RESEARCH COMMUNICATION

Population-based Cancer Survival in Sites in Viet Nam

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Abstract

Background: Very few population-based cancer survival studies have been performed in Viet Nam. The aim of the present study was to estimate observed and relative cancer survival rates in populations of Phu Tho, Hanoi and Hue city. Methods: A retrospective-cohort study was performed for all 12 districts of Phu Tho province (semi-highland area in the north), eight districts of Hanoi city (Capital) and four districts of Hue city in central area). Seven indicators were collected for each case of cancer death: name, age, sex, date of the first diagnosis having cancer, date of death, the cause of death and full address. Two steps were done. Firstly, we collected name, age, sex, date of death, the cause of death and full address; secondly, we collected date of the first diagnosis having cancer by a household visit by trained interviewer. Survival time was calculated from the date of death minus the date of diagnosis for each case of cancer. Observed survival rates for 1-year, 2-years, 3-years, 4-years and 5-years were estimated by the form of survival number multiplied by 100 then corrected for the registered number of cancer cases. For relative survival rates, the observed survival rates were corrected for the general population survival rate. Results: Males and females combined, for all cancer sites, 1-year, 2-year, 3-year, 4-year and 5-year observed and relative survival rates were 23.8%-23.9%, 8.5%-8.5%, 3.8%-3.8%, 2.6%-2.6%, 1.7%-1.7%, respectively. The highest one-year relative cancer survival rate was seen in the capital, Hanoi city (49,8%), followed by Hue city in the central area (24,7%), and the lowest in Phu Tho, north-semi-highland (21.8%). Conclusions: The bettercancer survival in Hanoi than in Phu Tho province, as well as the results overall, point to a need for greater efforts in early detection and treatment, especially in rural areas.

Key Words: Cancer survival - statistics - population-based-routine-death registration - Viet Nam

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Introduction

Hospital based cancer survival for 12 cancer sites was available in Viet Nam using the method of the direct survival rate. That is, one year survival was 62.2% for cervix cancer (Minh et al., 1997). Two years survival was 20.3% for esophagus (Huan and Van, 1999). Five years survival was 24.3% for nasopharynx, 18.0% for stomach, 24.7% for colo/rectal, 36.1% for connective tissue, 57.4% for breast, 51.9% for testis, 71.4% for penis, 64.1% for bladder, and 33.0% for NHL (Hien, 1962; Loan and Duy, 1993; Van, 1993; Xuan and Hieu, 1993; Thoi, 1995; Trieu et al., 1995; Nghi and Dong, 1995; Duc and Mo, 1995; Nghi et al., 1999; Dinh et al., 1999; Hung et al., 1999). These survival rates were estimated for cases that have been well treated and operated on. Therefore, this data might not be represented a real cancer survival in Viet Nam.

Very few population-based cancer survival studies have been performed in Viet Nam. The aim of the present study was to estimate observed and relative cancer survival rates in populations of Phu Tho, Hanoi and Hue city.

Materials and Methods

A retrospective-cohort study has been performed for the present study at all 12 districts of Phu Tho province (Semi-highland areas in the North), eight districts of the Hanoi city (Capital of Viet Nam in the North) and four districts of the Hue city in Central areas of Viet Nam). Seven indicators were collected for each case of cancer death included name, age, sex, date of the first diagnosis having cancer, date of death, the cause of death and full address. Two steps were done, firstly, we collected six indicators included name, age, sex, date of death, the cause of death and full address; secondly, we collected date of the first diagnosis having cancer.

For the first step, a list of cancer deaths was prepared and the methods have been introduced elsewhere (Ngoan, 2006a; Ngoan, 2006b). The socialist Republic of Viet Nam introduced a national mortality system in 1992. This unique system relied on commune-level officials providing basic demographic data and information on the cause of death. The information collected is recorded in an official book referred to as the A6. The data from the A6 was collated by the District-level Health Service who in turn forward the information to the Provincial and Central-level governments. There was 67.8% of all 10,769 commune health stations employed a physician. The registration process was monthly reviewed for each fatal case regarding the name, age, sex, address, occupation, date - place - cause of death, and information concerning

