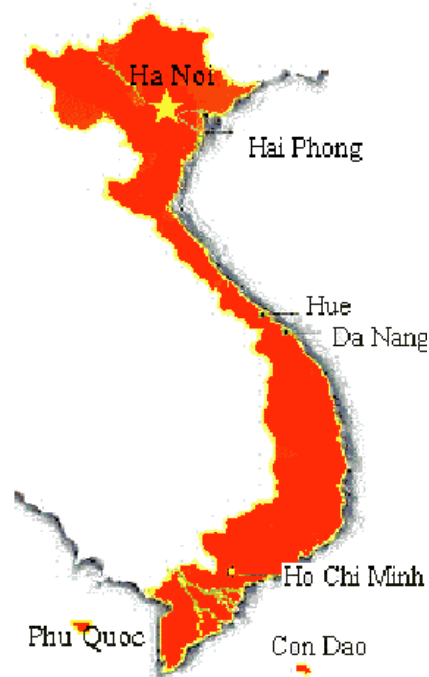


Figure 1 : Map of Vietnam

Table 1. Population-based Cancer Registries

| Region | Registry | Population | Population density |
|-----------------|----------|------------|--------------------|
| | | 1/04/2000 | (per sq km) |
| Red River Delta | Hanoi | 2,672,122 | 2,909 |

compare the age standardized rate of some major cancers of Hanoi, Ho Chi Minh City and some areas in the world. While the cancer of lung, liver, stomach is leading cancer in males in both cities, their relative position is rather different: in Hanoi, lung cancer is leading cancer in males while in HCMC it is liver cancer. Liver cancer in HCMC is also more frequent than that in Hanoi. The biggest difference between the South and the North is in cancer of cervix: the incidence

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Table 1: Age-specific Annual Incident Rates per 100,000 Population,**Males**

| Site | ICD-9 | 0-14 | 15-44 | 45-54 | 55-64 | 65+ | Number | CR | ASR(W) of cases |
|------------------------|---------|------|-------|-------|-------|-------|--------|------|--------------------|
| Oral Cavity | 140-5 | 0.0 | 1.1 | 6.3 | 13.8 | 18.4 | 883 | 2.2 | 3.5 |
| Nasopharynx | 147 | 0.1 | 3.6 | 20.2 | 24.8 | 23.8 | 2006 | 5.1 | 7.5 |
| Other pharynx | 146,8-9 | 0.0 | 0.5 | 4.8 | 7.9 | 19.1 | 653 | 1.7 | 2.7 |
| Oesophagus | 150 | 0.0 | 0.2 | 5.0 | 16.5 | 24.1 | 817 | 2.1 | 3.7 |
| Stomach | 151 | 0.0 | 4.7 | 40.3 | 78.0 | 157.8 | 5711 | 14.5 | 23.7 |
| Colon-Rectum | 153-4 | 0.1 | 3.5 | 20.0 | 33.0 | 71.6 | 2878 | 7.3 | 11.4 |
| Liver | 155 | 0.3 | 8.0 | 52.9 | 73.8 | 104.7 | 5787 | 14.7 | 22.6 |
| Pancreas | 157 | 0.0 | 0.3 | 3.3 | 4.9 | 10.5 | 385 | 1.0 | 1.6 |
| Larynx | 161 | 0.0 | 0.2 | 4.7 | 10.8 | 18.2 | 620 | 1.6 | 2.7 |
| Bronchus, lung | 162 | 0.0 | 4.8 | 37.8 | 113.5 | 200.5 | 6905 | 17.5 | 29.3 |
| Melanoma of Skin | 172 | 0.0 | 0.0 | 0.6 | 0.5 | 1.0 | 44 | 0.1 | 0.2 |
| Prostate | 185 | 0.0 | 0.0 | 1.3 | 4.2 | 23.8 | 490 | 1.2 | 2.2 |
| Testis | 186 | 0.2 | 0.6 | 2.1 | 1.1 | 0.5 | 217 | 0.6 | 0.7 |
| Bladder | 188 | 0.0 | 0.3 | 2.5 | 6.7 | 20.8 | 573 | 1.5 | 2.4 |
| Kidney | 189 | 0.2 | 0.1 | 1.9 | 1.7 | 5.8 | 219 | 0.6 | 0.9 |
| Brain, nervous system | 191-2 | 0.6 | 1.0 | 2.6 | 3.1 | 2.4 | 421 | 1.1 | 1.3 |
| Thyroid | 193 | 0.0 | 0.5 | 2.4 | 4.1 | 6.8 | 339 | 0.9 | 1.3 |
| Non Hodgkin's Lymphoma | 200+202 | 1.7 | 2.2 | 9.8 | 11.8 | 19.7 | 1420 | 3.6 | 4.9 |
| Hodgkin disease | 201 | 0.2 | 0.6 | 1.3 | 2.0 | 2.3 | 249 | 0.6 | 0.8 |
| Myeloma | 203 | 0.0 | 0.1 | 0.4 | 0.7 | 0.5 | 40 | 0.1 | 0.2 |
| Leukaemia | 204-8 | 3.6 | 3.4 | 6.9 | 4.0 | 9.9 | 1553 | 3.9 | 4.3 |
| All | | 9.4 | 41.3 | 252.3 | 453.5 | 812.2 | 36024 | 91.5 | 141.6 |

