

TRENDS IN CANCER MORTALITY DURING 1989-1992 IN UAE

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ABSTRACT

Although cancer registration is still incomplete, data provided by the Ministry of Health regarding deaths due to cancer can be a valuable indicator to examine the trend in cancer mortality in UAE. Cancer emerged as a third leading cause of death in the UAE during 1989-1992. The distribution of reported deaths showed that digestive organs and peritoneum (29.2%), trachea, bronchus and lung (24.1%), female breast cancer (9.9%) and cervix uteri (7%) were the leading types of cancer during this period. The mortality rate increased from 20.6% in 1988 to 23.8% in 1992. In general, men (63%) were more susceptible to cancer than women (47%). The data revealed that Non-UAE nationals (54.4%) were more susceptible to cancer than the UAE nationals (45.6%) and the incidence rates for cancer seem to increase with age. The most common cancers which led to death among males were cancer of the trachea, bronchus and lung (30.3%). Also, the most common cancers in females were cancer of the trachea, bronchus and lung (27.3%). There was no significant difference in the distribution of cancers by site, age and gender between UAE and non-UAE males. Several factors are associated with various types of cancer. These factors have not, however, been studied in detail but the change in dietary patterns, smoking habits and environmental pollution may be responsible in part for the prevalence of some types of cancer in UAE. Reliable registration of cancer morbidity and mortality, as well as epidemiological studies on the risk factors for cancer in UAE are essential steps to control the incidence of cancer in the country.

Key Words : Cancer, risk factors, UAE.

INTRODUCTION

Cancer has become one of the major causes of death in most developed countries (Boffetta et al., 1993, Davis et al., 1993 and Waldron 1993). Almost all these developed countries have organized research programmes to learn more about the causes and treatments of cancer. This had led to systematic collection and analysis of vast

quantities of cancer data. In addition to research data generated through special studies designed to measure cancer incidence in small populations exposed to carcinogens in a controlled manner, the developed countries have obtained data through cancer registry recording the incidence of different types of cancer by sex and age in large populations (Boffetta et al., 1993 and Simon et al., 1993). Reasons for the changing pattern and the increasing rates for cancer mortality have been controversial. Questions have been raised concerning whether these increases are real or simply the result of changing diagnoses and death certificates reporting (Hoel et al. 1993).

Although cancer registration is still incomplete in UAE, data provided by the Ministry of Health regarding deaths due to cancer can be a valuable indicator to examine the trend in cancer mortality in the country. Therefore, the aim of this paper is to determine the proportional mortality due to different types of cancer and identify the relationship between cancer mortality and some demographic data such as sex, age and nationality.

The data used in this paper were taken from the Annual Reports by the Department of Preventive Medicine (1994) and Department of Planning and Research (1994) at the Ministry of Health in Abu Dhabi. These annual reports include information on socio-demographic characteristics and types of cancer according to the WHO ICD-10 classification of diseases. All cancer mortalities with actual or associated causes underlying deaths which had occurred during the period between 1st January 1989 to 31st December 1992 have been studied. The total number of deaths due to cancer during this period was 788 which represented about 8% of total deaths for the same period.

Cancer mortality

The distribution of deaths due to various types of cancer in the UAE during 1989-1992 is presented in Table 1. The most common cancer which led to death was cancer of the digestive organs and peritoneum (29.2%), followed by cancer of trachea, bronchus and lung (24.1%). Female breast cancer represented 9% of total cancer deaths during this period.

The reported deaths from cancer increased from 145 to 234 deaths during same period, an increase of 38%. This increase may be due to the improvement in diagnosis of cancer since health care has focused recently on early detecting of cancer and providing advanced treatment. The proportion of deaths from cancer of digestive organs and peritoneum decreased significantly in 1992 compared to previous years. While the proportion of deaths due to cancer of trachea, bronchus and lung decreased by 6% each year the percentages of

TABLE 1
Distribution of deaths due to various types of cancer in the UAE during 1989-1992

Cancer by Site	1989		1990		1991		1992		Total [1988-1992]	
	No.	%	No.	%	No.	%	No.	%	No.	%
Digestive Organs & Peritoneum	52	35.9	65	36.7	73	32.3	48	20.5	238	30.4
Trachea, Bronchus & Lung	52	35.9	53	29.9	55	24.3	44	18.8	204	26.1
Female Breast	11	7.5	15	8.5	19	8.4	24	10.3	69	8.8
Cervix Uteri	10	6.9	9	5.1	12	5.3	12	5.1	43	5.5
Other Malignant Neoplasms	20	13.8	35	19.8	67	29.6	106	45.3	228	29.2
Total	145	100.0	177	100.0	226	100.0	234	100.0	782	100.0

Source : Ministry of Health (1993)

deaths from other types of cancer rose steeply from 13.8% in 1989 to 45.3% in 1992. With the absence of data on causes of cancer in this country, it is difficult to explain these trends in cancer deaths.