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to pre-death medical care. The process of this unique system in collecting cancer data has been introduced elf where. List of all deaths during the two years period, 2005-06, were obtained from all 274 commune health stations at Phu Tho province, 16 communes at the Hanoi city and 8 communes at the Hue city. Six indicators included name, age, sex, date of death, the cause of death and full address was collected for each case of death. A guideline to report demographic data of each commune and information of each case who has been lived at least 6 months in their commune was prepared in the designed form. We also collected the address, name and telephone number of head of commune health station for further telephone interview to validate obtained information of accuracy and completeness if necessary. The data comprises all cancer mortality records which have been extracted from the A6 records at the commune-level for the period 2005-06. All obtained data of cancer deaths werecomputed using Excel software to develop the list of cancer deaths. The Excel data was exported to STATA 8.0 for cancer analysis. Cancer case was coded following ICD-10.

For the second step, the date of first diagnosis having cancer has been registered by household visit by interviewers or by the trained health workers working at the commune health stations. Survival time was calculated in day by the form of the date of death minus the date of diagnosis having cancer for each case of cancer. Observed survival rates for 1-year, 2-years, 3-years, 4-years and 5-years were estimated by the form of surviving number multiple with 100 then corrected for the registered number of cancer cases. For relative survival rate, the observed survival rate was corrected for the general population survival rate. The general population survival rate in Viet Nam was 500/100,000 in 2004 (Ministry of Health Vietnam, 2004).

Results

In Phu Tho province (North-Semi-highland), number of cancer deaths registered in 274 communes was 2,411. Eligible number of cases for the present study for population was 1,547 giving the responded rate of 64.2%. Similar method of estimation, responded rate at capital of the Hanoi city was 34.5% (121/351) and Hue 47.5% (57/120). Total number of eligible cases was 1,725. These cases were coded into 25 cancer sites following ICD-10.

Males and females combined, for all cancer sites, 1-year, 2-year, 3-year, 4-year and 5-year observed and relative survival rate were 23.8%-23.9%, 8.5%-8.5%, 3.8%-3.8%, 2.6%-2.6%, 1.7%-1.7%, respectively (Table 1).

The highest one-year relative cancer survival rate was seen at capital of the Hanoi city: 49,8%, followed by the rate at Hue city at central area: 24,7%, and lowest was seen at Phu Tho – North-Semi-highland: 21.8% (Table 2).

Table 1. Observed and Relative Cancer Survival by Cancer Site

		One year			Two-year			Three-year			Four-year			Five-year			
Site	ICD-10	No	OS	RS	No	OS	RS	No	OS	RS	No	OS	RS	No	OS	RS	Total
Oral, Tongue	C00-10	4	50.0	50.3	2	25.0	25.3	0	25.0	25.4	1	12.5	12.8	0	12.5	12.8	8
Nasopharynx	C11	54	45.5	45.7	21	24.2	24.5	16	8.1	8.2	3	5.1	5.2	2	3.0	3.1	99
Pharynx	C12-14	5			0			0			0			0			5
Esophagus	C15	16	15.8	15.9	2	5.3	5.3	1	0.0	0.0	0	0.0	0.0	0	0.0	0.0	19
Stomach	C16	197	23.6	23.8	49	4.7	4.7	8	1.6	1.6	1	1.2	1.2	1	0.8	0.8	258
Colo-Rectal	C18-20	64	33.3	33.5	16	16.7	16.8	10	6.3	6.3	0	6.3	6.4	2	4.2	4.3	96
Liver	C22	355	17.1	17.1	54	4.4	4.5	11	1.9	1.9	4	0.9	1.0	1	0.7	0.7	428
Gallbladder	C23-24	3			1			0			0			0			4
Pancreas	C25	15	25.0	25.1	4	5.0	5.1	1	0.0	0.0	0	0.0	0.0	0	0.0	0.0	20
Nasal	C30-31	2			1			0			0			0			3
Lung	C33-34	368	22.0	22.1	72	6.8	6.8	19	2.8	2.8	6	1.5	1.5	4	0.6	0.7	472
Heart, Thoracic, Thymus	C37-38	10	16.7	16.8	2	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	12
Bone	C40-41	14	22.2	22.3	4	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	18
Skin	C43-44	0			1			1			0			0			2
Mesothelioma	C45	7	12.5	12.6	1	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	8
Soft	C46-49																
Breast	C50	11	52.2	52.4	4	34.8	35.1	1	30.4	30.9	3	17.4	17.7	2	8.7	8.9	23
Female genital	C51-58	25	21.9	22.0	5	6.3	6.3	2	0.0	0.0	0	0.0	0.0	0	0.0	0.0	32
Ovary	C56	2			0			0			0			0			2
Male genital	C60-63	12	42.9	43.1	2	33.3	33.7	3	19.0	19.3	1	14.3	14.6	1	9.5	9.8	21
Kidney	C64-68	11	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	11
Bladder	C67	7	22.2	22.3	2	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	9
Eye, Brain and Others	C69-72	48	20.0	20.1	5	11.7	11.8	2	8.3	8.5	0	8.3	8.5	1	6.7	6.8	60
Endocrine	C73-75	0			0			0			1			0			2
Leukemia, Lymphoma	C81-96	76	21.6	21.8	13	8.2	8.3	5	3.1	3.1	1	2.1	2.1	1	1.0	1.1	97
Un-specified	US	9	43.8	44.0	3	25.0	25.3	1	18.8	19.0	0	18.8	19.1	1	12.5	12.8	16
	Total	1,315	23.8	23.9	264	8.5	8.5	81	3.8	3.8	21	2.6	2.6	16	1.6	1.7	1,725