Females

| Site | ICD-9 | 0-14 | 15-44 | 45-54 | 55-64 | 65+ | Number | CR | ASR(W) of cases |
|------------------|---------|------|-------|-------|-------|------|--------|----|--------------------|
| Oral Cavity | 140-5 | 0.1 | 0.7 | 4.4 | 7.3 | 18.6 | 857 | 2 | 1 |
| Nasopharynx | 147 | 0.0 | 2.6 | 8.3 | 10.0 | 5.6 | 1099 | 2 | 7 |
| Other pharynx | 146,8-9 | 0.0 | 0.2 | 0.9 | 2.8 | 4.6 | 233 | 0 | 6 |
| Oesophagus | 150 | 0.0 | 0.1 | 0.3 | 1.4 | 6.8 | 206 | 0 | 5 |
| Stomach | 151 | 0.1 | 3.4 | 20.2 | 34.6 | 61.8 | 3418 | 8 | 5 |
| Colon-Rectum | 153-4 | 0.1 | 2.7 | 17.9 | 30.6 | 37.8 | 2566 | 6 | 4 |
| Liver | 155 | 0.1 | 2.2 | 10.1 | 19.8 | 31.2 | 1861 | 4 | 6 |
| Pancreas | 157 | 0.0 | 0.1 | 1.5 | 4.1 | 6.1 | 290 | 0 | 7 |
| Larynx | 161 | 0.0 | 0.1 | 0.4 | 1.0 | 1.9 | 91 | 0 | 2 |
| Bronchus, lung | 162 | 0.0 | 1.7 | 12.8 | 24.2 | 34.5 | 2001 | 5 | 0 |
| Melanoma of Skin | 172 | 0.1 | 0.1 | 0.1 | 0.2 | 0.6 | 56 | 0 | 1 |
| Breast | 174 | 0.0 | 9.0 | 62.2 | 47.7 | 40.6 | 5538 | | 13.8 |
| Cervix uteri | 180 | 0.0 | 6.3 | 49.2 | 72.1 | 48.6 | 5260 | | 13.1 |
| All | | | | | | | | | |

