



Saudi Arabia 2009

Cancer Incidence Report

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Kingdom of Saudi Arabia  
Ministry of Health  
Saudi Cancer Registry



# Cancer Incidence Report Saudi Arabia 2009

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Ministry of Health  
Saudi Cancer Registry

**Cancer Incidence Report  
Saudi Arabia  
2009**

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## Foreword

The 2009 cancer incidence report represents the twelfth publication for the cancer registry since its establishment in 1992. As stated earlier, our Mission is to provide comprehensive cancer data about incidence of cancer in the Kingdom of Saudi Arabia. Our data undergo extensive quality control performed continuously, which includes IARC edit checks through our CanReg-4 program and through visual review of abstracted cases.

This report shows an increase in cancer incidence rate and number of cases. This increase is likely a combination of better case ascertainment and true increase in cancer incidence. Regardless of the possible cause, we believe quality control is an important issue in our data. For this we are planning an external review of our data and procedures in the coming few weeks. This should strengthen our results and create a solid ground for research on the difference of cancer incidence between Saudi Arabia and neighboring countries.

Unfortunately, we continue to have difficulty with some institution allowing our registrars to collect the data. For this we are using all channels possible to solve these issues and do hope it will not affect our results in the future.

We have finished a 10 year color coding of our reports, so that each year is represented in different color. Starting 2010, we will repeat the colors for each year for easy identification. Also we are re-doing our website to a much user friendly site and hope to be able to attract more researchers to look into our data for better scientific results.

In this report, we have maintained the same standard format as in the previous reports especially the section of the collective data variables since the start of the Saudi Cancer Registry in January 1994 beside the Arabic summary of cancer statistics.

Shouki Bazarbashi, MD  
**Chairman**

## Acknowledgment

The Saudi Cancer Registry is a program funded by The Ministry of Health and its main office located at King Faisal Specialist Hospital and Research Center. This publication is a part of our efforts to make cancer data available to oncologists, researchers, strategic health planners, community care providers, and administrators.

The production of this report reflects the efforts of our valuable cancer registrars, main office staff and members of the board of directors. Special warm thanks to our registrar who maintain patients' confidentiality and travel to every part of the kingdom to collect the cancer cases from different and numerous health facilities.

Special thanks to the support provided by the Ministry of Health represented by his Excellency the Minister of Health Dr. Abdullah Al Rabeeah and the deputy Minister of Health Dr. Mansour Al Hawasi.

The Oncology center at King Faisal Specialist Hospital and Research Center will be moving in 2014 to the new King Abdullah Center for Cancer and Liver Diseases (KACCLD). The hospital leadership represented by his Excellency Dr. Qasem Al Qasabi, has been of our major support in the past and we do hope that this support will continue with the move to the new KACCLD.

Many pharmaceutical companies spare no effort to support us and we feel in debt to them for their generous support.



# Introduction

This is the thirteenth incidence report published by the Saudi Cancer Registry. Previous publications include the Incidence Report for the years 1994-1996, 1997-1998, 1999-2000 and yearly till 2008.

The structure of this report can be outlined as follows:

## Part I Materials and Methods

This part of the report contains information about the background of the Saudi Cancer Registry and methods used in collecting and analyzing the data. We present the basics of coding and classification of tumor topography, morphology and extent of disease at the time of diagnosis. Also we describe the software programs we have used to analyze the data.

## Part II Overview of Cancer Incidence

Part II contains figures and tables that show overall cancer incidence in Saudi Arabia for the year 2009. We present these figures and tables mainly by sex and in certain areas we have it analyzed by different age groups. There are bar charts representing the age distribution of cancer incidence for the year 2009 among Saudis by sex and age groups. We present incidence and morphology tables for the most common types of cancers among adults and children. In addition, tables list the total number of cases, the Age-Standardized Incidence Rate (ASR) per 100,000 population, Crude Incidence Rate (CIR) and Cumulative rates by primary site and sex. Separate bar charts depict the most common types of cancer, by sex.

## Part III Incidence of Selected-Sites

In this part the incidence of the most common cancers among Saudi males and females are outlined. A standardized layout presents data for all patients and for both sexes where applicable. For each selected site the number and the percentage of all newly diagnosed cases for the year 2009, the ASR, morphological differentiation and staging for each sex and the specific cancer rank for both sexes is presented. In addition, ASR for the specified cancer among Saudis is compared with ASR among other populations from selected countries.

## Part IV Cancer Incidence among Non-Saudis

This part presents the incidence of cancer cases among Non-Saudis including the most common types of cancer. The analysis of the Non-Saudis is performed separately due to the nature of the expatriate population in Saudi Arabia. Particularly, a large part of the male and female population falls in the 25- 49 age group.

## Part V Incidence Tables

Part V contains the following detailed tables for all newly diagnosed cancer types among Saudis and Non-Saudis for 2009:

- Distribution of cancer cases among Saudis by age group and sex
- Distribution of cancer cases among Non-Saudis by age group and sex
- Cancer Incidence (per 100,000 population) among Saudis by age group and sex
- Cancer Incidence (per 100,000 population) among Non-Saudis by age group and sex
- Age-standardized incidence rate and relative frequencies among Saudis by cancer site, sex

## Part VI Appendices

**Appendix A:** Regional listing of all health care facilities from which cancer cases have been reported. The objective is to receive feedback from facilities that have not been included in order to improve our case-finding and reporting processes.

**Appendix B:** Names of the members of the Board of Directors.

**Appendix C:** Cancer Registration Abstract Form.

**Appendix D:** Arabic Summary of Cancer Statistics in Saudi Arabia for the year 2009.

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**PART I**  
**MATERIALS AND METHODS**

## Background on Saudi Arabia

Saudi Arabia is a vast country extending over four-fifths of the Arabian Peninsula. It stretches from the Arabian Gulf in the east to the Red Sea in the west. It is approximately 2,149,700\* square kilometers in area and is divided into 13 administrative regions (Figure 1.1).



Figure 1.1 Administrative Regions of Saudi Arabia

The estimated Saudi national population for year 2009 was 18,116,565\*\*. Of these 9,225,451 (50.9%) were males and 8,891,114 (49.1%) were females. The Non-Saudi population in 2009 was 8,218,666\*\*; of these 5,784,650 (70.4%) were males and 2,434,016 (29.6%) females.

Figures 1.2 and 1.3 show the Saudi and Non-Saudi population pyramids by sex and age group respectively.

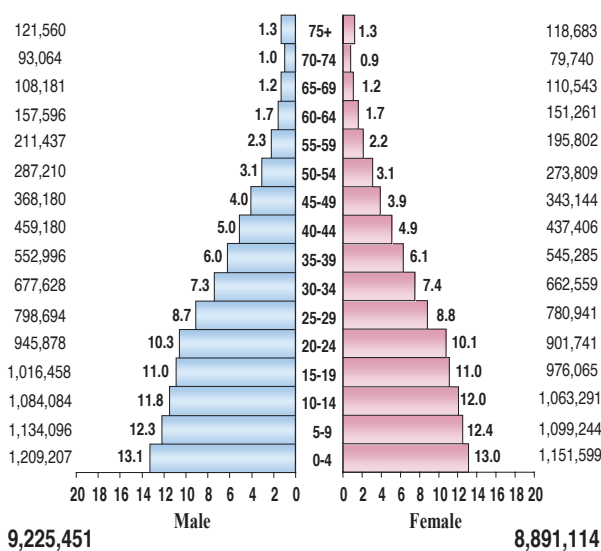


Figure 1.2 Population Pyramid of Saudis (%) by Sex and Age Group, 2009

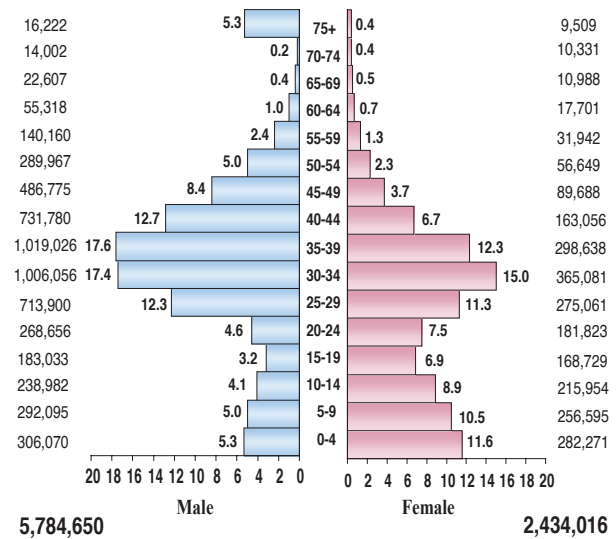


Figure 1.3 Population Pyramid of non-Saudis (%) by Sex and Age Group, 2009

## Saudi Cancer Registry

The Saudi Cancer Registry (SCR) of Saudi Arabia is a population-based registry established in 1992 under the jurisdiction of the Ministry of Health (MOH) by the order of His Excellency the Minister of Health. The SCR commenced reporting cancer cases from 01 January 1994.

### Objectives:

The primary goal of the SCR is to define the population-based incidence of cancer in Saudi Arabia. Additional objectives include programs for early detection and cancer screening, as well as cancer research projects.

### Organizational Structure:

A Board of Directors was appointed to include representatives from the MOH, King Faisal Specialist Hospital and Research Center (KFSH&RC), and the Medical Services Departments of the Ministry of Defense and Aviation, Ministry of Interior, the National Guard, King Saud University, King Faisal University, King Abdul-Aziz University and King Khalid University. The Board is charged with the responsibility of overseeing the SCR's establishment, defining demographic and cancer-related data to be collected, approving research requests, and reporting findings, as well as disseminating information collected while ensuring the confidentiality of all data reported to the SCR.

\* Source: Demographic and Health Indicators for Countries of the East Mediterranean, WHO, Regional Office for the EM, 1999

\*\* Source: 2009 SCR Estimation with 3.2% Growth Rate among Saudis and 2.5% among non-Saudis based on 2010 Census, Central Department for Statistics (CDS) data, Ministry of Planning (website <http://www.planning.gov.sa>).

The SCR Main Office, including administrative and technical staff, is located in the premises of the KFSH&RC in Riyadh. Additionally, five regional branches and four hospital-based offices were set up to ensure comprehensive data collection from all over the Kingdom (Figure 1.4).

**Regional Offices:**

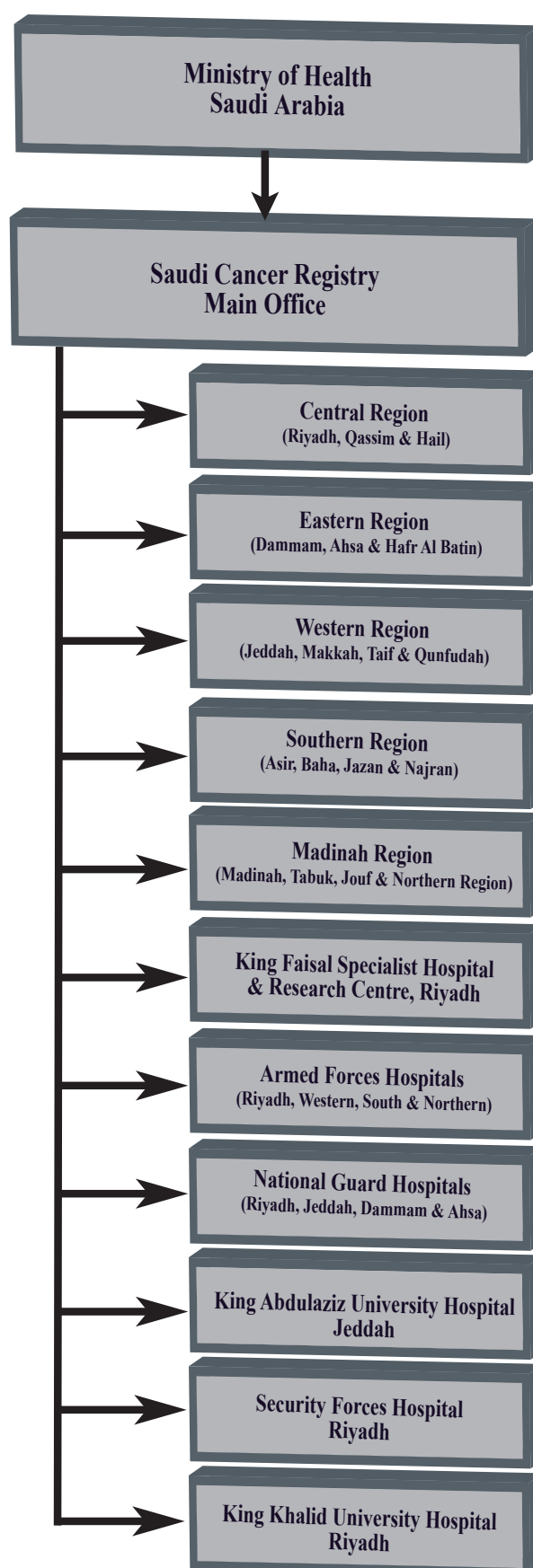
- 1 Central Region: King Fahad Medical City in Riyadh, covering Riyadh, Qassim, and Hail Health Regions.
- 2 Eastern Region: King Fahad Hospital of the University, Al Khobar, covering Dammam, Al Ahsa, and Hafr Al-Batin Health Regions.
- 3 Western Region: King Abdulaziz Hospital and Cancer Center, Jeddah, covering Jeddah, Makkah, Taif and Qunfudah Health Regions.
- 4 Southern Region: Asir Central Hospital, Abha, covering Asir, Baha, Najran, Jazan and Bisha Health Regions.
- 5 Madinah/Northern Region: Maternity and Children Hospital, Madinah, covering Madinah, Tabuk, Jouf and Northern Health Regions.

Offices at the Medical Service Division or Oncology Department of the following establishments:

- 6 King Faisal Specialist Hospital & Research Centre, Riyadh
- 7 Ministry of Defense and Aviation, Armed Forces Hospitals, Riyadh
- 8 National Guard Hospitals, King Abdulaziz Medical City, Princess Norah Oncology Center, Jeddah
- 9 King Abdul Aziz University Hospital, Jeddah
- 10 Ministry of Interior, Security Forces Hospital, Riyadh

Each of the SCR offices operates under the supervision of a member of the Board of Directors who is responsible for the daily management of that office. Staffing consists of tumor registrars and secretarial staff.

The SCR Main Office indirectly supervises the regional offices and is responsible for ensuring the accuracy and quality of data collected in all of the regions. Quality control processes include verification of site, morphology, and staging information as well as case linkage (tumor and patient), and consolidation of data. The Main Office also prepares periodic reports for dissemination of information to the medical community, government establishments, international organizations and the media.



**Figure 1.4 Organizational Chart of the Saudi Cancer Registry of Saudi Arabia**

**Format**

The format of the current report is similar to the previous reports.

## Data management

A ministerial decree has categorized cancer as a mandatory notifiable disease. This ensures the opportunity for comprehensive data collection. The SCR strives for full access to cancer data from all Ministry of Health, governmental and private hospitals, as well as clinics and laboratories throughout the Kingdom. Cancer data are abstracted from patients' medical records, based on clinical and/or histopathological diagnosis, by SCR-trained cancer registrars.

The data abstract (see appendix D) includes personal identification (name, ID Number, sex, age), demographic information (address, telephone number, nationality), and tumor details (diagnosis date, primary site, histology, behavior, grade, stage, basis of diagnosis). The primary site (topography) and histology (morphology) of the malignancies are identified and coded according to the *International Classification of Diseases for Oncology 3rd Edition (ICD-O-3)*, published by the World Health Organization (WHO), 2000.

Effective from year 2001, changes were made in coding of cancer types and behaviors as well as staging according to International guidelines. The new SEER Summary Stage 2000 guidelines should result in increased accuracy and consistency in the coding of stage. There are some differences in the timing rules for determining stage and some sites are coded differently using the new guidelines. However, the new criteria and guidelines should improve the usefulness of staging as a predictor of prognosis and survival as the changes reflect a new understanding of the natural history of cancer. The new guidelines, *SEER Summary Stage Manual 2000*, is available on the web at: <http://seer.cancer.gov/tools/ssm/>. Cases diagnosed on or after 01 January 2008 are classified according to the updated ICD-O-3. Improvements in the understanding of cancer pathology over the last decade are reflected in the changes to ICD-O-3. While there have not been any changes in the primary site codes, there are significant changes regarding histology (cell types). Leukemias and lymphomas, particularly are affected. Some cases that were previously considered benign are now counted as malignant. Also small number of cancers that were previously coded as borderline tumors are now considered benign. Counts of ovarian cancers, lymphomas and leukemias as well as some hematopoietic diseases will change due to changes

in either reportability or definition. However, as with the new staging guidelines, the ICD-O changes reflect advances in the understanding of the pathology and behavior of cancers.