No: Number; OS: Observed Survival; RS: Relative Survival

Table 2. Observed and Relative Cancer Survival by Region

Region	One year			Two-year			Three-year			Four-year			Five-year			Total
	No	OS	RS	No	OS	RS	No	OS	RS	No	OS	RS	No	OS	RS	
Phu Tho[1]	1,211	21.7	21.8	231	6.8	6.9	63	2.7	2.8	13	1.9	1.9	10	1.2	1.3	1,547
Hanoi[2]	61	49.6	49.8	24	29.8	30.1	14	18.2	18.5	8	11.6	11.8	5	7.4	7.6	121
Hue[3]	43	24.6	24.7	9	8.8	8.9	4	1.8	1.8	0	1.8	1.8	1	0.0	0.0	57
Total	1,315	23.8	23.9	264	8.5	8.5	81	3.8	3.8	21	2.6	2.6	16	1.6	1.7	1,725

No, Number; OS, Observed Survival; RS, Relative Survival; [1]North-semi-highland; [2]Capital; [3]City in central area

Discussion

The socialist Republic of Viet Nam introduced a national mortality system in 1992. This unique system relied on commune-level officials providing basic demographic data and information on the cause of death. The information collected is recorded in an official book referred to as the A6. The data from the A6 was collated by the District-level Health Service who in turn forward the information to the Provincial and Central-level governments. There was 67.8% of all 10,769 commune health stations employed physician. This existing advantage official grass-root health system network provided an favorable environment to report the cause of death in general as well as cancer in particular for the present study. Three significant findings of the present study were, firstly, to estimate observed and relative cancer survival by cancer sites (Table 1), secondly, to see the results of cancer treatment indicated by the higher 1-year survival rate in the Hanoi city: 49.6% when compared to that in Phu Tho: 21.7% (Table 2), thirdly, commune health station played very important role in monitoring cancer mortality and cancer survival as well as cancer prevention in the near future.

The present study certainly faced some limitations regarding a lack of histo-pathological confirmation of cancer diagnosis. The other limitation was that Viet Nam has not yet provided death certificate to each case made by a license physician. Therefore, accuracy of cancer death report might be differed from each other among commune health stations from remote areas to urban areas. Additional limitations were that responded rate of the present study was rather low from 34-64%.

In conclusion, in spite of some limitations, the present study results were the first database of population-based cancer survival in Viet Nam. A better one-year cancer survival in Hanoi - Capital than that in Phu Tho province - North-Semi-highland promoted us in thinking seriously about how to improvement of cancer patient life and enhancing cancer prevention in Viet Nam and worldwide?

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