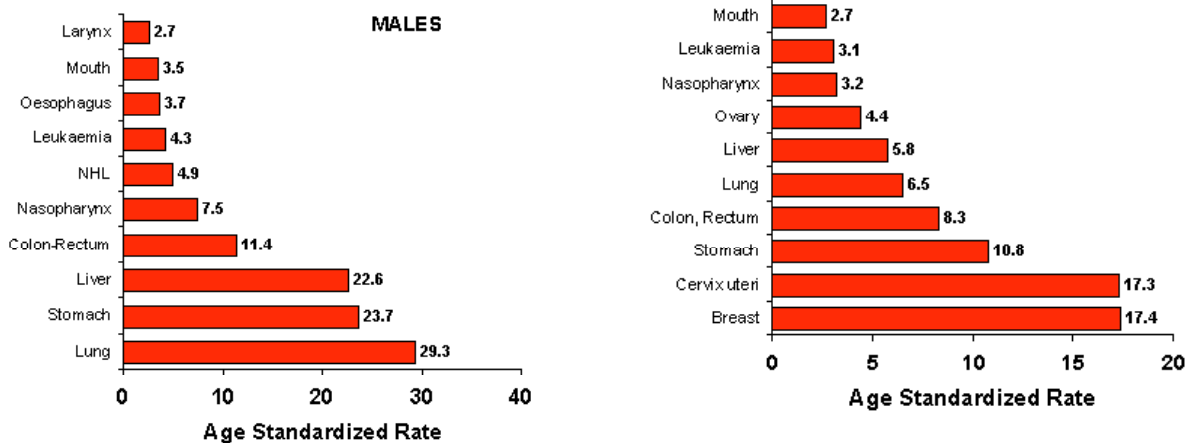


Figure 1. Ten Leading Cancers in Vietnam in 2000 (estimation)

