

Available data on cancer in the south-eastern governorates of Yemen

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البيانات المتاحة عن السرطان في المحافظات الجنوبية الشرقية باليمن أمين أحمد باوزير وجمال عبد الحميد وإميليو موراليس

خلاصة: لقد درسنا توزيع حالات السرطان بحسب الجنس والسن ومنطقة الإقامة والجهاز والعضو المصاب لدى 685 مريضاً تم تحديدهم من خلال سجل المعالجة التي تمت خارج البلاد لدى الإدارة الصحية بعدن. وتبين أن أكثر الأورام الخبيثة شيوعاً، باستثناء المواضع النوعية الخاصة بكل جنس، هي أورام الجهاز الهضمي (19.4%) واللمفومات (16.4%) وأورام الرأس والرقبة (13.2%) وأورام العظام وأورام الأنسجة الرخوة (12.2%) وأورام الغدة الدرقية (11.2%). أما الأورام الأكثر شيوعاً بين الذكور فكانت أورام الجهاز الهضمي واللمفومات وأورام الرأس والرقبة وأورام العظام وأورام الأنسجة الرخوة وابيضاض الدم. وفي النساء كانت الأورام الشائعة هي أورام الثدي وأورام أعضاء الجهاز التناسلي وأورام الغدة الدرقية وأورام الجهاز الهضمي واللمفومات.

ABSTRACT We studied the distribution of cancer by sex, age, region of residence and system and organ affected of 685 patients obtained through the Treatment Abroad Register of the Aden Health Office (1989–1983). The most common malignancies, excluding specific sites for each sex, were gastrointestinal tract (19.4%), lymphoma (16.4%), head and neck (13.2%), bone and soft tissue (12.2%) and thyroid (11.2%). The most common malignancies among males were gastrointestinal, lymphoma, head and neck, bone and soft tissue and leukaemia; and among females were breast, female gonital system, thyroid, gastrointestinal and lymphoma.

Données disponibles sur le cancer dans les Gouvernorats du Sud-Est du Yémen

RESUME Nous avons étudié la répartition des cas de cancer par sexe, âge, région de résidence, système et organe affectés chez 685 patients recrutés grâce au Registre des cas de cancer traités à l'étranger du Bureau sanitaire d'Aden (1985-1993). Les tumeurs malignes les plus courantes, en laissant de côté les localisations spécifiques au sexe, étaient celles des voies digestives (19,4%), le lymphome (16,4%), celles de la tête et du cou (13,2%), celles des os et des tissus mous (12,2%) et celles de la thyroïde (11,2%). Les tumeurs malignes les plus courantes chez les hommes étaient celles des voies digestives, le lymphome, celles du cou et de la tête, celles des os et des tissus mous et la leucémie; chez les femmes, il s'agissait du cancer du sein, des tumeurs malignes du système génital, de la thyroïde, des voies digestives et du lymphome.

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Introduction

Cancer is now considered a world health problem. It has been reported that in 1980 more than six million cases of cancer and four million deaths from the disease occurred annually worldwide [1]. According to WHO [2], in 1985 those figures increased to 9 million cases and 5 million deaths and the projection for 2015 is 15 million cases with 9 million deaths. Cancer is often regarded as a problem principally of industrialized countries, but it is also a major problem in developing countries [3].

Profound demographic, socioeconomic and behavioural changes have taken place in the Eastern Mediterranean Region (EMR) over the past three decades. Longevity has progressively increased, and there has been a steady shift from traditional and rural ways of life to more urbanized and modern lifestyles. With modernization, lifestyles linked with physical inactivity, smoking and new eating habits have emerged which promote noncommunicable diseases, including cancer [4]. Approximately 361 000 new cancer cases occurred during 1985 in the Eastern Mediterranean Region, which was 4.7% of the total cancer cases in the world [5].

The Republic of Yemen lacks a national cancer register and there are no reliable data available. However, if we consider the WHO recommendation for estimating cancer incidence (100 per 100 000 for countries with more than half of the population under 20 years of age) [2], the number of new cases in Yemen should be around 16 000 annually. WHO has stressed that, where awareness of cancer is low and access to health care is limited, few of the actual cases of cancer (perhaps only 5%–10%) will be known to the health services. As awareness increases, so will demand for care and thus the burden on health service resources [2].

This paper is an attempt to study the prevalence of cancer in Aden and adjacent governorates through the information registered in the Register for Treatment Abroad of the Ministry of Public Health (Aden branch). This register is not a cancer register but is the only source of information available to give us an idea of the situation. It contains information on patients with diseases for which there are no facilities for treatment in Yemen and who require treatment abroad with governmental support.

Subjects and methods

This descriptive retrospective study was performed using the Register of Treatment Abroad of the Ministry of Public Health (Aden branch). A retrospective search for all cases with cancer included in the Register from 1989 to 1993 gave us a preliminary list of patients. A search was then made for all these cases in the Register of the Pathology Department of Al-Jumhouria Teaching Hospital, which is a more reliable registry for the majority of cases. In this study, those who had cancer which was confirmed histopathologically were included. Cases of confirmed cancer found in the Pathology Register, but not in the preliminary list, were also included. Thus, 685 patients with cancer, confirmed histopathologically, were included in the study.