Males were more susceptible to cancers of stomach and trachea, bronchus and lung than females. Breast and cervix uteri cancers accounted for 36% of deaths from cancer in females (Table 2). There was a slight decline in proportion of deaths due to stomach cancer among both males and females. However, the decline became more apparent in 1992, especially in females, where the percentage of decrease reached 14.3% during the period 1989-1992, compared to 10% in males. The rate differences between males and females in trachea, bronchus and lung cancer fluctuated from year to year, but the gap became clear in 1992 as 28% of deaths in males were due to this type of cancer compared to only 7% in females.

One of the unique demographic phenomena in the UAE is that the proportion of expatriates exceeds the national population (3:1). These expatriates have come from all over the world, making a rare composition of nationalities. In addition, the majority of expatriates are in an active economic age group (20-50 years), and are dominated by males. These demographic characteristics have affected the disease patterns in the community. The health statistics, in consequence, show a significant difference between nationals and non-nationals in some types of diseases, such as infectious diseases, which are more prevalent among non-nationals (Ministry of Health, 1993). Data on cancer deaths indicate that the deaths due to stomach cancer was higher among Emirati (26.1%) than non-Emirati (14.3%). This can be partially attributed to the differences in dietary habits between these two groups. There was, however, no difference between Emirati and non-Emirati in deaths due to other types of cancer for the average of the four years (1988-1992) but there was some differences between these two groups in some types of cancer from year to year (Table 3).

Statistics on cancer deaths by age were only available for 1992, and the age was not registered in 20% of total cancer deaths. Based on available data, there was generally no significant difference between those aged less than 60 and those aged 60 years and over for most types of cancer. The proportion of breast cancer, however, was 25% among women aged less than 60 years and decreased to 16.1% among those aged over 60 years. This again may be due to early detection of this kind of cancer. However, the difference between these two age groups was more apparent for other types of cancer (54% and 61%, for those aged less than 60 years and those aged 60 years and over, respectively).

TABLE 2
Distribution of deaths from various types of cancer among males and females, 1989-1992

Cancer by Site	1989		1990		1991		1992		Total	
	M %	F %	M %	F %	M %	F %	M %	F %	M %	F %
Malignant Neoplasm of Stomach	28.6	24.1	24.6	18.8	23.9	13.1	18.2	9.8	23.4	15.2
Malignant Neoplasm of Colon	4.4	3.7	8.8	5.8	9.2	7.1	3.8	2.9	6.7	4.9
Malignant Neoplasm of Rectum	6.6	1.9	7.0	2.9	4.2	3.6	2.3	2.9	4.8	2.9
Malignant Neoplasm of Trachea, Bronchus & Lung	44.0	22.2	30.7	26.1	30.3	14.3	28.0	6.9	32.4	15.9
Malignant Neoplasm of Female Breast	-	20.4	1.8	18.8	-	22.6	-	23.5	0.4	21.7
Malignant Neoplasm of Cervix Uteri	-	18.5	0.0	13.0	-	14.3	-	11.8	-	13.9
Other Malignant Neoplasm	16.4	9.2	27.2	14.5	32.4	25.0	47.7	42.2	32.3	25.5
Total	% 100.0 (91)	% 100.0 (54)	% 100.0 (114)	% 100.0 (69)	% 100.0 (142)	% 100.0 (84)	% 100.0 (132)	% 100.0 (102)	% 100.0 (479)	% 100.0 (309)

Source : Ministry of Health (1993)

TABLE 3
Distribution of deaths from various types of cancer among UAE and non-UAE nationals, 1989-1992