It should be noted that in the 3rd edition of the International Classification of Diseases for Oncology, the behavior code of Myelodysplastic syndromes (MDS) and chronic Myeloproliferative disorders (CMD) was changed from /1, borderline malignancy or low malignant potential, to /3, malignant primary site. These diagnoses became reportable for cases diagnosed in 2001+ when ICD-O-3 went into effect. ICD-O-3 codes are converted to ICD-10 for analysis purposes. Since the WHO has not yet converted the ICD-10 hematopoietic disease behavior changes, our software, CanReg 4.33, cannot include these cases for analysis and they have been excluded.

Every effort is made to accurately code patient and tumor information, to ensure that all data can be reviewed, linked, and consolidated, as appropriate, so that each malignancy is counted only once for statistical analysis.

The computer software programs used for data entry and incidence tables output are *CanReg 4.33*, developed by the International Agency for Research on Cancer, (IARC) Lyon, France.

The second part of the report includes the overall cancer incidence in Saudi Arabia and the relevant epidemiological and clinicopathological details for the 14 most common cancers among Saudi nationals for the year 2009. For each cancer site, the number and the percentage of all newly diagnosed cases for the year 2009, the age-standardized incidence rate (ASR) per 100,000 population for each sex, and the specific cancer rank in comparison to all cancers for both sexes are presented.

Useful international statistics for the specified cancer include the ranking of the cancer worldwide. The source for this information is summarized on page 63.

The relevant data incorporate details for all patients presented over the year 2009. For each cancer there are five figures:

1. An Arithmetic line graph represents the age-specific incidence rate (AIR) for all age groups at five-year intervals. The graph is plotted by sex, where applicable.
2. A Table lists the percentages of the most common histology sub-types for each specific cancer.
3. A Pie chart shows the distribution of the clinical stages of each cancer such as localized, regional, distant metastasis and unknown.
4. A Bar chart shows regional distribution of ASR for particular cancer across the administrative regions by males and females.
5. A Bar chart shows comparison of age-standardized incidence rate (ASR) for each cancer type in Saudi Arabia with ASR in selected countries.

In reviewing the data, its collection and analysis, two qualifying statements can be made:

- a. The number of patients presenting with malignant disease from Riyadh region exceeds the expected number per population. The reason for this is that Riyadh has many referral centers providing patients from outside the region with cancer-related care. Some of these patients don't provide their permanent address, but instead, provide a temporary Riyadh address. This situation is partially resolved through tumor and patient linkage of cases from all regions based on identifiers such as national ID.
- b. As previously noted, the software used in analyzing this report, CanReg 4.33, does not include in situ cases in the incidence tables. These cases were added to the total cancer cases in the overview.

### Notification

The data included in this report were abstracted up to June 2012. 2009 incident cases which are identified after this date (late reporting) will be noted in subsequent incidence reports. It is anticipated that the number of late-reported cases will decrease as case ascertainment processes are improved.

Moreover we don't have up to date statistics because we have to wait until all of the data from the regional cancer branches in Saudi Arabia has been collected before we can publish the annual incidence report. Also, the process of registering a cancer is complicated and there are a number of processes in place to ensure the data is of a high quality. This means there is usually a delay of around 2-3 years before the data is complete enough to be published.

## Definitions of Statistical Terms

### Age-Specific Incidence Rate (AIR)

The number of cancer cases occurring during a specific period in a population of a specific age and sex group, divided by the number of midyear population of that age and sex group.

### Age-Standardized Rate (ASR)

The Age-standardized rate is a summary measure of a rate that a population would have if it had a standard age structure. Standardization is necessary when comparing several populations that differ with respect to age structure. The most frequently used standard population is the World Standard Population (see below). The calculated incidence is known as the World Standardized Incidence Rate. The rate is expressed per 100,000 populations.

Age Class	Population
0-4	12,000
5-9	10,000
10-14	9,000
15-19	9,000
20-24	8,000
25-29	8,000
30-34	6,000
35-39	6,000
40-44	6,000
45-49	6,000
50-54	5,000
55-59	4,000
60-64	4,000
65-69	3,000
70-74	2,000
75+	2,000
<b>Total</b>	<b>100,000</b>

\* Doll R. Payne P. Waterhouse J. Cancer incidence in Five Continents Vol. I. International Union Against Cancer. 1966

## Crude Incidence Rate (CIR)

The crude incidence rate for a cancer site is the total number of cases registered as a proportion of the total population. It denotes the approximate number of cases occurring in each 100,000 individuals. All rates are thus, expressed as per 100,000 population.

Cancer rates vary greatly with age and the crude rate is strongly influenced by the demographic structure of the population. Hence, if the population structure changes over time the crude rate over that period may be artificially altered. It is not appropriate to compare crude rates across geographical areas of cancer registries with different population age structures. Therefore, in order to assess time trends in registration data or compare incidence across geographical areas or between registries it is necessary to first standardize the rates with respect to age.

## Cumulative Incidence rate

Cumulative incidence is the probability or risk of individuals developing the disease during a specified period. For cancer, it is expressed as the number of new born children (out of 100, or 1000) who would be expected to develop a particular cancer before the age of 65 (or 70, or 75) if they had the rates of cancers currently observed. Like the age standardized rate, it permits comparison between populations of different age structures. In this report the age ranges 0-64 and 0-74 years are used. The cumulative rate is the summation of the cancer age-specific rates; which are computed for five-year age intervals. The cumulative rate is five times the sum of the age-specific rates calculated over the five-year age groups.

## ICD-10

The World Health Organization's International Classification of Diseases, tenth edition.

## ICD-O-3

The World Health Organization's International Classification of Diseases for Oncology, 3rd Edition has been the standard coding system for neoplasms for over 25 years. The coding system includes a four character code for primary site, a four-digit numeric code for cell type, one-digit code for behavior and a one-digit code for tumor aggressiveness (grade).

## Incidence Rate

An incidence rate is defined as the rate at which a new event occurs in a population. It is calculated as the number of new cases of disease arising in a population over a defined time period, divided by the population at risk of developing that disease.

## Mean

The simple mathematical average of two or more numbers.

## Median

The midpoint of the range numbers that are arranged in order of value.

## Metastasis

Metastasis is the distant spread of cancer from its original site to other organs of the body, including lymph nodes, skeletal and or visceral organs.

## Range

Is the difference between the maximum and minimum values in a set of observations.

## Rank

This measure reflects the importance of a specific cancer site relative to other sites, in terms of the number of registrations. Ranking illustrates the most and least frequent cancer sites in a population according to their frequency.

## Ratio

The relation between two quantities. The first quantity as numerator and the second as denominator

## Relative Frequency

This statistic is defined as the number of specific cancer cases registered relative to the total number of all cancer. It is expressed as a percentage.

## Summary Stage

Staging is the grouping of cancer cases into broad categories based on the extent of disease.

**PART II**  
**OVERVIEW OF CANCER INCIDENCE**  
**2009**

## Reported Cancer Incidence Cases in Saudi Arabia, 2009

Between January 01 and December 31, 2009, the total number of cancer incident cases reported to the SCR was 13,254. Overall cancer was slightly more among women than men. Cancers affected 6,426 (48.5%) males and 6,828 (51.5%), with a male to female ratio of 94:100. 10,095 cases were reported among Saudis, 2,948 among Non-Saudis and 211 among unknown nationality.

The total number of cases excluded from analysis include 211 cases of unknown nationalities, other exclusions were 291 in situ cases, the current software program CanReg-4 version 4.33, does not include in situ cases in the statistical analysis. Also, 64 were ICD-O-3 coded cases that failed to convert to ICD-10 codes as described in the Data Management (see page 12) and Tables (6.1 and 6.2). This puts the total number of exclusions from the analysis as 571 cases. Table 2.1 illustrates the distribution of the cases by sex.

Diagnosis of malignancy was confirmed histologically in 87.8% of the cases, and haematological & cytologically in 7.1% of cases. Clinically confirmed cases were 0.5%, radiologically confirmed cases were 2.5%, cases confirmed by Death Certificate Only were 1.6% and the method of diagnosis was unknown for 0.5% of the cases.

As shown on Table 2.1, 12,683 cases were analyzed, of which 9,823 (77.5%) were Saudis and 2,860 (22.5%) were Non-Saudis. Among the Saudis 4,618 (47%) were male and 5,205 (53%) were female. The male to female ratio was 89:100. The crude incidence rate (CIR) of all cancers among Saudi Population was 54.4/100,000 (50.1/100,000 among males and 58.6/100,000 among females). The overall age-standardized incidence rate (ASR) for all Saudis with a world standard population reference was 85.5/100,000 (80.9/100,000 in males and 90.1/100,000 in females).

For all sites, the age-specific incidence rate (AIR) increased with age for both males and females. After the age of 64 years, the increase was nearly one and one half fold for males compared to females. The median age at diagnosis is was 60 Range (0-119) years for men and 50 Range (0-109) years for women.

	Saudis			Non-Saudis			Unknown Nationality			All
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Total
Analyzed *	4618	5205	9823	1540	1320	2860	92	115	207	12683
Invasive	4650	5233	9883	1545	1324	2869	92	115	207	12959
In Situ	97	111	208	42	37	79	2	2	4	291
ICD 10 **	29	28	57	4	3	7	0	0	0	64
Total	4746	5349	10095	1586	1362	2948	94	117	211	13254

Table 2.1 Distribution of Cancer Cases in Saudi Arabia by Nationality and Sex, 2009

\* Unknown nationalities, in situ cases and ICD-10 conversion failures are excluded from analysis  
 \*\* ICD-10 conversion failure

## Cancer among Saudis 2009

As explained earlier the total number of cancer cases analyzed among Saudis during the year 2009 were 9,823. Following are figures presenting the percentage distributions of cancer incidence and most frequent types of cancers among Saudis by sex and age-group.

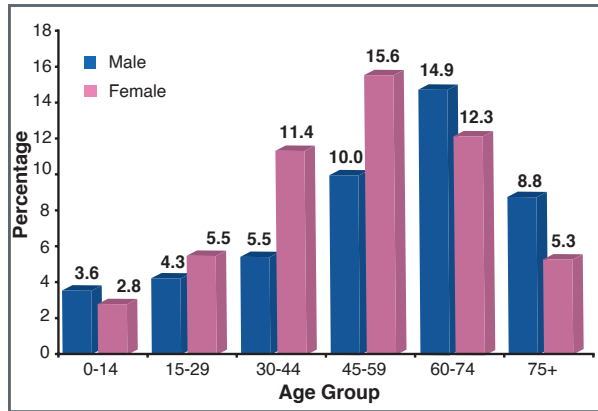


Figure 2.1 Percentage Distribution of Cancer Incidence among Saudis by Sex according to Age Group, 2009

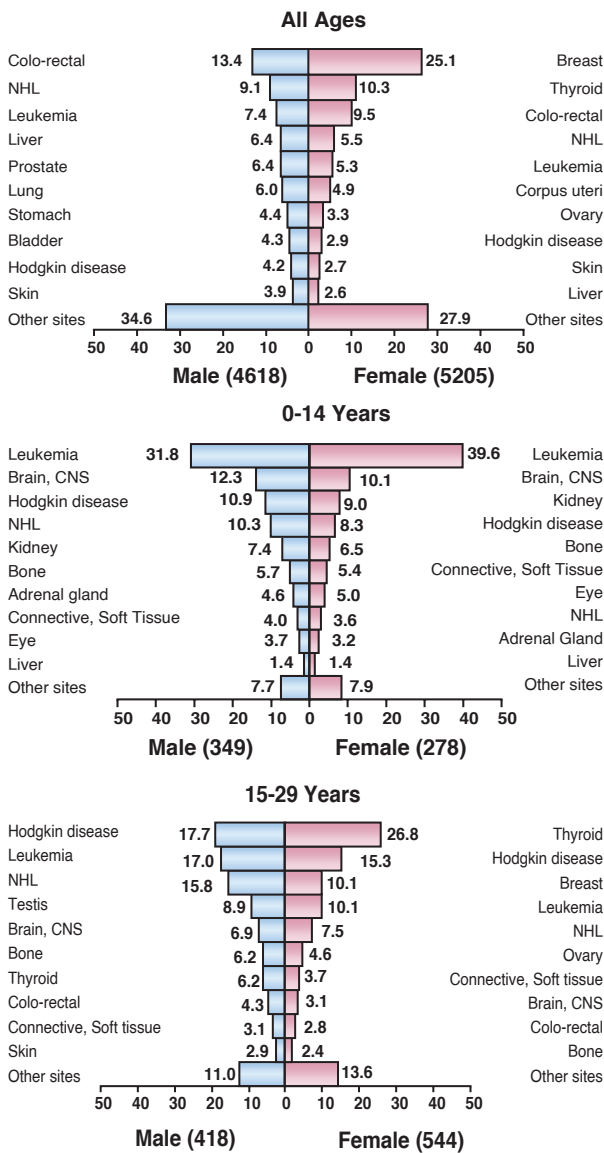


Figure 2.2 Percentage Distribution of Most Frequent Types of Cancer by Sex among Saudis, 2009

Cancer	No.	%
Breast	1331	13.5
Colo-rectal	1109	11.3
NHL	709	7.2
Thyroid	679	6.9
Leukemia	619	6.3
Liver	431	4.4
Lung	379	3.9
Hodgkin disease	344	3.5
Skin	322	3.3
Stomach	313	3.2

Table 2.2 Ten Most Common Cancers among Saudis, 2009 (All Ages)