Because of the source of information used, the sample was not representative of the population or the real pattern of cancer in the governorates involved and thus our results and considerations refer only to the cases included in the above-mentioned register. Information on sex, age, region of residence and system or organ affected were collected from each person.

Results and discussion

The 685 cases included in the study were grouped by different systems and organs affected and sex as shown in Table 1. Cancer was more frequent in females (53.3%) than in males (46.7%). The most common cancers were gastrointestinal (14.3%), breast (12.4%), lymphoma (12.1%), female genital system (11.7%) and head and neck cancer (9.8%). In a recent paper about the pattern of cancer in Medina Al-Munawara region, Saudi Arabia [6], the first five causes were gastrointestinal, lymphoma, leukaemia, head and neck and breast, a pattern very similar to the one we

observed in our study. Gastrointestinal cancer has also been reported as the most common by other authors in Saudi Arabia [7,8]. According to WHO [2], gastrointestinal cancer is more common than in other sites in China, Colombia, Japan and Senegal, while another report [9] indicates that it is the most common cancer worldwide. However, in the Eastern Mediterranean Region, WHO has reported other sites rather than gastrointestinal as the most common in Cyprus, Egypt, Iraq, Jordan, Kuwait, Lebanon, Morocco, Qatar and Sudan. Only in the United Arab Emirates is it the most common [10].

Table 1 Distribution of patients by affected site and sex, 1989–1993

Site	Male		Female		Total		Male:female ratio
	No.	% ^a	No.	% ^a	No.	% ^a	
Gastrointestinal	64	20.0	34	9.3	98	14.3	1.9
Breast	–	–	85	23.3	85	12.4	–
Lymphoma	53	16.6	30	8.2	83	12.1	1.8
Female genital system	..	..	80	21.9	80	11.7	..
Head and neck	47	14.7	20	5.5	67	9.8	2.4
Bone and soft tissue	42	13.1	20	5.5	62	9.1	2.1
Thyroid	10	3.1	47	12.9	57	8.3	0.2
Leukaemia	33	10.3	21	5.8	54	7.9	1.6
Central nervous system	18	5.6	13	3.6	31	4.5	1.4
Eye	10	3.1	8	2.2	18	2.6	1.3
Kidney and urinary tract	15	4.7	1	0.3	16	2.3	15.0
Lung and pleura	12	3.8	–	–	12	1.8	–
Male genital system	7	2.2	..	..	7	1.0	..
Prostate	7	2.2	..	..	7	1.0	..
Miscellaneous	2	0.6	6	1.6	8	1.2	..
Total	320	46.7	365	53.3	685	100.0	–

^aPercentage computed in regard to the total by sex

Table 2 Distribution of cancer by age group and sex, 1989–1993

Age group (years)	Male		Female		Total		Male:female ratio
	No.	%	No.	%	No.	%	
0–9	13	4.1	7	1.9	20	2.9	1.9
10–19	30	9.4	19	5.2	49	7.2	1.6
20–29	40	12.5	36	9.9	76	11.1	1.1
30–39	44	13.8	73	20.0	117	17.1	0.6
40–49	38	11.9	90	24.7	128	18.7	0.4
50–59	68	21.3	52	14.2	120	17.5	1.3
60–69	68	21.3	49	13.4	117	17.1	1.4
70+	18	5.6	16	4.4	34	5.0	1.3
Not specified	1	0.3	23	6.3	24	3.5	..
Total	320	100.0	365	100.0	685	100.0	–

By sex, the five major cancers in males were gastrointestinal (20.0%), lymphoma (16.6%), head and neck (14.7%), bone and soft tissue (13.1%) and leukaemia (10.3%). A study in Alexandria, Egypt [5] showed that the common cancers among males included lung, lymphoma, bladder, stomach and mouth/pharynx. In females, the most common cancers in our study were breast (23.3%), female genital system (21.9%), thyroid (12.9%), gastrointestinal (9.3%) and lymphoma (8.2%). The same study in Alexandria [5] showed that the most common sites of cancer among females were breast, urinary bladder, lymphoma and cervix.

The male/female ratios of the different sites of cancer that could occur in both sexes showed that lung and pleura, and kidney and urinary tract were highly predominant in males. The rest of the sites were more common in males but with ratios ranging from 1.3/1 to 2.3/1 with the exception of thyroid cancer which was more frequent in females.

Table 2 shows the distribution of cancer by age group and sex. In general, the age group most affected was 40–49 years (18.7%). The distribution of male patients by age showed a higher incidence in age groups 50–59 years and 60–69 years with 21.3% of the cases in each. Female patients were most affected in the age group 40–49 years. In general, cancer was more frequent in males than in females in most age groups. Male/female ratios by age group ranged from 1.1/1 to 1.9/1 except in the age group 30–49 years where the frequency was higher in females with ratios of 0.4/1 to 0.6/1.

