RESEARCH COMMUNICATION

Cancer Mortality in a Hanoi Population, Viet Nam, 1996-2005

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Abstract

Background: Hitherto, cancer mortality data have not been available in Viet Nam, so that the real public health problem with this disease has yet to be addressed and recognized in the country with a population of over 80 million in South East Asia. The aim of the present pilot study was to examine cancer mortality in a commune population of Hanoi city, 1996-2005. Methods: Cancer data was accessed from the database of the population-routine-based death registration performed by medical workers at commune health stations based on the guidelines of the Ministry of Health at Hanoi city. All deaths occurring in the community were registered. This registration process was monthly reviewed for each fatal case regarding the name, age, sex, address, occupation, date - place - cause of death, and information concerning to pre - death medical care during the study period from Jan. 1996 to Dec. 2005. The list of death and residents of the study population was carefully cross-checked with other information sources to avoid under- or over-registration. The world population structure was used to estimate Age-standardized cancer mortality rates per 100,000, (ASR). Results: During 60,770 person-years estimated from Jan. 1996 to Dec. 2005, 320 deaths and their causes were registered. Among them, 100 cancer cases of all sites (66 males and 34 females) were included. Cancer mortality rates were 222 and 109 (Crude), 353 and 115 (ASR), for males and females, respectively. For both genders combined, lung cancer was the most common, 27 cases, followed by liver, 26 cases and stomach, with 19. Proportion of death from cancer was about 31% of all causes. Conclusions: The present findings suggest that in Viet Nam, a developing country, cancer is indeed an important public health problem.

Key Words: Cancer mortality - population-based-routine-death registration - developing countries - Viet Nam

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Introduction

Nationwide, cancer mortality in 2002 in Viet Nam was estimated from incidence and survival data and aged-standardized rates were 116 and 67 per 100,000 in males and females, respectively (IARC, 2002). Population-based cancer registries in Hanoi Capital in the North and Ho Chi Minh City in the South have provided incidence data (Anh et al., 1997; Quoc et al., 2000; Quoc et al., 1998). Hanoi and Ho Chi Minh Cities are two largest cities in Viet Nam and health care facilities and quality of medical records continue to undergo development so that data accuracy and completeness in this environment during 2002 might be limited and the Globocan estimation of cancer incidence and mortality might be underestimated. Data of population-based cancer survival in Viet Nam are not available to our knowledge. The aim of the present pilot study was therefore to examine cancer mortality in a defined population within Hanoi city in northern Viet Nam for the last decade from 1996 to 2005.

Materials and Methods

We analyzed cancer mortality for Thuong Cat commune, a suburban area of Hanoi City because there are clear data for population and lists of deaths with their cause. Death registration has been doing very well for each case by the head of the commune health station from 1996 to 2005 using the manual book entitle 'A6-YTCS' designed and issued by the Minister of Health to record and registry the cause of death at the community level.

Population numbers, for males and females, respectively were 2828 and 2918 (1999), 2966 and 3087 (2000), 2975 and 3127 (2001), 3091 and 3119 (2002), 3220 and 3387 (2003), 3282 and 3368 (2004). To estimate person-years for the 10 year-period, we multiplied the mean number of population for the two years 2000 and 2001 by ten for each sex. We estimated population numbers for age groups of 1-9, 10-19, 20-29, 30-39, 40-49, 50-59, 60-69, 70-79 and 80+ according to the age structure based on the 1999 national census for this commune.