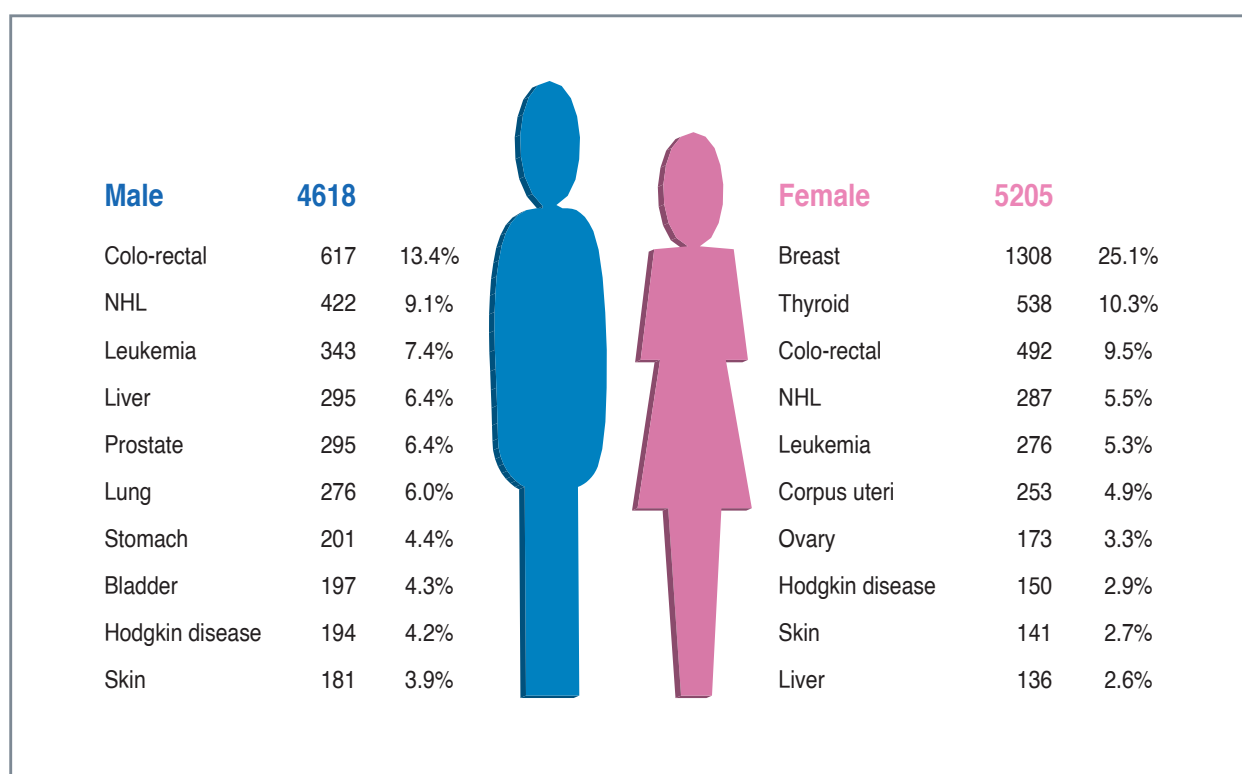


Figure 2.3 Ten Most Common Cancers among Saudis by Sex, 2009

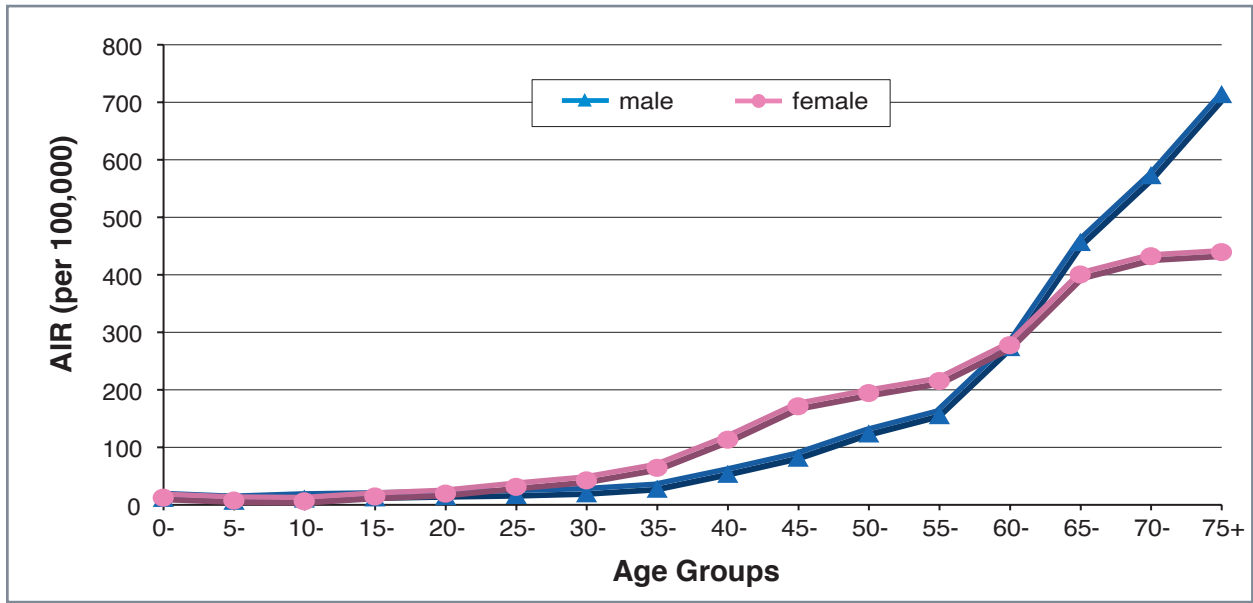


Figure 2.4 Age-Specific Incidence Rates (AIR) for All Cancers among Saudis, 2009

ICD-10	Site	Male						Female									
		No.	%	Crude		ASR		Cumulative Rate		No.	%	Crude		ASR		Cumulative Rate	
				Rate	World	0-64	0-74	Rate	World			0-64	0-74				
All	All sites Total	4618	100.0	50.1	80.9	40.7	92.2	5205	100.0	58.6	90.1	52.4	68.7				
Not C44	All sites but C44	4437	96.1	48.1	77.4	40.7	87.9	5064	97.3	57	87.4	51.1	66.8				
C00	Lip	6	0.1	0.1	0.1	0.1	0.2	8	0.2	0.1	0.2	0.1	0.4				
C01-C02	Tongue	42	0.9	0.5	0.8	0.4	0.9	37	0.7	0.4	0.7	0.5	0.8				
C03-C06	Mouth	39	0.8	0.4	0.8	0.3	1.0	37	0.7	0.4	0.7	0.3	0.9				
C07-C08	Salivary glands	17	0.4	0.2	0.3	0.2	0.3	21	0.4	0.2	0.3	0.2	0.3				
C09	Tonsil	0	0.0	0	0	0.0	0.0	3	0.1	0	0	0.1	0.1				
C10	Other Oropharynx	1	0.0	0	0	0.0	0.0	0	0.0	0	0	0.0	0.0				
C11	Nasopharynx	93	2.0	1	1.5	1.1	1.7	42	0.8	0.5	0.7	0.5	0.7				
C12-C13	Hypopharynx	6	0.1	0.1	0.1	0.1	0.2	11	0.2	0.1	0.2	0.1	0.3				
C14	Pharynx unspecified	1	0.0	0	0	0.0	0.0	3	0.1	0	0.1	0.0	0.0				
C15	Oesophagus	67	1.5	0.7	1.3	0.5	1.4	46	0.9	0.5	0.9	0.4	1.1				
C16	Stomach	201	4.4	2.2	3.9	1.6	4.9	112	2.2	1.3	2.1	1.2	2.5				
C17	Small intestine	30	0.6	0.3	0.6	0.3	0.7	26	0.5	0.3	0.5	0.3	0.6				
C18	Colon	341	7.4	3.7	6.5	3.6	7.5	299	5.7	3.4	5.7	3.4	6.5				
C19-C20	Rectum	276	6.0	3	5.1	3.2	6.1	193	3.7	2.2	3.7	2.4	4.4				
C21	Anus	21	0.5	0.2	0.4	0.2	0.4	14	0.3	0.2	0.3	0.2	0.3				
C22	Liver	295	6.4	3.2	5.9	2.7	7.2	136	2.6	1.5	2.7	1.5	3.4				
C23-C24	Gallbladder etc.	56	1.2	0.6	1.1	0.5	1.2	87	1.7	1	1.8	0.8	2.2				
C25	Pancreas	117	2.5	1.3	2.3	1.2	2.5	82	1.6	0.9	1.7	0.9	2.3				
C30-C31	Nose, sinuses etc.	5	0.1	0.1	0.1	0.0	0.1	5	0.1	0.1	0.1	0.0	0.1				
C32	Larynx	55	1.2	0.6	1.1	0.5	1.5	18	0.3	0.2	0.4	0.2	0.4				
C33-C34	Trachea, Bronchus, Lung	276		3	5.7	2.6	7.4	103	2.0	1.2	2	1.1	2.3				
C37-C38	Other Thoracic organs	17	0.4	0.2	0.3	0.1	0.2	9	0.2	0.1	0.1	0.1	0.1				
C40-C41	Bone	59	1.3	0.6	0.6	0.4	0.4	43	0.8	0.5	0.5	0.3	0.4				
C43	Melanoma of Skin	13	0.3	0.1	0.2	0.0	0.1	8	0.2	0.1	0.1	0.1	0.2				
C44	Other Skin	181	3.9	2	3.5	1.4	4.3	141	2.7	1.6	2.7	1.3	3.0				
C45	Mesothelioma	5	0.1	0.1	0.1	0.0	0.1	10	0.2	0.1	0.2	0.2	0.2				
C46	Kaposi sarcoma	33	0.7	0.4	0.6	0.3	0.6	4	0.1	0	0.1		0.1				
C47;C49	Connective, Soft tissue	70	1.5	0.8	0.9	0.5	0.8	65	1.2	0.7	0.8	0.6	0.6				
C50	Breast	23	0.5	0.2	0.4	0.2	0.5	1308	25.1	14.7	22.7	17.9	24.7				
C51	Vulva	-	-	-	-	-	-	6	0.1	0.1	0.1	0.0	0.2				
C52	Vagina	-	-	-	-	-	-	3	0.1	0	0.1	0.0	0.1				
C53	Cervix Uteri	-	-	-	-	-	-	101	1.9	1.1	1.8	1.3	1.9				
C54	Corpus Uteri	-	-	-	-	-	-	253	4.9	2.8	5.3	3.0	7.1				
C55	Uterus unspecified	-	-	-	-	-	-	28	0.5	0.3	0.6	0.4	0.7				
C56	Ovary	-	-	-	-	-	-	173	3.3	1.9	3	2.0	3.4				
C57	Other Female Genital	-	-	-	-	-	-	8	0.2	0.1	0.1	0.1	0.2				
C58	Placenta	-	-	-	-	-	-	10	0.2	0.1	0.1	0.1	0.1				
C60	Penis	2	0.0	0	0	0.0	0.1	-	-	-	-	-	-				
C61	Prostate	295	6.4	3.2	6.1	1.8	7.7	-	-	-	-	-	-				
C62	Testis	74	1.6	0.8	0.8	0.6	0.6	-	-	-	-	-	-				
C63	Other male genital	2	0.0	0	0	0.0	0.1	-	-	-	-	-	-				
C64	Kidney	174	3.8	1.9	3	1.9	3.6	120	2.3	1.4	1.9	1.2	2.1				
C65	Renal Pelvis	5	0.1	0.1	0.1	0.0	0.1	3	0.1	0	0.1	0.1	0.1				
C66	Ureter	2	0.0	0	0	0.0	0.0	1	0.0	0	0	0.0	0.0				
C67	Bladder	197	4.3	2.1	3.9	1.9	4.9	38	0.7	0.4	0.7	0.3	0.9				
C68	Other Urinary organs	1	0.0	0	0	0.0	0.0	0	0.0	0	0	0.0	0.0				
C69	Eye	28	0.6	0.3	0.4	0.2	0.3	22	0.4	0.2	0.3	0.2	0.2				
C70-C72	Brain, Nervous system	145	3.1	1.6	2	1.2	2.1	103	2.0	1.2	1.5	0.9	1.4				
C73	Thyroid	141	3.1	1.5	2.1	1.4	2.2	538	10.3	6.1	7.6	5.8	7.3				
C74	Adrenal gland	18	0.4	0.2	0.2	0.1	0.1	10	0.2	0.1	0.1	0.1	0.1				
C75	Other Endocrine	5	0.1	0.1	0.1	0.0	0.1	2	0.0	0	0	0.0	0.0				
C81	Hodgkin disease	194	4.2	2.1	2.3	1.5	2.0	150	2.9	1.7	1.7	1.0	1.4				
C82-C85;C96	Non-Hodgkin lymphoma	422	9.1	4.6	6.8	3.6	7.1	287	5.5	3.2	5.1	3.0	5.9				
C88	Immunoproliferative dis.	1	0.0	0	0	0.0	0.1	1	0.0	0	0	0.0	0.0				
C90	Multiple Myeloma	57	1.2	0.6	1.1	0.6	1.3	39	0.7	0.4	0.8	0.5	1.0				
C91	Lymphoid Leukaemia	180	3.9	2	2.3	1.2	1.8	127	2.4	1.4	1.5	0.8	1.3				
C92-C94	Myeloid Leukaemia	145	3.1	1.6	2	1.3	2.1	126	2.4	1.4	1.8	1.1	1.8				
C95	Leukaemia unspecified	18	0.4	0.2	0.3	0.1	0.3	23	0.4	0.3	0.4	0.2	0.3				
All	Other & unspecified	166	3.6	1.8	3.1	1.3	3.7	162	3.1	1.8	3.1	1.6	3.5				

Table 2.3 Number, Percentage, ASR, CIR, and Cumulative Rates (per 1000) of New Cases by Primary Site and Sex among Saudis, 2009

## Adult Cancers in Saudi Arabia, 2009 (>14 years)

Between January and December 2009, the total number of adult cancer incidence cases reported was 12,516. Overall cancer was slightly more in females than in males. Cancer affected 5,844 (48.1%) males and 6,307 (51.9%) females

with male to female ratio 93:100. Of all cases, there were 9,463 Saudis, 2,845 of Non-Saudis and 199 of unknown nationalities. As shown on *table 2.4*, the total number of analyzed cases were 11,952.

	Saudis			Non-Saudis			Unknown Nationality			All
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Total
<b>Analyzed *</b>	4269	4927	9196	1486	1270	2756	89	110	199	11952
<b>Invasive</b>	4299	4954	9253	1490	1274	2764	89	110	199	12216
<b>In Situ</b>	97	110	207	42	37	79	2	2	4	290
<b>ICD 10 **</b>	27	27	54	3	3	6	0	0	0	60
<b>Total</b>	4395	5068	9463	1532	1313	2845	93	115	208	12516

Table 2.4.1 Distribution of Reported Adult Cancer Cases in Saudi Arabia by Nationality and Sex, 2009

Cancer	No.	%
Breast	1330	14.5
Colo-rectal	1108	12.0
Thyroid	677	7.4
Non Hodgkin disease	663	7.2
Liver	422	4.6
Leukemia	398	4.3
Lung	376	4.1
Skin	321	3.5
Stomach	311	3.4
Prostate	294	3.2

Table 2.4.2 Ten Most Common Cancers among Saudi Adults, 2009

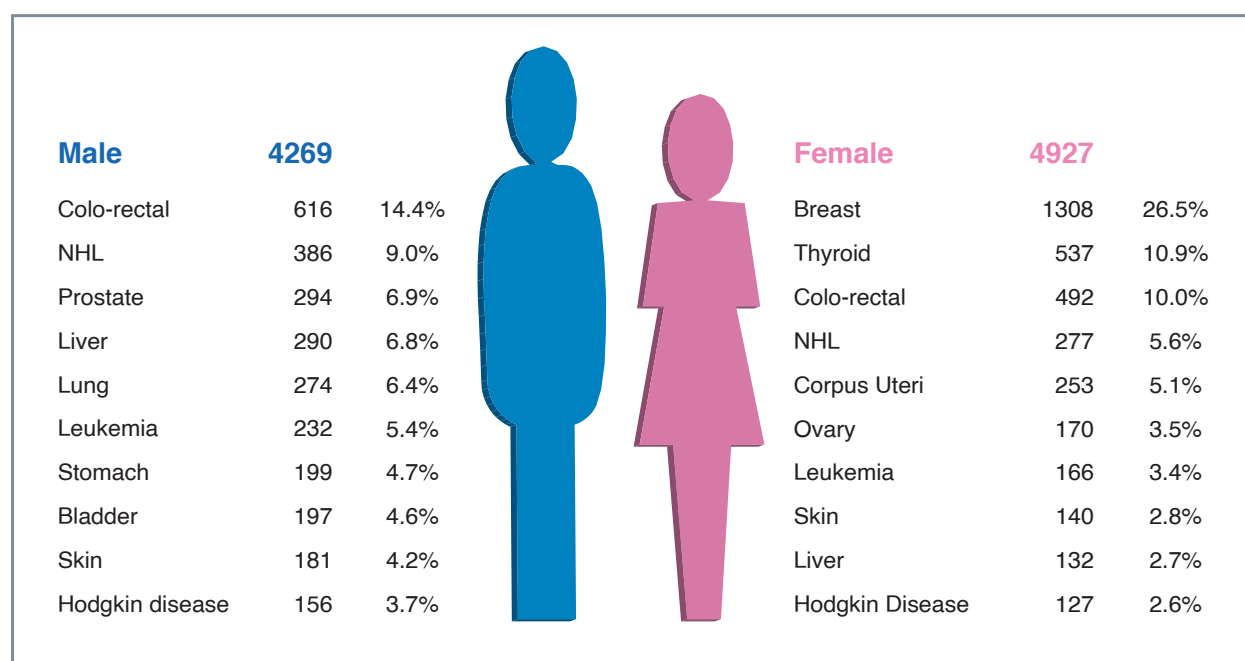


Figure 2.6 Ten Most Common Cancers among Saudi Adults by sex, 2009

\* Unknown nationalities, in situ cases and ICD-10 conversion failures are excluded from analysis  
 \*\* ICD-10 conversion failure