Table 3 shows the patient distribution by site and age. The age patterns of the most common sites were as follows.

- Gastrointestinal cancer (oesophagus, stomach, colon, rectum, liver, gallbladder and pancreas) was more frequent in the age group ≥ 60 years (50.0%) followed by 50–59 years and 40–49 years.
- Breast cancer increased abruptly in the age group 30–59 years (82.2%) and decreased gradually thereafter.

Table 3 Distribution of patients by affected site and age group, 1989-1993

Site	0-19		20-29		30-39		40-49		50-59		≥ 60		Notspecified		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Gastrointestinal	1	1.0	1	1.0	7	7.1	18	18.4	22	22.4	49	50.0	-	-	98	100.0
Breast	-	-	1	1.2	25	29.4	32	37.6	18	21.2	8	9.4	1	1.2	85	100.0
Lymphoma	20	24.1	15	18.1	24	28.9	7	8.4	7	8.4	9	10.8	1	1.2	83	100.0
Female genital system	2	2.5	4	5.0	13	16.3	18	22.5	12	15.0	15	18.8	16	20.0	80	100.0
Head and neck	6	9.0	7	10.4	5	7.5	15	22.4	16	23.9	18	26.9	-	-	67	100.0
Bone and soft tissue	8	12.9	10	16.1	9	14.5	10	16.1	15	24.2	10	16.1	-	-	62	100.0
Thyroid	5	8.8	10	17.5	16	28.1	7	12.3	8	14.0	6	10.5	5	8.8	57	100.0
Leukaemia	7	13.0	16	29.6	8	14.8	7	13.0	7	13.0	8	14.8	1	1.9	54	100.0
Central nervous system	7	22.6	8	25.8	6	19.4	8	25.8	1	3.2	1	3.2	-	-	31	100.0
Eye	8	44.4	1	5.6	-	-	3	16.7	2	11.1	4	22.2	-	-	18	100.0
Kidney and urinary tract	1	6.3	-	-	-	-	-	-	5	31.3	10	52.5	-	-	16	100.0
Lungs and pleura	-	-	-	-	1	8.3	1	8.3	5	41.7	5	41.7	-	-	12	100.0
Male genital system and prostate	-	-	3	21.4	2	14.3	1	7.1	1	7.1	7	50.0	-	-	14	100.0
Miscellaneous	4	50.0	-	-	1	12.5	1	12.5	1	12.5	1	12.5	-	-	8	100.0
Total	69	10.1	76	11.1	117	17.1	128	18.7	120	17.5	151	22.0	24	3.5	685	100.0

Table 4 **Cancer distribution by region, 1989-1993**

Governorates	No.	%
Aden	402	58.7
Lahej	135	19.7
Abyan	79	11.5
Shabwa	11	1.6
Hadhramout	53	7.7
Not specified	5	0.7
Total	685	100.0

- Lymphoma decreased abruptly beyond the age of 40 years.
- Cancer of the female genital system increased markedly in women aged 30 years and over.
- Head and neck cancer increased markedly in the ages ≥ 40 years.

Cancers seen below 20 years of age were eye, lymphoma, central nervous system, leukaemia and bone and soft tissue.

Table 4 shows the patients by place of residence. More than 50% of the patients were from Aden, followed by patients from Lahej, Abyan, Hadhramout and Shabwa. This does not indicate that the incidence of the disease is lower in those other governorates. We believe that the low awareness of the disease, the few possibilities for treatment and the lack of a register of cancer account for the apparent lower incidence.

If we consider what has been stated by WHO, there is an urgent need for accurate and detailed information in order to discover the real magnitude of cancer in Yemen. In countries of the Eastern Mediterranean Region, the increasing magnitude of cancers calls for urgent action to initiate prevention and control measures [5]. This could be achieved by the establishment of national cancer registers by health ministries where

all institutions (public and private) would send relevant information regarding all patients with a confirmed diagnosis of cancer. Neither preventive programmes nor effective services for prompt and efficient diagnosis and treatment can be performed without such a register.

Conclusions

- The most common cancers found in our study were gastrointestinal, breast, lymphoma, female genital system and head and neck.
- The most common cancers for males were gastrointestinal, lymphoma, head and neck, bone and soft tissue and leukaemia.
- The most common cancers for females were breast, female genital system, thyroid, gastrointestinal and lymphoma.
- In general, cancer was more common in females. However, cancer was more common in men in all the sites where cancer occurred in both sexes with the exception of thyroid cancer.
- In males, cancers were seen in younger and older ages than in female patients.
- The absence of a national cancer register means there is a lack of reliable data for evaluating the real situation of cancer in the country.
- Although the report provides important data on cancer, it highlights the lack of accurate and complete information on cancer incidence and patterns in the Republic of Yemen. It illustrates the need for the establishment of a population-based cancer registry in order to assess the magnitude of the problem, monitor mortality and provide the basis for a national plan for the prevention and control of cancer.

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