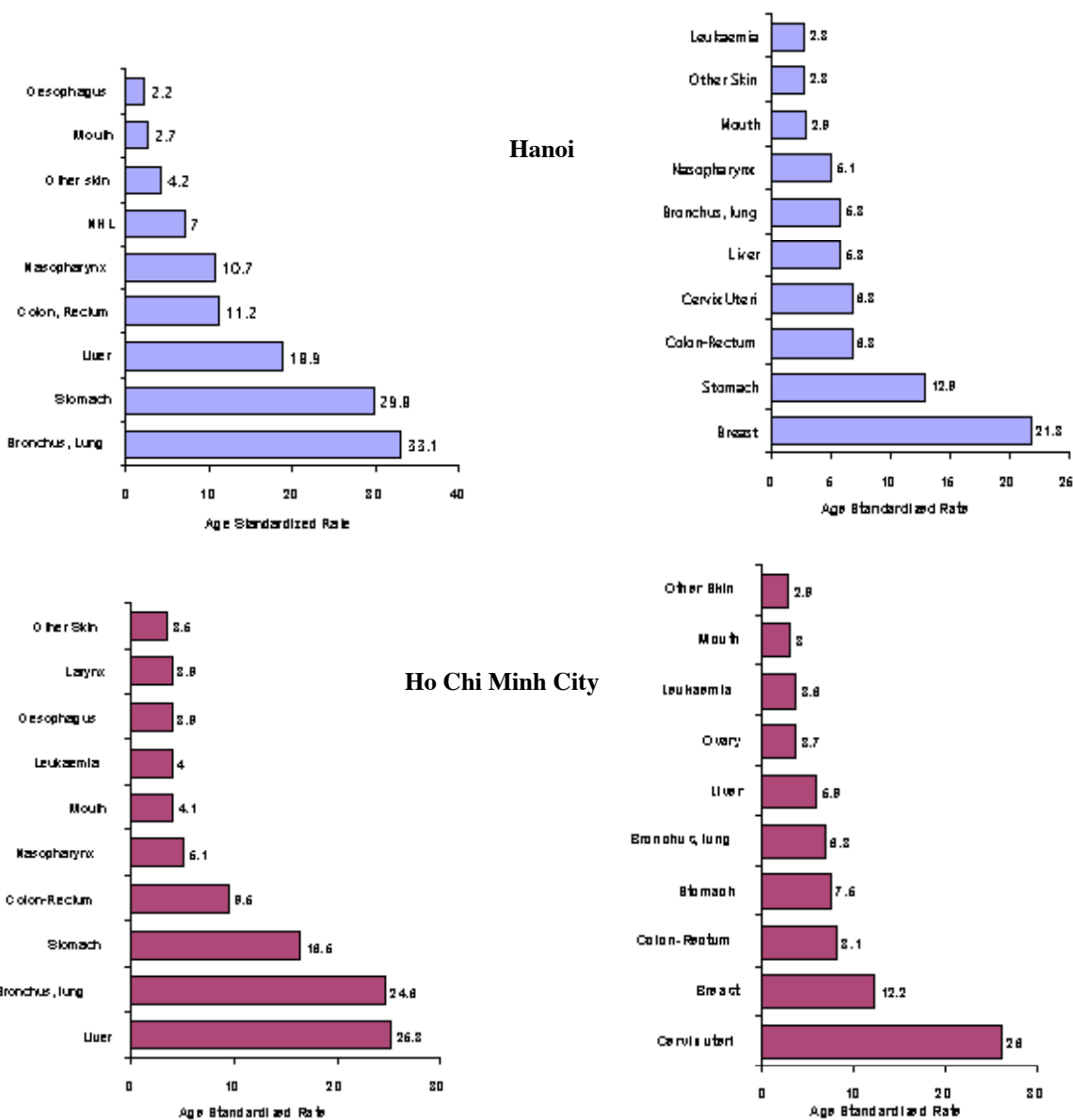


Figure 2. Ten Leading Cancers in Hanoi and Ho Chi Minh City.

of this cancer in the South is almost 4 times higher than that in the North. Other less extensive difference are observed in cancer of lung in males; stomach, nasopharynx in both sexes; breast in females of which the incidence seems to be higher in the North than in the South.

Epidemiology of the Principal Cancers

Lung Cancer

It is the most common cancer in males in Hanoi (ASR = 29.3 per 100000). Nevertheless, the rate of this cancer is relatively low in Vietnam compared to the data of other registries in the region and in the world. Under-diagnosis at the older population might partly explain the extent of difference. It is the leading cancer in males in Hanoi and the second in Ho Chi Minh City. Smoking is common in young generation in Vietnam (based on the result of a recent survey, 2/3 of current smokers are under age of 50). Water pipe smoking has been found to be a major risk factor of lung cancer in older generation in Vietnam.

Liver Cancer

This cancer ranks the third in males (ASR=22.6 per 100000) and the sixth in females (ASR=5.8) It is the leading cancer in males in Ho Chi Minh City. The age-standardized rate (25.3

per 100000) is also much higher than that in Hanoi (18.9 per 100000), where this cancer ranks third in males. In females, the rate is similar in both cities.

Vietnam is located in the area where the incidence of liver cancer is generally high, due to high prevalence of HBV and HCV infection. The incidence of liver cancer is similar to that of other countries in the region.

Stomach Cancer

It is the second cancer in Vietnamese males (ASR= 23.7 per 100000) and the third in Vietnamese females. The incidence in Hanoi is almost double that of Ho Chi Minh City, the reason of this difference is unknown and is the subject of future investigation. The incidence of this cancer in Hanoi is similar to that of Chinese population in the region.

Nasopharynx Cancer

Vietnam is located in the area where the incidence of nasopharynx cancer is high (ASR is 7.5 per 100000 in males and 3.2 per 100000 in females). This cancer in Hanoi (ASR 10.7 in males and 5.1 in females) is much more frequent than in Ho Chi Minh City (where the ASR is 5.1 and 1.5 respectively). The reason of difference is unknown.