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All deaths occurring in the communities were registered at the commune health station. This registration process was monthly reviewed for each fatal case regarding the name, age, sex, address, occupation, date - place - cause of death, and information concerning to pre - death medical care. From 1996 to 2005, the head position of the commune health station was occupied by only one person. He made medical records for each morbidity case who was a resident of the commune at least 6 months, then follow-up until the end result, such as health recovered or fatal case. For the patient who admitted a hospital or a higher level of health care facilities, he visited their household after he or she had checked out the hospital and returned home immediately and reviewed the final diagnose and related medical information. By this follow-up process, all deaths in the list were described the cause of death by the hand-write of the head of commune health station. From 1996 to 2005, the list of deaths was consecutively registered by the date-month-year of death clearly with all mentioned information of the name, age, sex, address, occupation, date - place - cause of death, and information concerning to pre - death medical care. To check data completeness, we roughly estimated crude death rate (527 per 100,000 person-year) and compared with its estimation for the country during 1996-2005 (From 470 to 600 per 100,000 person-year) made by the Ministry of Health. That is, the estimated crude death rate of the study population was ranked within the estimated data by the Ministry of Health. Therefore, data of accuracy and completeness of all deaths in general and cancer in particular was believable and to be used for the present pilot study. The list of death and residents of the study population was carefully cross-checked with other information sources to avoid under or over registration. Such as, all residents were computed from 2000 to 2005 by the Committee of Family Planning and all deaths from 2000 to 2005 were also registered in a list book. Population number and the list of deaths was exactly the same between these two dependent data sources. Cancer sites were coded following ICD-9. The world population structure was used to estimate age-standardized cancer mortality rates per 100,000 (ASR).

Results

Estimated person-year number was 29,700 and 31,070 for males and females, respectively. In males, the study population was distributed into all specific age-groups from 1-9 (4823) to 80 or higher (106). The largest numbers of person-years were 6,728 for males for the age group 20-29 and 6,650 for the age group 10-19 in females. Person-year numbers in both males and females had a pyramid distribution.

Cancer deaths were numbered 100, 66 in males and 34 in females. Twelve cancer sites were seen as nasopharynx (1 and 2), stomach (10 and 9), liver (23 and 3), pancreas (3 and 1), lung (21 and 6), brain (4 and 1), leukemia (2 and 4 in males and females, respectively). Colon cancer was registered in males only (2). Cancer in females were: breast (4), cervix uteri (2) and ovary (1).

Cancer appeared to occur commonly among younger males, 68% (45 of 66 male cancers) for the ages 1-69 when compared to females, 44% (15 of 34 female cancers). Cancer rates per 100,000 were significantly higher in males than that in females (222 verses 109 per 100,000, (crude) and 353 verses 115 per 100,000, (ASR)), Table 1. Cancer mortality rates in the present study population were significantly higher than that of estimated data for Viet Nam in 2002 in both males (222 verses 84 per 100,000 (Crude) and 353 verses 116 per 100,000 (ASR)) and females (109 verses 53 per 100,000 (crude) and 115 verses 67 per 100,000 (ASR)). Age-standardized rates of cancer mortality in the present study population were also significantly higher than that in Singapore (353 verses 161 per 100,000 in males and 115 verses 109 per 100,000 in females) and in Japan (353 verses 154 per 100,000 in males and 115 verses 82 per 100,000 in females, Table 2.

For all cancers combined, the highest specific cancer mortality rates per 100,000 were seen for the age group 70-79 in both males (3805) and females (1433), followed by the age group 80+: 2,830 in males and 1,096 in females. For lung, the highest specific cancer mortality rates per 100,000 were seen for the age group 70-79 in both males (1903) and females (409).

For liver in males, cancer commonly occurred from the age of 40 to 80+. The highest specific cancer mortality rates per 100,000 were seen for the age group 80+ in both males (943) and females (219). For stomach cancer, cancer rates were continuously increased with ages in both males and females. The highest specific cancer mortality rates per 100,000 were seen for the age group 80+ in both males (1887) and females (658). Both genders combined, lung cancer was the most common: 27 cases, following liver: 26 cases and stomach: 19. Cancer mortality crude and ASR rates per 100,000 were 77 and 106 in males, 10 and 8 in females for lung; 71 and 125 in males, 19 and 20 in females for liver; 34 and 64 in male, 29 and 28 in females for stomach cancer. Proportions of death from cancer were about 31% of all causes of death.