Primary Site	Code	Morphology	Male	%	Female	%
Breast	8500	Infiltrating duct carcinoma, NOS	17	77.3	1023	78.2
	8520	Lobular carcinoma, NOS	0	0.0	83	6.3
	8010	Carcinoma, NOS	1	4.5	41	3.1
	8523	Infiltrating duct mixed with other types of carcinoma	0	0.0	29	2.2
	8000	Neoplasm, malignant	2	9.1	24	1.8
	8140	Adenocarcinoma, NOS	0	0.0	19	1.5
	8522	Infiltrating duct and lobular carcinoma	1	4.5	12	0.9
	8480	Mucinous adenocarcinoma	0	0.0	11	0.8
	8510	Medullary carcinoma, NOS	0	0.0	9	0.7
	8575	Metaplastic carcinoma, NOS	0	0.0	9	0.7
		Other	1	4.5	48	3.7
Colo-rectal	8140	Adenocarcinoma, NOS	461	74.8	382	77.6
	8480	Mucinous adenocarcinoma	53	8.6	28	5.7
	8263	Adenocarcinoma in tubulovillous adenoma	12	1.9	15	3.0
	8000	Neoplasm, malignant	14	2.3	8	1.6
	8490	Signet ring cell carcinoma	12	1.9	9	1.8
	8481	Mucin-producing adenocarcinoma	8	1.3	12	2.4
	8210	Adenocarcinoma in adenomatous polyp	11	1.8	8	1.6
	8261	Adenocarcinoma in villous adenoma	12	1.9	7	1.4
	8144	Adenocarcinoma, intestinal type	8	1.3	7	1.4
	8010	Carcinoma, NOS	8	1.3	3	0.6
	8260	Papillary adenocarcinoma, NOS	5	0.8	3	0.6
		Others	12	1.9	10	2.0
NHL	9680	Malignant lymphoma, large B-cell, diffuse, NOS	208	53.9	155	56.0
	9590	Malignant lymphoma, NOS	26	6.7	16	5.8
	9591	Malignant lymphoma, non-Hodgkin, NOS	27	7.0	14	5.1
	9699	Marginal zone B-cell lymphoma, NOS	16	4.1	12	4.3
	9670	Malignant lymphoma, small B lymphocytic, NOS	15	3.9	8	2.9
	9700	Mycosis fungoides	11	2.8	8	2.9
	9690	Follicular lymphoma, NOS	9	2.3	8	2.9
	9691	Follicular lymphoma, grade 2	8	2.1	9	3.2
	9695	Follicular lymphoma, grade 1	10	2.6	5	1.8
	9698	Follicular lymphoma, grade 3	5	1.3	9	3.2
	9714	Anaplastic large cell lymphoma, T cell and Null cell type	6	1.6	8	2.9
	9687	Burkitt lymphoma, NOS	8	2.1	4	1.4
	9684	Malignant lymphoma, large B-cell, diffuse, immunoblastic, NOS	7	1.8	4	1.4
	9702	Mature T-cell lymphoma, NOS	8	2.1	2	0.7
	9719	NK/T-cell lymphoma, nasal and nasal-type	5	1.3	4	1.4
9709	Cutaneous T-cell lymphoma, NOS	3	0.8	2	0.7	
		Others	14	3.6	9	3.2
Leukemia	9863	Chronic myeloid leukemia, NOS	40	17.2	41	24.7
	9861	Acute myeloid leukemia, NOS	34	14.7	30	18.1
	9823	B-cell chronic lymphocytic leukemia/small lymphocytic lymphom	43	18.5	14	8.4
	9836	Precursor B-cell lymphoblastic leukemia	24	10.3	18	10.8
	9835	Precursor cell lymphoblastic leukemia, NOS	11	4.7	7	4.2
	9801	Acute leukemia, NOS	7	3.0	9	5.4
	9866	Acute promyelocytic leukemia, t(15;17)(q22;q11-12)	5	2.2	9	5.4
	9800	Leukemia, NOS	6	2.6	7	4.2
	9837	Precursor T-cell lymphoblastic leukemia	9	3.9	2	1.2
	9891	Acute monocytic leukemia	6	2.6	4	2.4
	9860	Myeloid leukemia, NOS	3	1.3	4	2.4
	9874	Acute myeloid leukemia with maturation	5	2.2	2	1.2
	9940	Hairy cell leukemia	5	2.2	2	1.2
	9945	Chronic myelomonocytic leukemia, NOS	5	2.2	1	0.6
	9867	Acute myelomonocytic leukemia	3	1.3	2	1.2
	9873	Acute myeloid leukemia without maturation	4	1.7	1	0.6
	9875	Chronic myelogenous leukemia, BCR/ABL positive	4	1.7	1	0.6
	9820	Lymphoid leukemia, NOS	2	0.9	2	1.2
	9896	Acute myeloid leukemia, t(8;21)(q22;q22)	3	1.3	1	0.6
		Others	13	5.6	9	5.4
Liver	8170	Hepatocellular carcinoma, NOS	249	85.9	99	75.0
	8000	Neoplasm, malignant	18	6.2	9	6.8
	8160	Cholangiocarcinoma	8	2.8	5	3.8
	8140	Adenocarcinoma, NOS	4	1.4	5	3.8
	8010	Carcinoma, NOS	3	1.0	4	3.0
	8246	Neuroendocrine carcinoma, NOS	2	0.7	2	1.5
	8180	Combined hepatocellular carcinoma and cholangiocarcinoma	2	0.7	1	0.8
		Others	4	1.4	7	5.3
Prostate	8140	Adenocarcinoma, NOS	265	90.1	-	-
	8000	Neoplasm, malignant	13	4.4	-	-
	8010	Carcinoma, NOS	9	3.1	-	-
	8550	Acinar cell carcinoma	5	1.7	-	-
	8070	Squamous cell carcinoma, NOS	1	0.3	-	-
	8260	Papillary adenocarcinoma, NOS	1	0.3	-	-
Lung	8140	Adenocarcinoma, NOS	84	23.5	35	26.1
	8046	Non-small cell carcinoma	63	17.6	17	12.7
	8070	Squamous cell carcinoma, NOS	64	17.9	16	11.9
	8041	Small cell carcinoma, NOS	46	12.9	9	6.7
	8000	Neoplasm, malignant	23	6.4	11	8.2
	8010	Carcinoma, NOS	19	5.3	9	6.7
	8250	Bronchiolo-alveolar adenocarcinoma, NOS	9	2.5	7	5.2
	8071	Squamous cell carcinoma, keratinizing, NOS	6	1.7	6	4.5
	8246	Neuroendocrine carcinoma, NOS	8	2.2	2	1.5
	8240	Carcinoid tumor, NOS	2	0.6	6	4.5
	8012	Large cell carcinoma, NOS	7	2.0	0	0.0
	8020	Carcinoma, undifferentiated, NOS	5	1.4	0	0.0
	8560	Adenosquamous carcinoma	1	0.3	4	3.0
	8255	Adenocarcinoma with mixed subtypes	3	0.8	1	0.7
	8490	Signet ring cell carcinoma	3	0.8	1	0.7
	8072	Squamous cell carcinoma, large cell, nonkeratinizing, NOS	2	0.6	1	0.7
			Others	12	3.4	9

Table 2.5 Number and Percentage of Morphological Types for the Most Common Types of Cancer among Saudi Adults, 2009

Table 2.5 continued .....

Primary Site	Code	Morphology	Male	%	Female	%	
Stomach	8140	Adenocarcinoma, NOS	92	46.2	37	33.0	
	8490	Signet ring cell carcinoma	49	24.6	46	41.1	
	8144	Adenocarcinoma, intestinal type	16	8.0	8	7.1	
	8936	Gastrointestinal stromal sarcoma	3	1.5	5	4.5	
	8000	Neoplasm, malignant	4	2.0	2	1.8	
	8010	Carcinoma, NOS	4	2.0	2	1.8	
	8246	Neuroendocrine carcinoma, NOS	5	2.5	0	0.0	
	8020	Carcinoma, undifferentiated, NOS	3	1.5	1	0.9	
	8070	Squamous cell carcinoma, NOS	4	2.0	0	0.0	
	8145	Carcinoma, diffuse type	3	1.5	1	0.9	
	8480	Mucinous adenocarcinoma	2	1.0	2	1.8	
	8240	Carcinoid tumor, NOS	1	0.5	2	1.8	
	8260	Papillary adenocarcinoma, NOS	3	1.5	0	0.0	
	8560	Adenosquamous carcinoma	1	0.5	1	0.9	
	8574	Adenocarcinoma with neuroendocrine differentiation Others	1 8	0.5 4.0	1 4	0.9 3.6	
	Bladder	8130	Papillary transitional cell carcinoma	94	47.7	15	40.5
8120		Transitional cell carcinoma, NOS	69	35.0	14	37.8	
8000		Neoplasm, malignant	8	4.1	1	2.7	
8070		Squamous cell carcinoma, NOS	8	4.1	1	2.7	
8071		Squamous cell carcinoma, keratinizing, NOS	4	2.0	2	5.4	
8140		Adenocarcinoma, NOS	4	2.0	1	2.7	
8010		Carcinoma, NOS	2	1.0	1	2.7	
8072		Squamous cell carcinoma, large cell, nonkeratinizing, NOS Others	2 6	1.0 3.0	1 1	2.7 2.7	
Hodgkin Disease	9663	Hodgkin lymphoma, nodular sclerosis, NOS	81	51.9	66	52.0	
	9652	Hodgkin lymphoma, mixed cellularity, NOS	29	18.6	14	11.0	
	9650	Hodgkin lymphoma, NOS	17	10.9	22	17.3	
	9651	Hodgkin lymphoma, lymphocyte-rich	10	6.4	9	7.1	
	9659	Hodgkin lymphoma, nodular lymphocyte predominance	8	5.1	7	5.5	
	9665	Hodgkin lymphoma, nodular sclerosis, grade 1	5	3.2	4	3.1	
	9664	Hodgkin lymphoma, nodular sclerosis, cellular phase	2	1.3	3	2.4	
	9653	Hodgkin lymphoma, lymphocyte depletion, NOS	3	1.9	0	0.0	
9667	Hodgkin lymphoma, nodular sclerosis, grade 2	1	0.6	2	1.6		
Skin	8090	Basal cell carcinoma, NOS	80	44.2	57	40.7	
	8070	Squamous cell carcinoma, NOS	38	21.0	33	23.6	
	8832	Dermatofibrosarcoma, NOS	13	7.2	18	12.9	
	8071	Squamous cell carcinoma, keratinizing, NOS	16	8.8	7	5.0	
	8097	Basal cell carcinoma, nodular	8	4.4	6	4.3	
	8094	Basosquamous carcinoma	6	3.3	1	0.7	
	8410	Sebaceous adenocarcinoma	2	1.1	5	3.6	
	8200	Adenoid cystic carcinoma	0	0.0	4	2.9	
	8051	Verrucous carcinoma, NOS	2	1.1	1	0.7	
	8000	Neoplasm, malignant	2	1.1	0	0.0	
	8083	Basaloid squamous cell carcinoma	1	0.6	1	0.7	
	8091	Multifocal superficial basal cell carcinoma	2	1.1	0	0.0	
	8092	Infiltrating basal cell carcinoma, NOS	0	0.0	2	1.4	
	8095	Metatypical carcinoma	2	1.1	0	0.0	
	8140	Adenocarcinoma, NOS	2	1.1	0	0.0	
	8247	Merkel cell carcinoma Others	1 6	0.6 3.3	1 4	0.7 2.9	
	Thyroid	8260	Papillary adenocarcinoma, NOS	78	55.7	283	52.7
8340		Papillary carcinoma, follicular variant	20	14.3	100	18.6	
8341		Papillary microcarcinoma	14	10.0	50	9.3	
8343		Papillary carcinoma, encapsulated	5	3.6	23	4.3	
8330		Follicular adenocarcinoma, NOS	2	1.4	14	2.6	
8290		Oxyphilic adenocarcinoma	3	2.1	12	2.2	
8335		Follicular carcinoma, minimally invasive	1	0.7	12	2.2	
8510		Medullary carcinoma, NOS	4	2.9	8	1.5	
8021		Carcinoma, anaplastic, NOS	4	2.9	6	1.1	
8050		Papillary carcinoma, NOS	3	2.1	7	1.3	
8000		Neoplasm, malignant	1	0.7	5	0.9	
8344		Papillary carcinoma, columnar cell	0	0.0	6	1.1	
8010		Carcinoma, NOS Others	2 3	1.4 2.1	2 9	0.4 1.7	
Corpus Uteri		8380	Endometrioid adenocarcinoma, NOS	--	--	146	57.7
		8140	Adenocarcinoma, NOS	--	--	34	13.4
	8010	Carcinoma, NOS	--	--	11	4.3	
	8950	Mullerian mixed tumor	--	--	10	4.0	
	8460	Papillary serous cystadenocarcinoma	--	--	7	2.8	
	8930	Endometrial stromal sarcoma, NOS	--	--	6	2.4	
	8310	Clear cell adenocarcinoma, NOS	--	--	5	2.0	
	8441	Serous cystadenocarcinoma, NOS	--	--	5	2.0	
	8461	Serous surface papillary carcinoma	--	--	5	2.0	
	8980	Carcinosarcoma, NOS	--	--	5	2.0	
	8931	Endometrial stromal sarcoma, low grade	--	--	4	1.6	
	8382	Endometrioid adenocarcinoma, secretory variant	--	--	3	1.2	
	8560	Adenosquamous carcinoma	--	--	3	1.2	
	8050	Papillary carcinoma, NOS	--	--	2	0.8	
	8890	Leiomyosarcoma, NOS Others	-- --	-- --	2 5	0.8 2.0	
	Ovary	8460	Papillary serous cystadenocarcinoma	--	--	30	17.6
		8441	Serous cystadenocarcinoma, NOS	--	--	28	16.5
8140		Adenocarcinoma, NOS	--	--	22	12.9	
8480		Mucinous adenocarcinoma	--	--	17	10.0	
8000		Neoplasm, malignant	--	--	15	8.8	
8010		Carcinoma, NOS	--	--	9	5.3	
8380		Endometrioid adenocarcinoma, NOS	--	--	9	5.3	
8461		Serous surface papillary carcinoma	--	--	6	3.5	
9060		Dysgerminoma	--	--	6	3.5	
9080		Teratoma, malignant, NOS	--	--	5	2.9	
8310		Clear cell adenocarcinoma, NOS	--	--	3	1.8	
8260		Papillary adenocarcinoma, NOS	--	--	2	1.2	
8470		Mucinous cystadenocarcinoma, NOS	--	--	2	1.2	
8950		Mullerian mixed tumor	--	--	2	1.2	
9085		Mixed germ cell tumor Others	-- --	-- --	2 12	1.2 7.1	

## Childhood Cancers in Saudi Arabia, 2009 ( $\leq 14$ years)

The total incident cases reported among children (0-14 years) between January and December 2009 were 738. This represents 5.6 % of the total number of cancers in Saudi Arabia. The reported incidents show that cancer was more common among boys than girls. 406 (55%) cases were reported among boys and 332 (45%) among girls, with a male to female ratio of 122:100. Of all the cases reported there were 632 Saudis, 103 non-Saudis and 3 of "unknown nationality". Based on Table 2.6.1, the total number of cases analyzed was 729 including 627 (86%) Saudis and 102 (14%) non-Saudis. Among Saudis, 349 (55.7%) were male and 278 (44.3%) were female. The male to female ratio among Saudis was 126:100.

Childhood cancer is very important, not only because of the age of occurrence, but also because 37.2% of the Saudi population is under 15 years of age. In addition to this, recent years have shown a breakthrough for the cure of many childhood cancers. Childhood cancers accounted for 6.3% of all cancer among Saudis. The leading cancer among Saudi children was leukemia, which accounted for 35.2%, followed by Brain, CNS 11.3% then Hodgkin Disease 9.7% then Kidney 8.1% and NHL 7.3%. Figure 2.7 shows the top ten sites by sex and frequency, and Table 2.7 shows the number and proportion of the morphological types for the most common types of cancer.