Breast Cancer

Although it is the leading cancer in females in the country but the incidence of this cancer is relatively low as compared to the data of developed countries and closer to the low risk population in the region (ASR=17.4 per 100000). It is the leading cancer in Hanoi and the rate is also higher than that of Ho Chi Minh City where it ranks the second in females (see Figure 3).

Cervix Cancer

It is the second cancer in Vietnamese females. This cancer is distinguished by big regional difference in the country. The incidence of this cancer in Ho Chi Minh City is typical for a high-risk population. It is close to the rate in other populations in the region but almost four times higher than that in Hanoi (see Figure 4). The rate of this cancer in Hanoi is closer to that of low risk populations.

A recent survey carried out by National Cancer Institute and Hung Vuong Hospital in collaboration with IARC has found that the prevalence of HPV infection in Ho Chi Minh City is four times higher than that in Hanoi.

Problems of Cancer Registration in Vietnam

The data of cancer registries in Hanoi and Ho Chi Minh City display very important role in many research hypothesis formulating and are crucial in cancer control program planning in Vietnam. Nevertheless, estimation of cancer burden for a nation with more than 70 million population with obvious regional variation in cancer pattern based only on cancer data from 10% of population covered by the registries would not be ideal. More of population based cancer registries should be established in the country, in particular in rural areas.

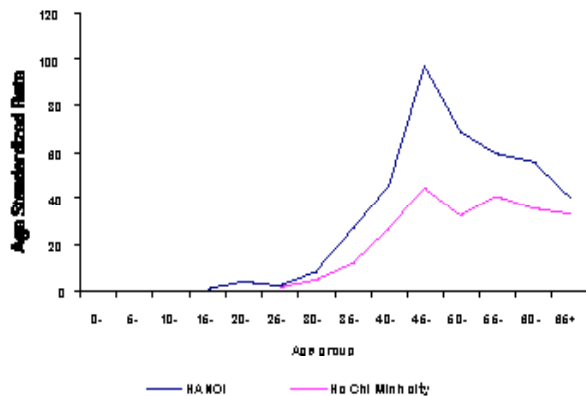


Figure 3. Age-specific Rate of Breast Cancer, 1995-1996

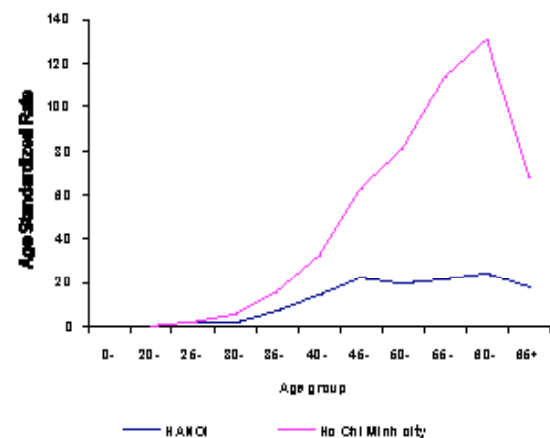


Figure 3. Age-specific Rate of Cervix Cancer, 1995-1996

Cancer registration in Vietnam has to deal with many problems: The shortage of financial and human resources is limiting the quality of cancer registry activities. Cancer registration is a non profit activity, in Vietnam, both cancer registries are founded by two biggest cancer institutes, but only as an “additional”, “voluntary” activity of these institutions and not officially funded by government.

Quality of primary data

Data are collected retrospectively and the quality would depend on the quality of the primarily collected data.

Change of population at risk

Vietnam is on the way of development and the subject to a big migration movement: from region to region; from rural to urban area. The administrative –geographical division of country is also subject to change. These cause additional problems for cancer registries in population at risk definition.

Lack of mortality data

This is another problem of cancer registries in Vietnam. Although the death registration is carried out in Vietnam, medical cause of death is not a mandatory piece of information.

Name similarity

The Vietnamese population like the Chinese, use relatively few family and given names, This fact causes problems for cancer registries in distinguishing cases for duplicate verification.

Contacts

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