Discussion

The present study findings suggested that cancer was the cause of nearly one third of all deaths during the ten year-period from 1996 to 2005. Thus cancer is a significantly public health problem at the present study population. The present results are consistent with previous study results on cancer in other populations in Viet Nam. That is, cancer caused about 11% of all deaths in midland populations, 24% of all deaths in rural communities of Red River Delta, 23% of all deaths in the Soc Son suburban district of Hanoi City (Huong & Minh, 2002; Mong, 1995). Recently, we found cancer caused about 32-36% of all deaths at some communes in the North Viet Nam according to the official reports by the head of these commune health stations (data is presently under analysis). Common cancers in the present study

Table 1. Number of Cancer Deaths by Age, Sex and Site

	ICD-9	Age-group									All ages	Per cent	Rates per 100,000	
		1-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80+			Crude	ASR
Males														
Nasopharynx	147	0	0	0	0	0	0	0	1	0	1	2	3	-
Stomach	151	0	0	0	1	0	0	4	3	2	10	15	34	64
Colon	153	0	0	0	0	1	0	1	0	0	2	3	7	-
Liver	155	0	0	0	2	9	6	3	2	1	23	35	77	106
Pancreas	157	0	0	0	0	1	0	2	0	0	3	5	10	15
Lung	162	0	0	0	0	2	0	10	9	0	21	32	71	124
Brain	191	0	0	0	0	2	0	0	2	0	4	6	13	20
Leukemia	204	0	0	1	0	0	0	0	1	0	2	3	7	-
Other		0	0	0	0	0	0	0	0	0	0	0	0	-
All sites		0	0	1	3	15	6	20	18	3	66	100	222	353
Females														
Nasopharynx	147	0	0	0	0	0	0	0	2	0	2	6	6	-
Stomach	151	0	0	0	0	0	1	1	4	3	9	26	29	28
Liver	155	0	0	0	0	1	0	0	1	1	3	9	10	8
Pancreas	157	0	0	0	0	0	0	1	0	0	1	3	3	-
Lung	162	0	0	0	1	0	1	0	4	0	6	18	19	20
Breast	174	0	0	0	0	2	0	1	0	1	4	12	13	13
Cervix uteri	180	0	0	0	0	0	0	0	2	0	2	6	6	-
Ovary	183	0	0	0	0	1	0	0	0	0	1	3	3	-
Brain	191	0	0	0	0	0	1	0	0	0	1	3	3	-
Leukemia	204	1	0	0	0	1	0	0	1	0	3	9	10	11
Other		0	0	0	0	0	2	0	0	0	2	6	6	-
All sites		1	0	0	1	5	5	3	14	5	34	100	109	115

population were lung, liver, and stomach that responded to about 82% of male cancers and 53% of female cancers, Table 1.

Cancer mortality rates estimated in the present study may not be complicated by over registration because there were no duplicate records; cancer registration in particular and all death registration in general was performed by one trained medical worker during the ten year-period. He followed up carefully all fatal cases occurring at his commune while giving medical care and also household visiting until the end result as neighborhood relationship as well as a duty of the appointed medical worker position. The crude death rate is believable, so that the present estimated cancer mortality rates can be concluded to reflect the real situation.

The occurrence of cancers of the lung, liver, and stomach could be explained by a highest smoking prevalence among males aged over 15 during 1990 of 73% (Jenkins et al., 1997). A high prevalence of chronic hepatitis B virus infection from 15-20% of the general population and that responded about 94% of all liver cancer in Viet Nam (Cordier et al., 1993). About 70% of Vietnamese are infected during their lifetime by Helicobacter pylori and that causes stomach cancer in Viet Nam (Megraud et al., 1989).

The present study certainly has some limitations regarding the small sample size, and there was no information on histo-pathological diagnoses. Hanoi has about 26 hospitals that have been receiving all cancer patients and all residents of the present study could access and admit into these hospitals during 24/24 daily because the present study population is located in the Hanoi City. Therefore, all cancer patients have good opportunities in receiving medical care for their cancers .

In conclusion, in spite of the certain limitations, the present study results provide a base for cancer control in Viet Nam regarding introduction of a program for primary practical prevention of cancers.

Table 2. Cancer Mortality Rates per 100,000 in Selected Populations and Countries

	Time Period	Male		Female		Method
		Crude	ASR	Crude	ASR	
Hanoi	1996-2005	222	353	109	115	Death registration
Viet Nam	2002	84	116	53	67	Estimation from incidence and survival *
More Developed Regions	2002	259	170	193	103	National data *
Less Developed Regions	2002	90	119	71	83	Estimation from incidence and survival *
Singapore	2002	167	161	129	109	National data *
Japan	2002	304	154	188	82	National data *

Source: * GLOBOCAN, 2002, IARC.

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