	Saudis			Non-Saudis			Unknown Nationality			All
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Total
Analyzed *	349	278	627	53	49	102	1	2	3	729
Invasive	351	279	630	54	49	103	1	2	3	736
In Situ	0	1	1	0	0	0	0	0	0	1
ICD 10 **	2	1	3	1	0	1	0	0	0	4
Total	351	281	632	54	49	103	1	2	3	738

Table 2.6.1 Distribution of Reported Childhood Cancer Cases in Saudi Arabia by Nationality and Sex, 2009

Cancer	No.	%
Leukemia	221	35.2
Brain, CNS	71	11.3
Hodgkin disease	61	9.7
Kidney	51	8.1
NHL	46	7.3
Bone	38	6.1
Connective, Soft tissue	29	4.6
Eye	27	4.3
Adrenal gland	25	4.0
Liver	9	1.4

Table 2.6.2 Ten Most Common Cancers among Saudi Children, 2009

\* Unknown nationalities, in situ cases and ICD-10 conversion failures are excluded from analysis  
 \*\* ICD-10 conversion failure

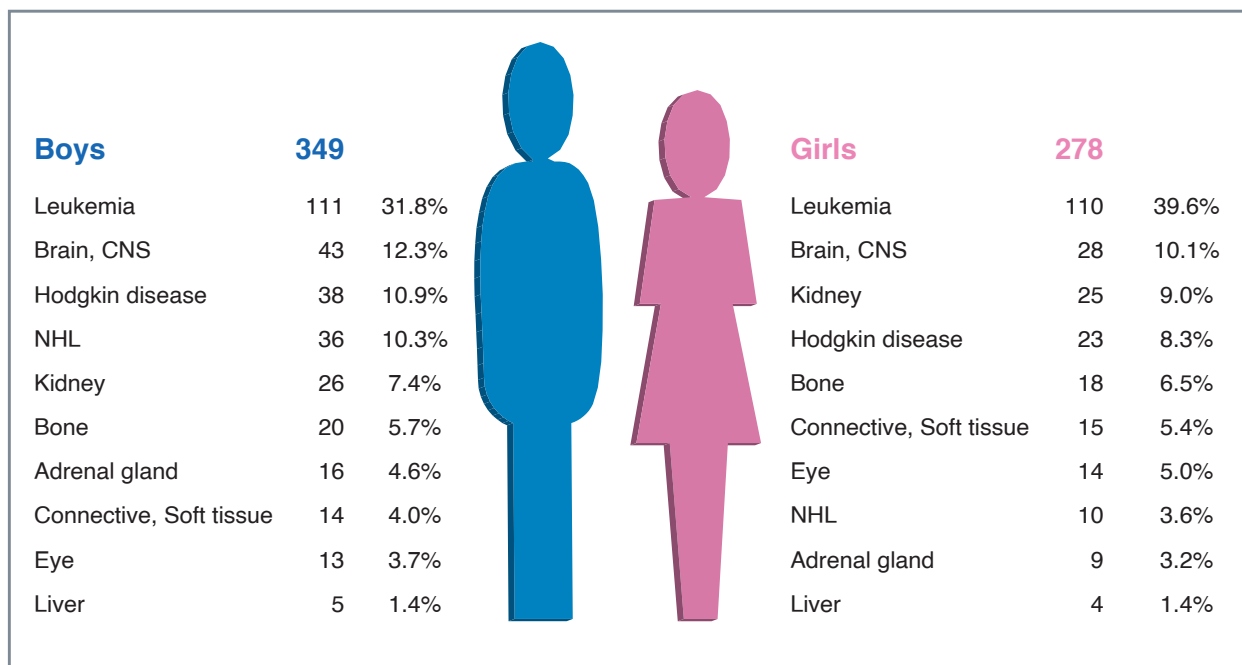


Figure 2.7 Ten Most Common Cancers among Saudi Children by Sex, 2009

Primary Site	Code	Morphology	Male	%	Female	%
Leukemia	9836	Precursor B-cell lymphoblastic leukemia	42	37.8	49	44.5
	9835	Precursor cell lymphoblastic leukemia, NOS	27	24.3	24	21.8
	9837	Precursor T-cell lymphoblastic leukemia	10	9.0	5	4.5
	9861	Acute myeloid leukemia, NOS	6	5.4	9	8.2
	9863	Chronic myeloid leukemia, NOS	6	5.4	2	1.8
	9801	Acute leukemia, NOS	2	1.8	3	2.7
	9826	Burkitt cell leukemia	4	3.6	1	0.9
	9800	Leukemia, NOS	1	0.9	2	1.8
	9866	Acute promyelocytic leukemia, t(15;17)(q22;q11-12)	2	1.8	1	0.9
	9873	Acute myeloid leukemia without maturation	2	1.8	1	0.9
	9874	Acute myeloid leukemia with maturation	2	1.8	1	0.9
	9891	Acute monocytic leukemia	1	0.9	2	1.8
	9805	Acute biphenotypic leukemia	0	0.0	2	1.8
	9840	Acute myeloid leukemia, M6 type	0	0.0	2	1.8
	9867	Acute myelomonocytic leukemia	0	0.0	2	1.8
	9896	Acute myeloid leukemia, t(8;21)(q22;q22)	1	0.9	1	0.9
	9946	Juvenile myelomonocytic leukemia	1	0.9	1	0.9
		Others	4	3.6	2	1.8
Brain, CNS	9470	Medulloblastoma, NOS	20	46.5	9	32.1
	9440	Glioblastoma, NOS	7	16.3	1	3.6
	9380	Glioma, malignant	1	2.3	6	21.4
	9400	Astrocytoma, NOS	4	9.3	1	3.6
	9508	Atypical teratoid/rhabdoid tumor	1	2.3	3	10.7
	9424	Pleomorphic xanthoastrocytoma	1	2.3	2	7.1
	8000	Neoplasm, malignant	1	2.3	1	3.6
	9391	Ependymoma, NOS	0	0.0	2	7.1
	9473	Primitive neuroectodermal tumor, NOS	2	4.7	0	0.0
	8249	A typical carcinoid tumor	1	2.3	0	0.0
	8900	Rhabdomyosarcoma, NOS	1	2.3	0	0.0
	8963	Malignant rhabdoid tumor	0	0.0	1	3.6
	9064	Germinoma	0	0.0	1	3.6
	9393	Papillary ependymoma	1	2.3	0	0.0
	9401	Astrocytoma, anaplastic	1	2.3	0	0.0
	9430	Astroblastoma	0	0.0	1	3.6
	9490	Ganglioneuroblastoma	1	2.3	0	0.0
	9500	Neuroblastoma, NOS	1	2.3	0	0.0

Table 2.7 Number and Percentage of Morphological Types for the Most Common Types of Cancer among Saudi Children, 2009

Table 2.7 continued .....

Primary Site	Code	Morphology	Male	%	Female	%
<b>Hodgkin Disease</b>	9663	Hodgkin lymphoma, nodular sclerosis, NOS	18	47.4	12	52.2
	9652	Hodgkin lymphoma, mixed cellularity, NOS	4	10.5	4	17.4
	9650	Hodgkin lymphoma, NOS	3	7.9	4	17.4
	9659	Hodgkin lymphoma, nodular lymphocyte predominance	3	7.9	2	8.7
	9651	Hodgkin lymphoma, lymphocyte-rich	3	7.9	1	4.3
	9664	Hodgkin lymphoma, nodular sclerosis, cellular phase	2	5.3	0	0.0
	9665	Hodgkin lymphoma, nodular sclerosis, grade 1	2	5.3	0	0.0
	9667	Hodgkin lymphoma, nodular sclerosis, grade 2	2	5.3	0	0.0
9653	Hodgkin lymphoma, lymphocyte depletion, NOS	1	2.6	0	0.0	
<b>Kidney</b>	8960	Nephroblastoma, NOS	21	80.8	25	100.0
	8260	Papillary adenocarcinoma, NOS	1	3.8	0	0.0
	8312	Renal cell carcinoma, NOS	1	3.8	0	0.0
	9044	Clear cell sarcoma, NOS (except of kidney)	1	3.8	0	0.0
	9105	Trophoblastic tumor, epithelioid	1	3.8	0	0.0
	9473	Primitive neuroectodermal tumor, NOS	1	3.8	0	0.0
<b>NHL</b>	9687	Burkitt lymphoma, NOS	11	30.6	2	20.0
	9680	Malignant lymphoma, large B-cell, diffuse, NOS	8	22.2	2	20.0
	9590	Malignant lymphoma, NOS	3	8.3	1	10.0
	9591	Malignant lymphoma, non-Hodgkin, NOS	4	11.1	0	0.0
	9700	Mycosis fungoides	2	5.6	2	20.0
	9670	Malignant lymphoma, small B lymphocytic, NOS	3	8.3	0	0.0
	9727	Precursor cell lymphoblastic lymphoma, NOS	2	5.6	1	10.0
	9729	Precursor T-cell lymphoblastic lymphoma	1	2.8	1	10.0
	9702	Mature T-cell lymphoma, NOS	1	2.8	0	0.0
	9714	Anaplastic large cell lymphoma, T cell and Null cell type	0	0.0	1	10.0
9754	Langerhans cell histiocytosis, disseminated	1	2.8	0	0.0	
<b>Bone</b>	9260	Ewing sarcoma	8	40.0	9	50.0
	9180	Osteosarcoma, NOS	8	40.0	6	33.3
	9181	Chondroblastic osteosarcoma	0	0.0	2	11.1
	8910	Embryonal rhabdomyosarcoma, NOS	1	5.0	0	0.0
	9183	Telangiectatic osteosarcoma	1	5.0	0	0.0
	9185	Small cell osteosarcoma	1	5.0	0	0.0
	9250	Giant cell tumor of bone, malignant	0	0.0	1	5.6
9540	Malignant peripheral nerve sheath tumor	1	5.0	0	0.0	
<b>Connective Tissue</b>	9500	Neuroblastoma, NOS	2	14.3	5	33.3
	8910	Embryonal rhabdomyosarcoma, NOS	4	28.6	1	6.7
	8800	Sarcoma, NOS	1	7.1	1	6.7
	8920	Alveolar rhabdomyosarcoma	1	7.1	1	6.7
	8963	Malignant rhabdoid tumor	1	7.1	1	6.7
	9473	Primitive neuroectodermal tumor, NOS	2	14.3	0	0.0
	8804	Epithelioid sarcoma	1	7.1	0	0.0
	8806	Desmoplastic small round cell tumor	0	0.0	1	6.7
	8814	Infantile fibrosarcoma	1	7.1	0	0.0
	8900	Rhabdomyosarcoma, NOS	0	0.0	1	6.7
	9071	Yolk sac tumor	0	0.0	1	6.7
	9120	Hemangiosarcoma	0	0.0	1	6.7
	9240	Mesenchymal chondrosarcoma	1	7.1	0	0.0
	9364	Peripheral neuroectodermal tumor	0	0.0	1	6.7
	9540	Malignant peripheral nerve sheath tumor	0	0.0	1	6.7
<b>Eye</b>	9510	Retinoblastoma, NOS	8	61.5	4	28.6
	9512	Retinoblastoma, undifferentiated	0	0.0	6	42.9
	9511	Retinoblastoma, differentiated	2	15.4	1	7.1
	8910	Embryonal rhabdomyosarcoma, NOS	1	7.7	1	7.1
	8804	Epithelioid sarcoma	1	7.7	0	0.0
	8810	Fibrosarcoma, NOS	1	7.7	0	0.0
	9500	Neuroblastoma, NOS	0	0.0	1	7.1
	9581	Alveolar soft part sarcoma	0	0.0	1	7.1
<b>Adrenal Gland</b>	9500	Neuroblastoma, NOS	15	93.8	5	55.6
	9490	Ganglioneuroblastoma	1	6.3	2	22.2
	8370	Adrenal cortical carcinoma	0	0.0	1	11.1
	8910	Embryonal rhabdomyosarcoma, NOS	0	0.0	1	11.1
<b>Liver</b>	8970	Hepatoblastoma	3	60.0	4	100.0
	8000	Neoplasm, malignant	1	20.0	0	0.0
	8170	Hepatocellular carcinoma, NOS	1	20.0	0	0.0

## International Comparison of Age-Standardized Incidence Rates

Worldwide, GLOBOCAN, 2008 estimated; 7,564,802 cancer deaths; 4,819,962 (63.7%) in developing regions and 2,744,840 (36.3%) in developed regions and 12,662,554 new cancer cases; 7,107,273 (56.1%) in developing regions and 5,555,281 (43.9%) in developed regions. In men, the incidence of cancer is high in Northern America, Australia/New Zealand and in Northern and Western Europe as a consequence of the high rates of prostate cancer in these regions. As in males, the regions with the highest incidence rates in females are Northern America, Australia/New Zealand and Northern and Western Europe as a consequence of the high rates of breast cancer in these regions. The lowest cancer incidence rates are in Middle and Western Africa and in South-Central Asia for men and in Middle and Northern Africa for women. A number of common cancers in developed countries are associated

with reasonably high survival (prostate, breast and colorectal cancers), whereas several common cancers with poorer prognoses (liver, stomach and esophageal cancers) are more common in less developed regions. The most common cancer site worldwide among men was lung cancer, followed by prostate then colo-rectal then stomach. However in developed countries prostate was the leading cancer followed by lung, colo-rectal, and bladder, while in developing countries lung cancer was first followed by stomach, liver, colo-rectal and oesophagus cancers. In women, the most common cancer site was breast followed by colo-rectal then cervix uteri then lung cancers. Among women, breast cancer was the most common followed by colo-rectal, lung and corpus uteri cancers in developed countries. While in the developing countries breast cancer was the leading cancer followed by cancers of the cervix, lung then stomach.

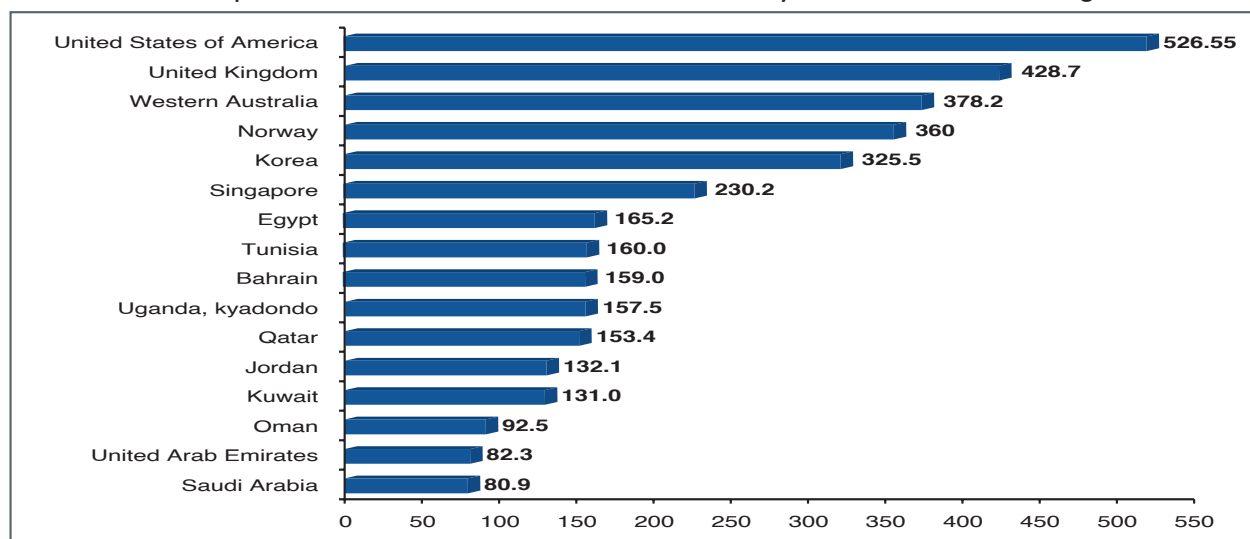


Figure 2.9.A Comparison of ASR\* for Saudi Males with Selected Countries\*\*

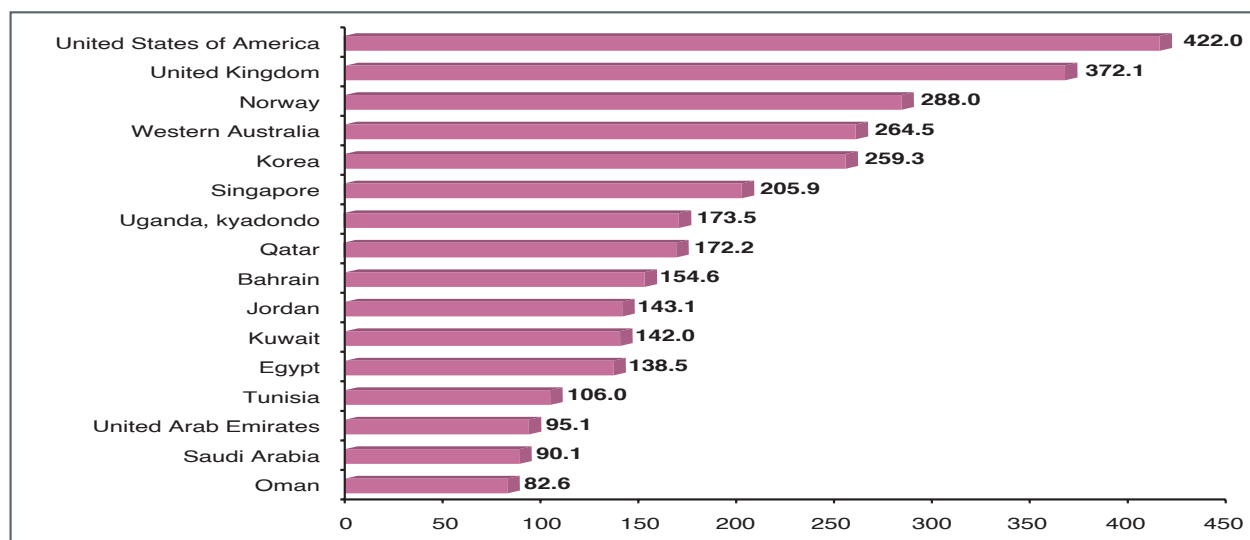


Figure 2.9.B Comparison of ASR\* for Saudi Females with Selected Countries\*\*

\* ASR Per 100,000

\*\* Source for this information is summarized on page 64

**PART III**  
**CANCER INCIDENCE FOR MOST COMMON SITES**  
**2009**



## Cancer Incidence for Most Common Sites, 2009

In this section, the incidence of the most common cancers among Saudi males and females are outlined in accordance to their relative

frequencies. The relevant data incorporate details for all patients presented over the period of January through December 2009