Cancer by Site	1989		1990		1991		1992		Total	
	UAE %	Non-UAE %	UAE %	Non-UAE %	UAE %	Non-UAE %	UAE %	Non-UAE %	UAE %	Non-UAE %
Malignant Neoplasm of Stomach	28.7	24.6	27.6	16.5	27.2	13.8	22.0	8.0	26.1	14.3
Malignant Neoplasm of Colon	3.7	4.6	3.1	13.0	9.7	7.3	2.8	4.0	4.9	7.0
Malignant Neoplasm of Rectum	3.7	6.2	7.1	3.5	1.0	6.5	3.7	1.6	3.9	4.3
Malignant Neoplasm of Trachea, Bronchus & Lung	33.8	38.5	27.6	30.6	25.2	23.6	17.4	20.0	25.4	26.4
Malignant Neoplasm of Female Breast	6.3	9.2	7.1	9.4	3.9	12.2	11.0	9.6	7.1	10.3
Malignant Neoplasm of Cervix Uteri	7.5	6.1	6.1	3.5	6.8	4.1	5.5	4.8	6.4	4.5
Other Malignant Neoplasm	16.3	10.8	21.4	23.5	26.2	32.5	37.6	52.0	26.2	33.2
%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No.	(80)	(65)	(98)	(85)	(103)	(123)	(109)	(125)	(290)	(398)

Source : Ministry of Health (1993)

Some Factors Associated With Cancer in UAE.

There have been no studies on factors associated with various types of cancer in the UAE. Indicators from some community and hospital-based studies can be helpful for explanation of risk factors for cancer. Based on current smoking patterns, the public health burden of smoking-related-cancers such as oral cavity, pharynx and lung cancers is expected to continue during the next decades. The proportion of deaths for smoking-related cancers varies by sex, age and nationality. A small scale community-based study in the UAE showed that about 9% of women were current smokers, and 39% of husbands of these women were current smokers (Musaiger and Hanaya, unpublished). This indicates a high prevalence of smoking among men, as well as a high prevalence of passive smoking among married women. According to the American Cancer Society (1986) cigarette smoking is responsible for 83% of all lung cancers and smoking accounts for about 30% of all cancer deaths.

The relationships between specific dietary components and cancer are much less well established than those between diet and cardiovascular diseases. Epidemiological studies indicate that a diet that is low in total and saturated fat, high in plant foods, especially green and yellow vegetables and citrus fruits, and low in alcohol, salt-pickled, smoked and salt-preserved foods is consistent with a low risk of some cancers such as those of the colon, prostate, breast, stomach, lung and oesophagus (WHO, 1990). Food Balance Sheet data for UAE (FAO, 1992) reveal substantial changes in food availability over the past 30 years for the country as a whole. Food energy availability increased by 30% during 1961-1990. This increase was associated with a gradual decrease in the proportion of food energy and protein derived from cereals.

Cancer of the digestive organs, especially stomach cancer, is the leading cause of cancer deaths in the UAE. A high incidence of stomach cancer is found in Japan and other parts of Asia, but not in North America or Western Europe where the incidence is low (WHO, 1990). It seems that this kind of cancer is mostly associated with food habits. The high consumption of salt-preserved foods and low intake of fresh vegetables and fruits, may be responsible in part for the high incidence of this type of cancer in the UAE population. Nevertheless, investigations are needed to determine the relationship between food consumption patterns and the high rate of stomach cancer in this population. There may well be other dietary factors that are responsible for the relatively high incidence of stomach cancer in the U.A.E.

Breast cancer is the leading cause of death from cancer for women in the UAE. Several epidemiological studies have associated

breast cancer risk with fiber and fat intake (National Cancer Institute, 1985). Obesity, especially when severe (40% or more above ideal weight for height), is correlated with increased risk of breast, ovarian and uterine cancers (American Cancer Society, 1986). The intake of fat is relatively high among both women and men in the UAE, however, since most women are less active and not working outside home, their energy expenditure is diminished and this lead to a higher incidence of obesity among them compared to men (Musaiger, 1992). Obesity, therefore, may be one of the important factors associated with breast cancer in women in the UAE, though further studies are needed to confirm this conclusion.

CONCLUSION

Cancer deaths in UAE account for about 8% of total deaths and they were ranked as the third leading cause of death in 1992. The problem concerning trends in cancer mortality is that the patients present their complaints at very late stages of the disease. Unfortunately, health education, and the public awareness about cancer is poor. In addition, the expatriates come from many different countries and backgrounds and they ignore the signs and symptoms of cancer which may help in its detection.

The validation, elaboration and updating of cancer data have become issues that need urgent attention in order that prospective strategies for the prevention and control of cancer problems in the UAE can be developed on a sound and scientific basis. The overall long-term objectives of cancer control programmes aim at reducing morbidity and mortality due to cancer in addition to improving the quality of life for cancer patients. The intermediate objectives are related to reducing exposure to risk factors, lowering the incidence of cancer and providing the necessary treatment to prolong disease-free intervals. Reliable morbidity and mortality statistics are essential for the planning, implementation and evaluation of Cancer Control Programmes. Studies on the prevalence of several types of cancer, as well as risk factors for the incidence of cancer in the community should be given a high priority.

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