Cancer	Male	Female	All	%
Breast	23	1308	1331	13.5
Colo-rectal	617	492	1109	11.3
NHL	422	287	709	7.2
Thyroid	141	538	679	6.9
Leukemia	343	276	619	6.3
Liver	295	136	431	4.4
Lung	276	103	379	3.9
Hodgkin disease	194	150	344	3.5
Skin	181	141	322	3.3
Stomach	201	112	313	3.2
Prostate	295	-	295	3.0
Corpus Uteri	-	253	253	2.6
Bladder	197	38	235	2.4
Ovary	-	173	173	1.8

Table 3.1 Most Common Cancers among Saudis by sex, 2009

## Female Breast (C 50)

There were 1308 female breast cancer cases for year 2009. Breast cancer ranked first among females accounting for 25.1% of all newly diagnosed female cancers (5,205) in year 2009. The ASR was 22.7/100,000

for female population. The median age at diagnosis was 48 years (Range 19-99 years)

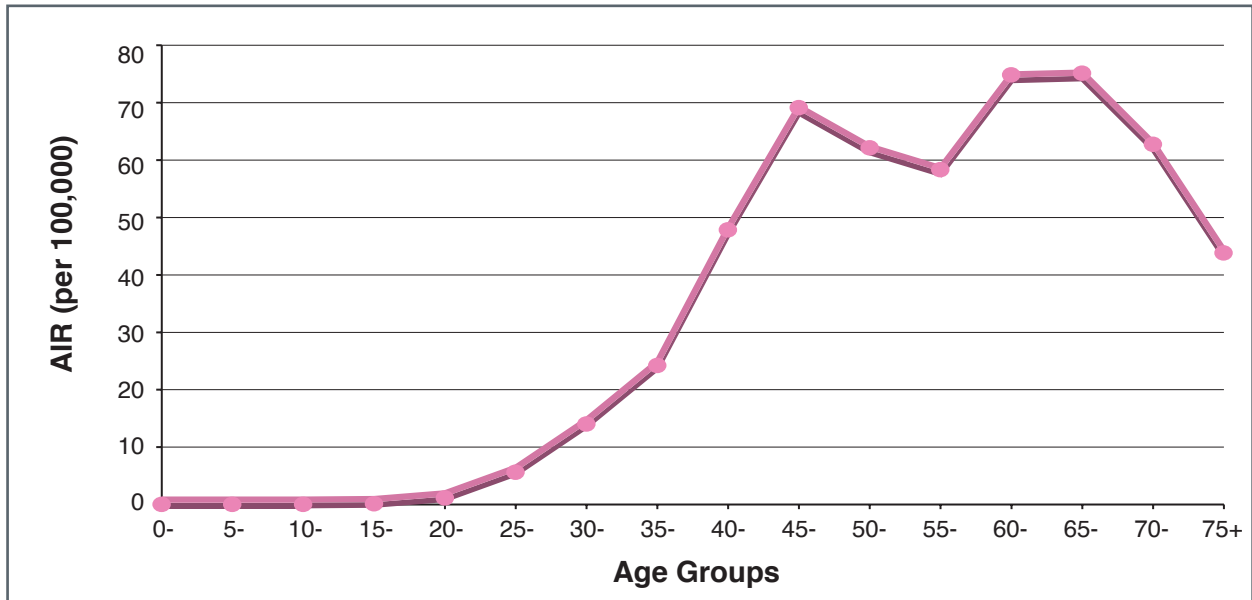


Figure 3.1.1 Age-Specific Incidence Rate (AIR) for Female Breast Cancer in Saudi Arabia, 2009

ICD-O-3	Morphology	Female	%
8500	Infiltrating duct carcinoma, NOS	1023	78.2
8520	Lobular carcinoma, NOS	83	6.3
8010	Carcinoma, NOS	41	3.1
8523	Infiltrating duct mixed with other types of carcinoma	29	2.2
8000	Neoplasm, malignant	24	1.8
8140	Adenocarcinoma, NOS	19	1.5
8522	Infiltrating duct and lobular carcinoma	12	0.9
8480	Mucinous adenocarcinoma	11	0.8
8510	Medullary carcinoma, NOS	9	0.7
8575	Metaplastic carcinoma, NOS	9	0.7
	Others	48	3.7

Table 3.1.1 Morphological Distribution of Female Breast Cancer in Saudi Arabia, 2009

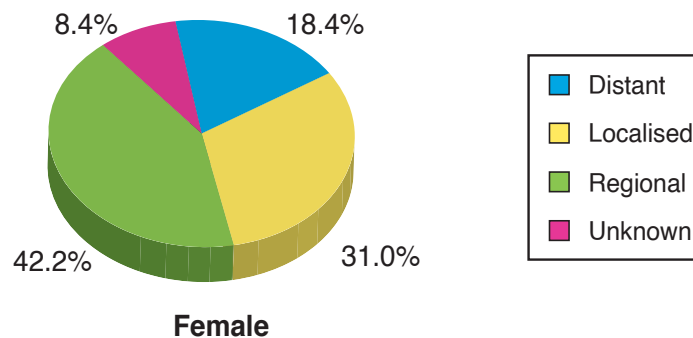
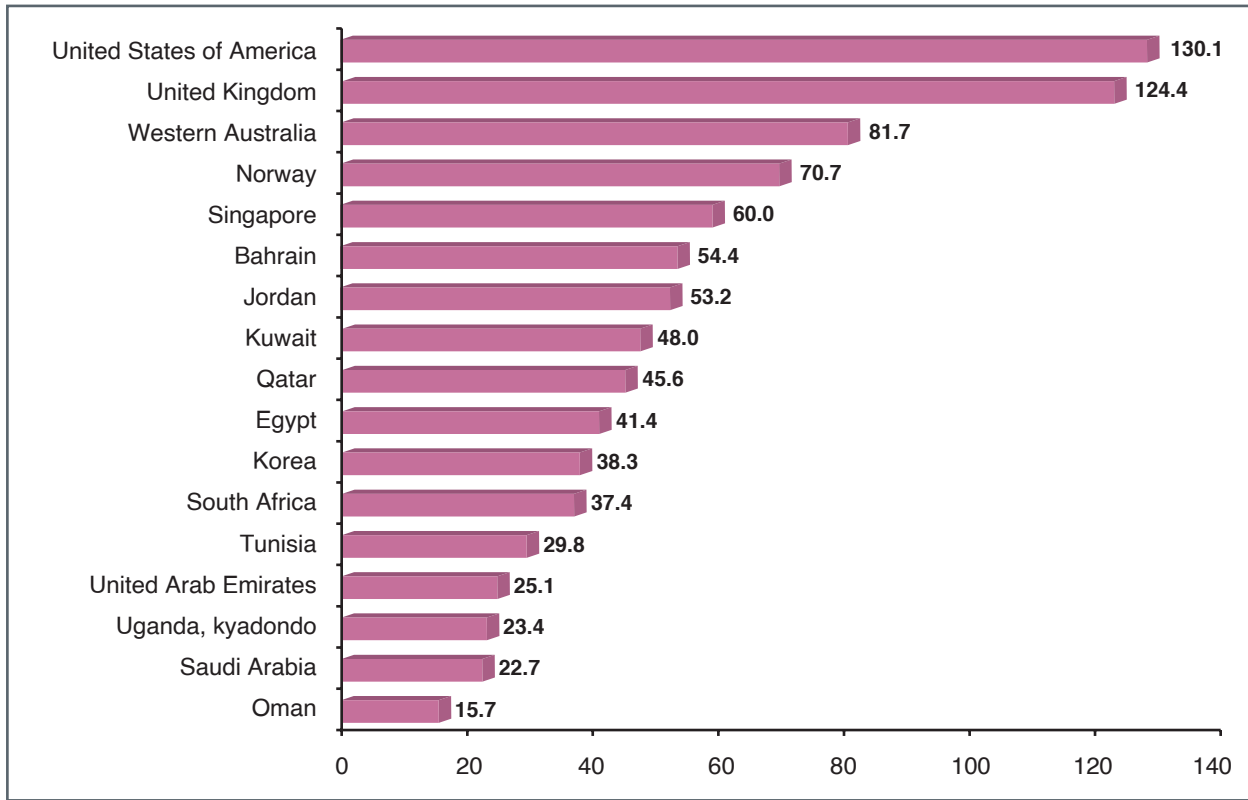


Figure 3.1.2 Stage Distribution of Female Breast Cancer, 2009



**Figure 3.1.4 Comparison of ASR\* for Female Breast Cancer among Saudi Females with ASR in Selected Countries\*\***

\* ASR Per 100,000

\*\* Source for this information is summarized on page 64

## Colo-rectal (C18-C20)

There were 1109 cases of colo-rectal cancer accounting for 11.3% of all newly diagnosed cases in year 2009. This cancer ranked first among male population and third among female population. It affected 617 (55.6%) males and 492 (44.4%) females with a male to female ratio of 125:100.

The overall ASR was 10.5/100,000. ASR for males was 12/100,000 and for females 9.4/100,000. The median age at diagnosis was 60 years among males (range 10-103 years) and 56 years among females (range 18-104 years).

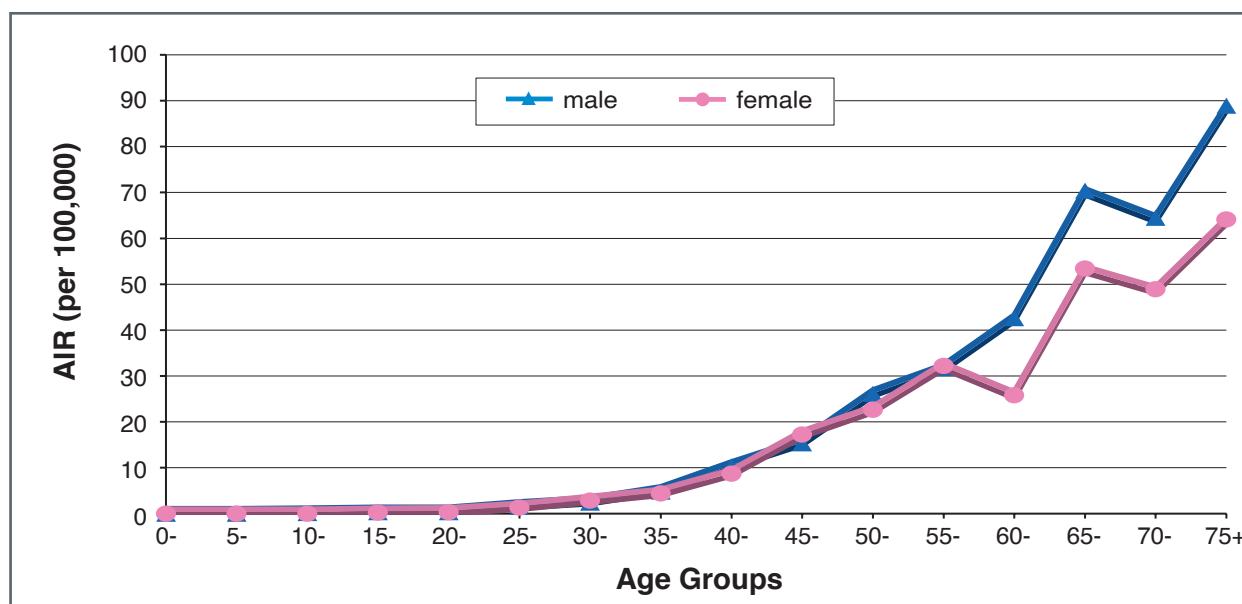


Figure 3.2.1 Age-Specific Incidence Rate (AIR) for Colo-rectal Cancer in Saudi Arabia, 2009

ICD-O-3	Morphology	Male	%	Female	%
8140	Adenocarcinoma, NOS	461	74.7	382	77.6
8480	Mucinous adenocarcinoma	53	8.6	28	5.7
8263	Adenocarcinoma in tubulovillous adenoma	12	1.9	15	3.0
8000	Neoplasm, malignant	14	2.3	8	1.6
8490	Signet ring cell carcinoma	12	1.9	9	1.8
8481	Mucin-producing adenocarcinoma	8	1.3	12	2.4
8210	Adenocarcinoma in adenomatous polyp	11	1.8	8	1.6
8261	Adenocarcinoma in villous adenoma	12	1.9	7	1.4
8144	Adenocarcinoma, intestinal type	8	1.3	7	1.4
8010	Carcinoma, NOS	8	1.3	3	0.6
	Others	18	2.9	13	2.6

Table 3.2.1 Morphological Distribution of Colo-rectal Cancer in Saudi Arabia, 2009

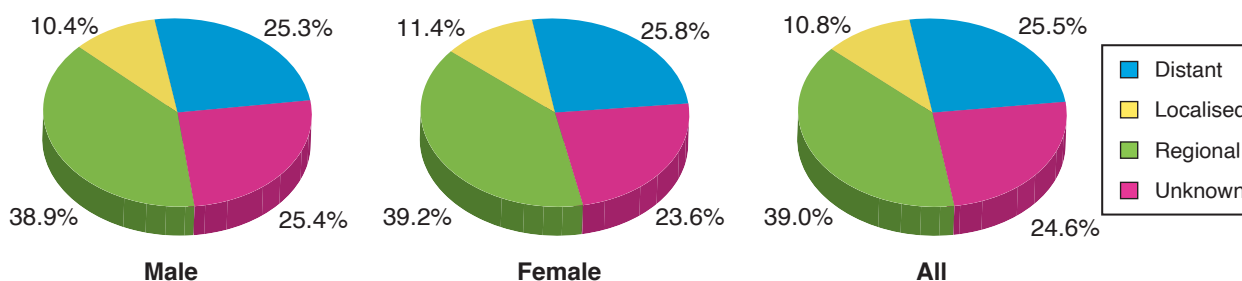


Figure 3.2.2 Stage Distribution of Colo-rectal Cancer in Saudi Arabia, 2009

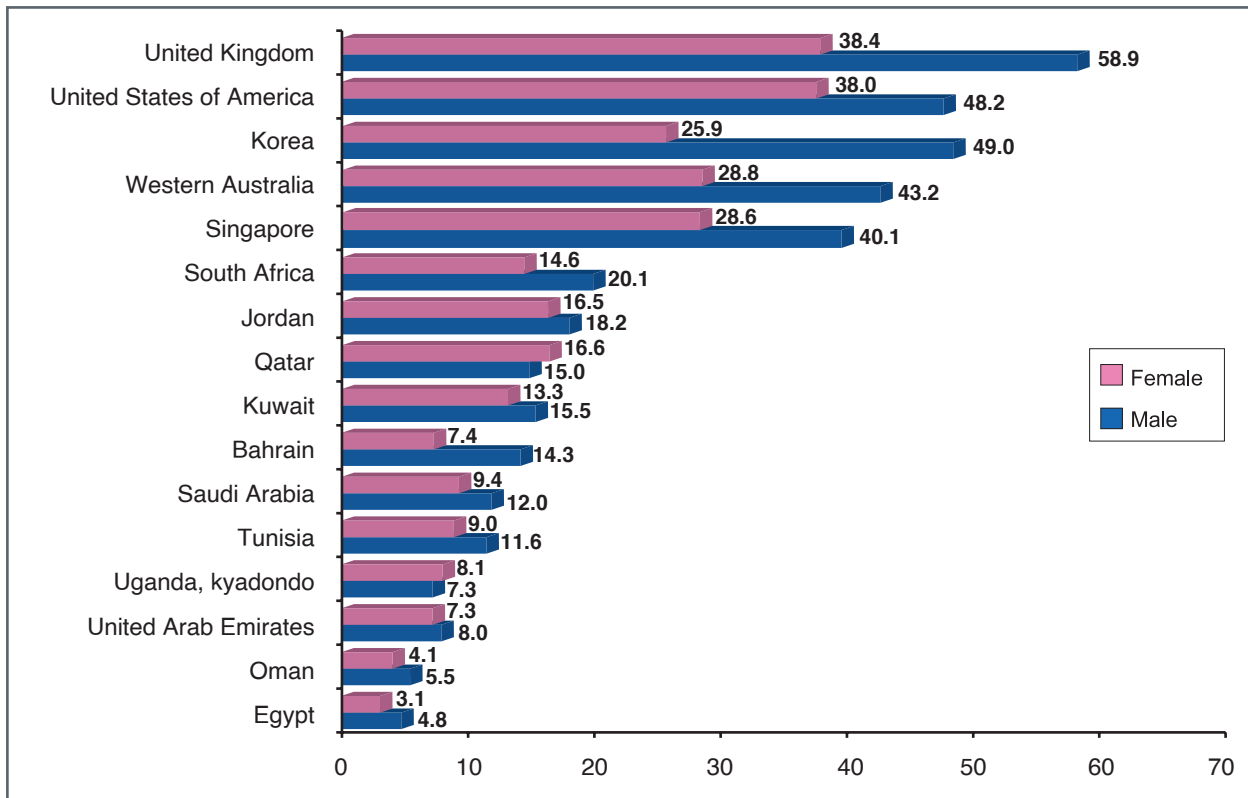


Figure 3.2.4 Comparison of ASR\* for Colo-rectal Cancer among Saudis with ASR in Selected Countries\*\*

\* ASR Per 100,000

\*\* Source for this information is summarized on page 64

## Non-Hodgkin Lymphoma (C82-C85; C96)

There were 709 cases of Non-Hodgkin Lymphoma accounting for 7.2% of all newly diagnosed cancers in year 2009. This cancer ranked second among male population and fourth among female population. It affected 422 (59.5%) males and 287 (40.5%) females with a male to female ratio of 147:100. The overall

ASR was 6/100,000. ASR for males was 6.8/100,000 and 5.1/100,000 for females. The median age at diagnosis was 53 years among males (range 0-98 years) and 53 years among females (range 2-100 years).

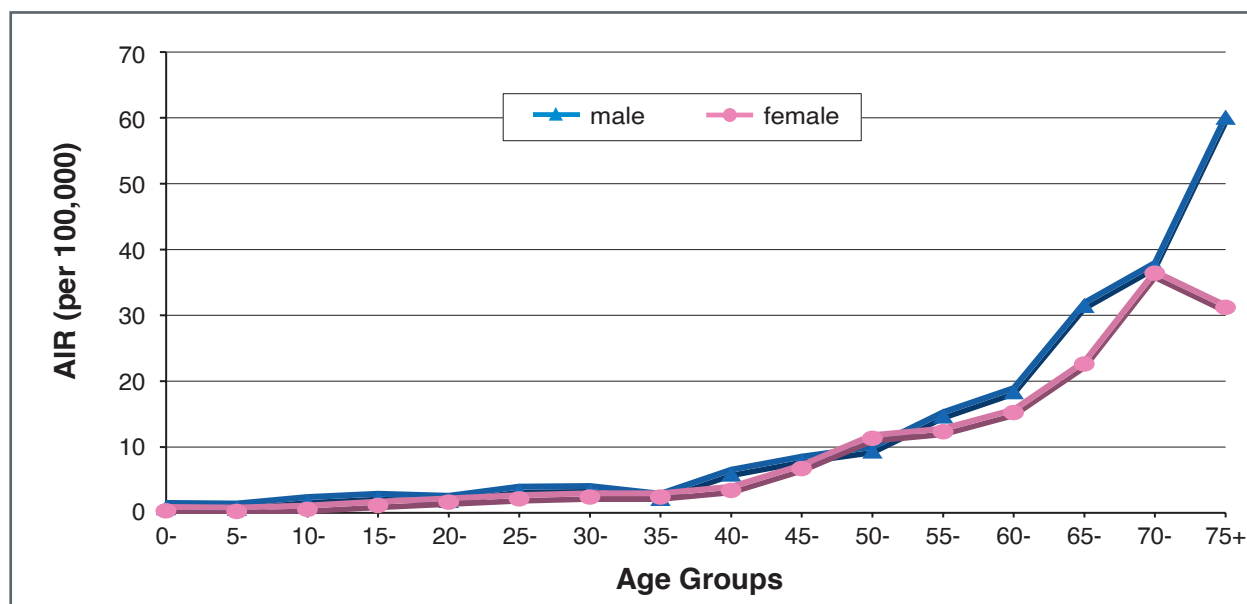


Figure 3.3.1 Age-Specific Incidence Rate (AIR) for NHL in Saudi Arabia, 2009

ICD-O-3	Morphology	Male	%	Female	%
9680	Malignant lymphoma, large B-cell, diffuse, NOS	216	51.2	157	54.7
9590	Malignant lymphoma, NOS	29	6.9	17	5.9
9591	Malignant lymphoma, non-Hodgkin, NOS	31	7.3	14	4.9
9699	Marginal zone B-cell lymphoma, NOS	16	3.8	12	4.2
9670	Malignant lymphoma, small B lymphocytic, NOS	18	4.3	8	2.8
9687	Burkitt lymphoma, NOS	19	4.5	6	2.1
9700	Mycosis fungoides	13	3.1	10	3.5
9690	Follicular lymphoma, NOS	9	2.1	8	2.8
9691	Follicular lymphoma, grade 2	8	1.9	9	3.1
9695	Follicular lymphoma, grade 1	10	2.4	5	1.7
9714	Anaplastic large cell lymphoma, T cell and Null cell type	6	1.4	9	3.1
9698	Follicular lymphoma, grade 3	5	1.2	9	3.1
9684	Malignant lymphoma, large B-cell, diffuse, immunoblastic, NOS	7	1.7	4	1.4
9702	Mature T-cell lymphoma, NOS	9	2.1	2	0.7
9719	NK/T-cell lymphoma, nasal and nasal-type	5	1.2	4	1.4
	Others	21	5.0	13	4.5

Table 3.3.1 Morphological Distribution of NHL in Saudi Arabia, 2009

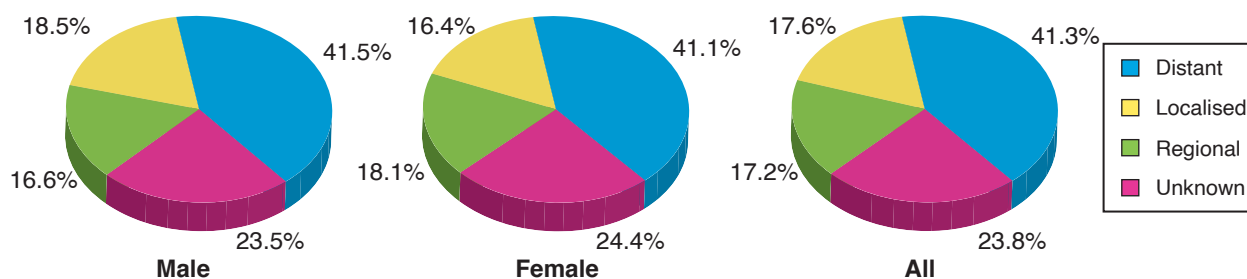
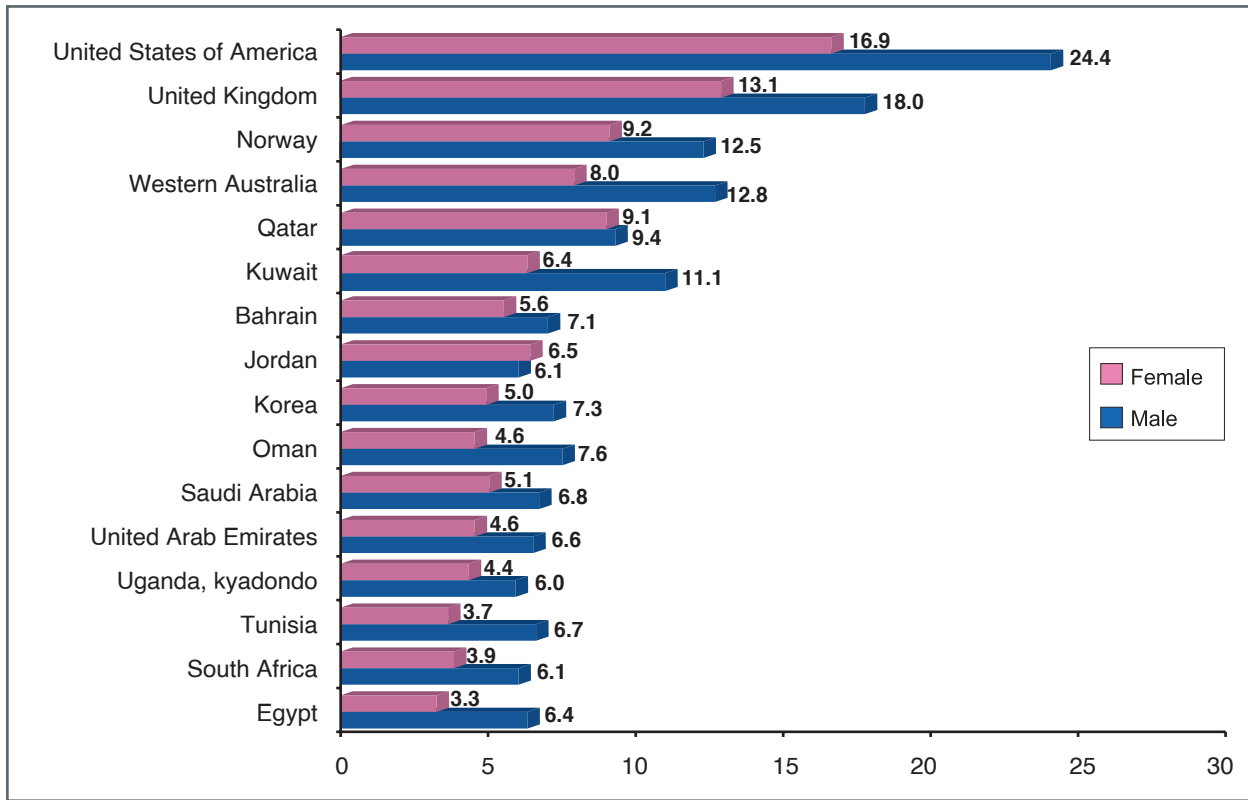


Figure 3.3.2 Stage Distribution of NHL, 2009



**Figure 3.3.4 Comparison of ASR\* for NHL among Saudis with ASR in Selected Countries\*\***

\* ASR Per 100,000

\*\* Source for this information is summarized on page 64

## Thyroid (C 73)

There were 679 cases of thyroid cancer accounting for 6.9% of all newly diagnosed cases for the year 2009. This cancer ranked second among female population and thirteenth among male population. It affected 141 (20.8%) males and 538 (79.2%) females with a male to female ratio of 26:100. The overall

ASR was 4.9/100,000. ASR was 2.1/100,000 for males and 7.6/100,000 for females. The median age at was 45 years among males (range 13-96 years) and 38 years among females (range 13-90 years).

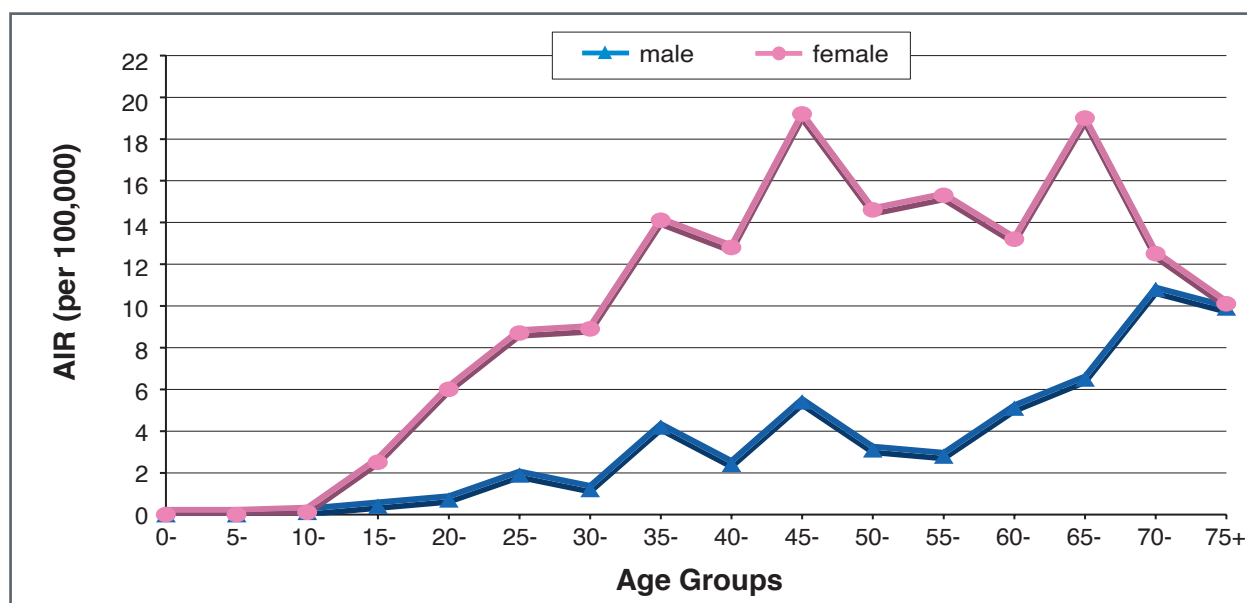


Figure 3.4.1 Age-Specific Incidence Rate (AIR) for Thyroid Cancer in Saudi Arabia, 2009

ICD-O-3	Morphology	Male	%	Female	%
8260	Papillary adenocarcinoma, NOS	79	56.0	283	52.6
8340	Papillary carcinoma, follicular variant	20	14.2	100	18.6
8341	Papillary microcarcinoma	14	9.9	51	9.5
8343	Papillary carcinoma, encapsulated	5	3.5	23	4.3
8330	Follicular adenocarcinoma, NOS	2	1.4	14	2.6
8290	Oxyphilic adenocarcinoma	3	2.1	12	2.2
8335	Follicular carcinoma, minimally invasive	1	0.7	12	2.2
8510	Medullary carcinoma, NOS	4	2.8	8	1.5
8021	Carcinoma, anaplastic, NOS	4	2.8	6	1.1
8050	Papillary carcinoma, NOS	3	2.1	7	1.3
8000	Neoplasm, malignant	1	0.7	5	0.9
8344	Papillary carcinoma, columnar cell	0	0.0	6	1.1
8010	Carcinoma, NOS	2	1.4	2	0.4
	Others	3	2.1	9	1.7

Table 3.4.1 Morphological Distribution of Thyroid Cancer in Saudi Arabia, 2009

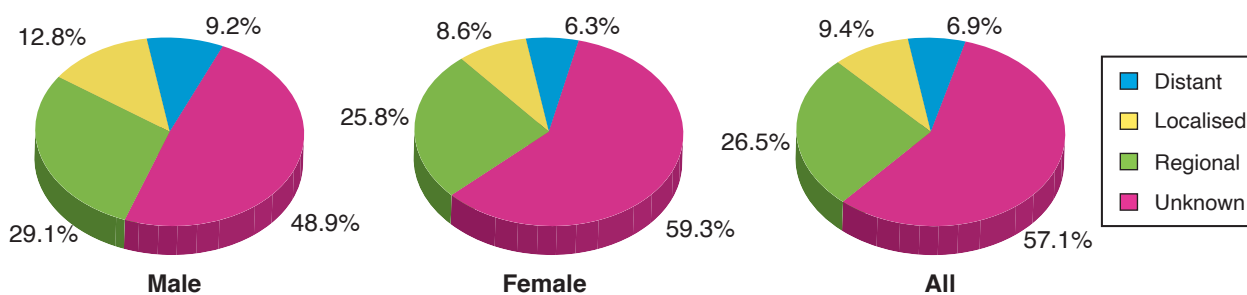
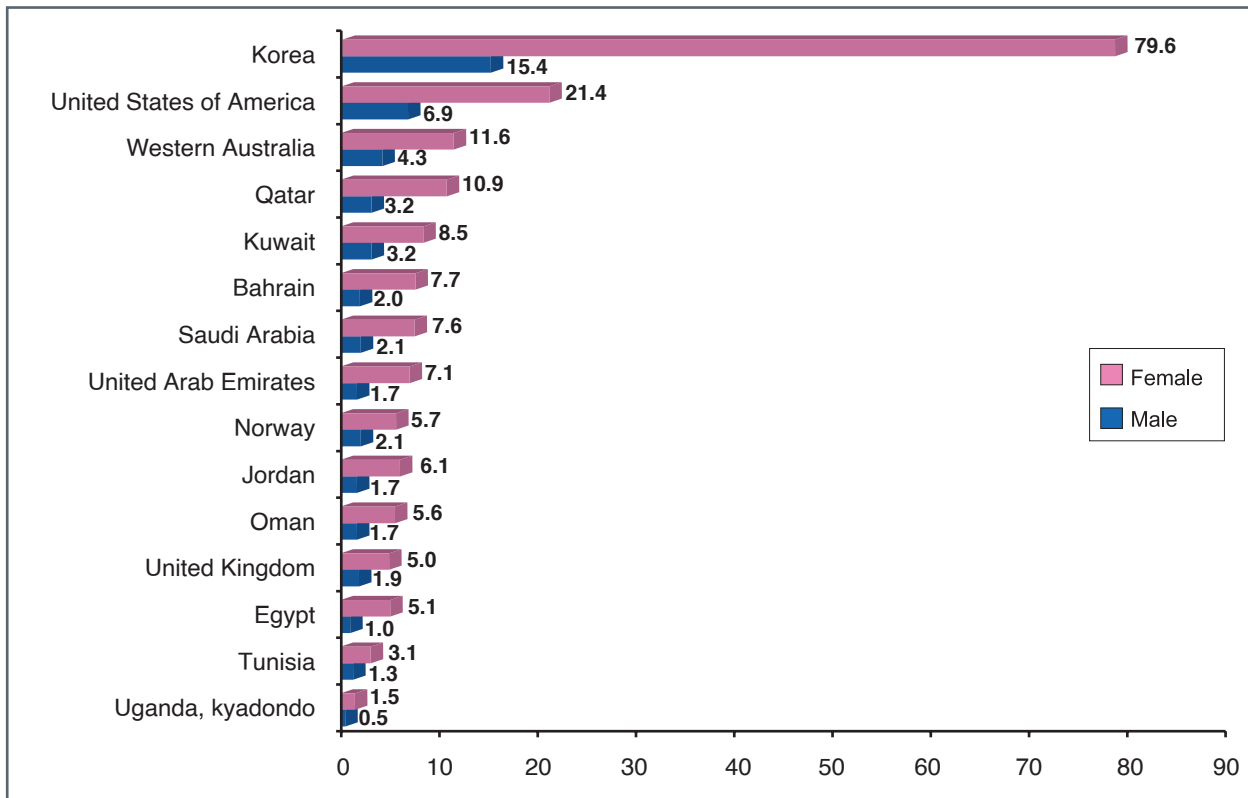


Figure 3.4.2 Stage Distribution of Thyroid Cancer, 2009



**Figure 3.4.4 Comparison of ASR\* for Thyroid Cancer among Saudis with ASR in Selected Countries\*\***

\* ASR Per 100,000

\*\* Source for this information is summarized on page 64

## Leukemia (C91-C95)

There were 619 cases of leukemia accounting for 6.3% of all newly diagnosed cancers in year 2009. This cancer ranked third for males and fifth for females and affected 343 (55.4%) males and 276 (44.6%) females with a male to female ratio of 124:100. The overall ASR was 4.2/100,000. ASR for males was 4.6/100,000 and

3.7/100,000 for females. The median age at diagnosis is 26 years among males (range 0-98 years) and 20 years among females (range 0-100 years).

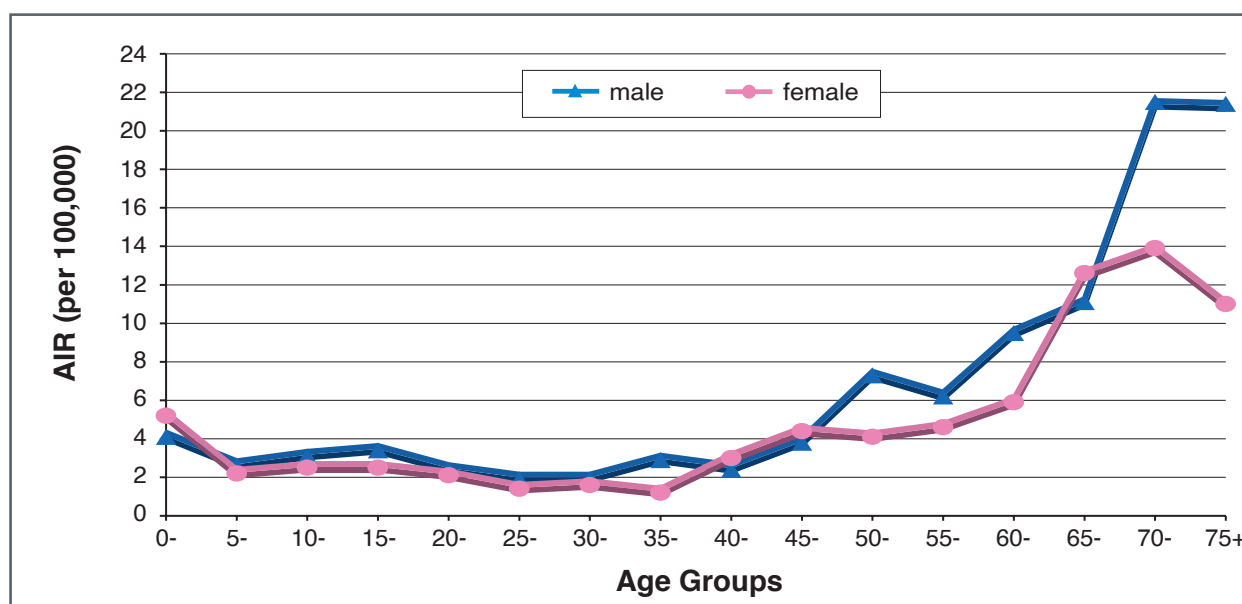
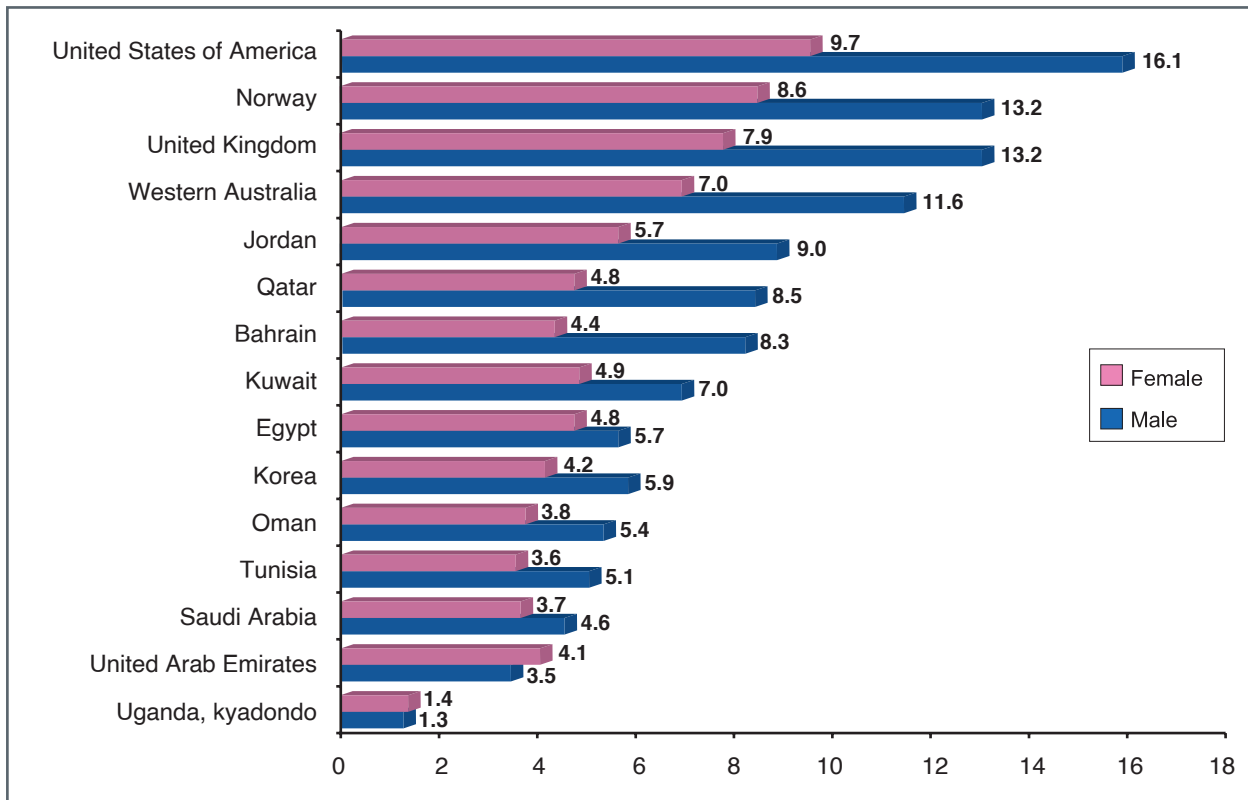


Figure 3.5.1 Age-Specific Incidence Rate (AIR) for Leukemia in Saudi Arabia, 2009

ICD-O-3	Morphology	Male	%	Female	%
9836	Precursor B-cell lymphoblastic leukemia	66	19.2	67	24.3
9863	Chronic myeloid leukemia, NOS	46	13.4	43	15.6
9861	Acute myeloid leukemia, NOS	40	11.7	39	14.1
9835	Precursor cell lymphoblastic leukemia, NOS	38	11.1	31	11.2
9823	B-cell chronic lymphocytic leukemia/small lymphocytic lymphom	43	12.5	14	5.1
9837	Precursor T-cell lymphoblastic leukemia	19	5.5	7	2.5
9801	Acute leukemia, NOS	9	2.6	12	4.3
9866	Acute promyelocytic leukemia, t(15;17)(q22;q11-12)	7	2.0	10	3.6
9800	Leukemia, NOS	7	2.0	9	3.3
9891	Acute monocytic leukemia	7	2.0	6	2.2
9874	Acute myeloid leukemia with maturation	7	2.0	3	1.1
9873	Acute myeloid leukemia without maturation	6	1.7	2	0.7
9860	Myeloid leukemia, NOS	3	0.9	4	1.4
9867	Acute myelomonocytic leukemia	3	0.9	4	1.4
9940	Hairy cell leukemia	5	1.5	2	0.7
9826	Burkitt cell leukemia	5	1.5	1	0.4
9896	Acute myeloid leukemia, t(8;21)(q22;q22)	4	1.2	2	0.7
9945	Chronic myelomonocytic leukemia, NOS	5	1.5	1	0.4
9820	Lymphoid leukemia, NOS	3	0.9	2	0.7
9840	Acute myeloid leukemia, M6 type	1	0.3	4	1.4
9875	Chronic myelogenous leukemia, BCR/ABL positive	4	1.2	1	0.4
9805	Acute biphenotypic leukemia	2	0.6	2	0.7
9872	Acute myeloid leukemia, minimal differentiation	2	0.6	2	0.7
9895	Acute myeloid leukemia with multilineage dysplasia	3	0.9	1	0.4
	Others	8	2.3	7	2.5

Table 3.5.1 Morphological Distribution of Leukemia in Saudi Arabia, 2009



**Figure 3.5.3 Comparison of ASR\* for Leukemia among Saudis with ASR in Selected Countries\*\***

\* ASR Per 100,000

\*\* Source for this information is summarized on page 64

## Liver (C 22)

There were 431 cases of liver cancer accounting for 4.4% of all newly diagnosed cases in year 2009. This cancer ranked fourth in males, and tenth in females and affected 295 (68.4%) males and 136 (31.6%) females with a male to female ratio of 216:100. The overall ASR was 4.3/100,000. ASR was 5.9/100,000 for males and

2.7/100,000 for females. The median age at diagnosis was 68 years in males (range 0-119 years) and 63 years in female (range 0-109 years)

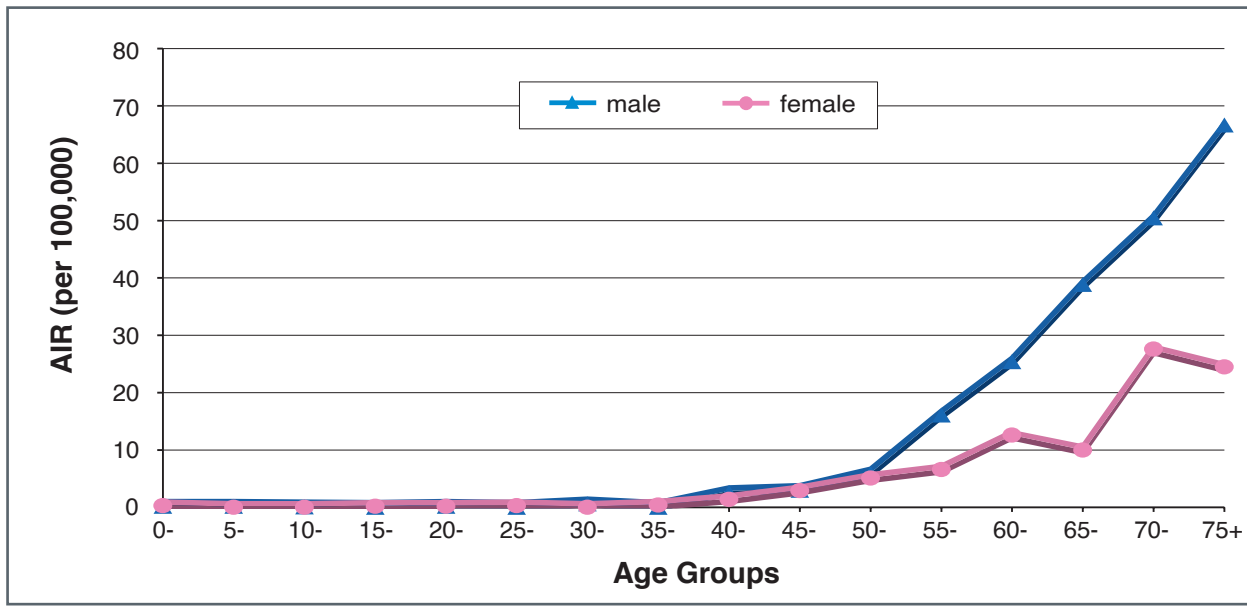


Figure 3.6.1 Age-Specific Incidence Rate (AIR) for Liver Cancer in Saudi Arabia, 2009

ICD-O-3	Morphology	Male	%	Female	%
8170	Hepatocellular carcinoma, NOS	250	84.7	99	72.8
8000	Neoplasm, malignant	19	6.4	9	6.6
8160	Cholangiocarcinoma	8	2.7	5	3.7
8140	Adenocarcinoma, NOS	4	1.4	5	3.7
8010	Carcinoma, NOS	3	1.0	4	2.9
8970	Hepatoblastoma	3	1.0	4	2.9
8246	Neuroendocrine carcinoma, NOS	2	0.7	2	1.5
8180	Combined hepatocellular carcinoma and cholangiocarcinoma	2	0.7	1	0.7
	Others	4	1.4	7	5.1

Table 3.6.1 Morphological Distribution of Liver Cancer in Saudi Arabia, 2009

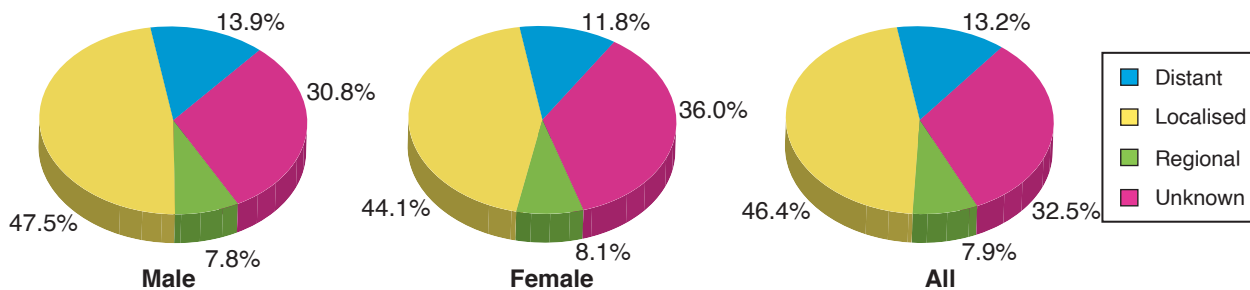
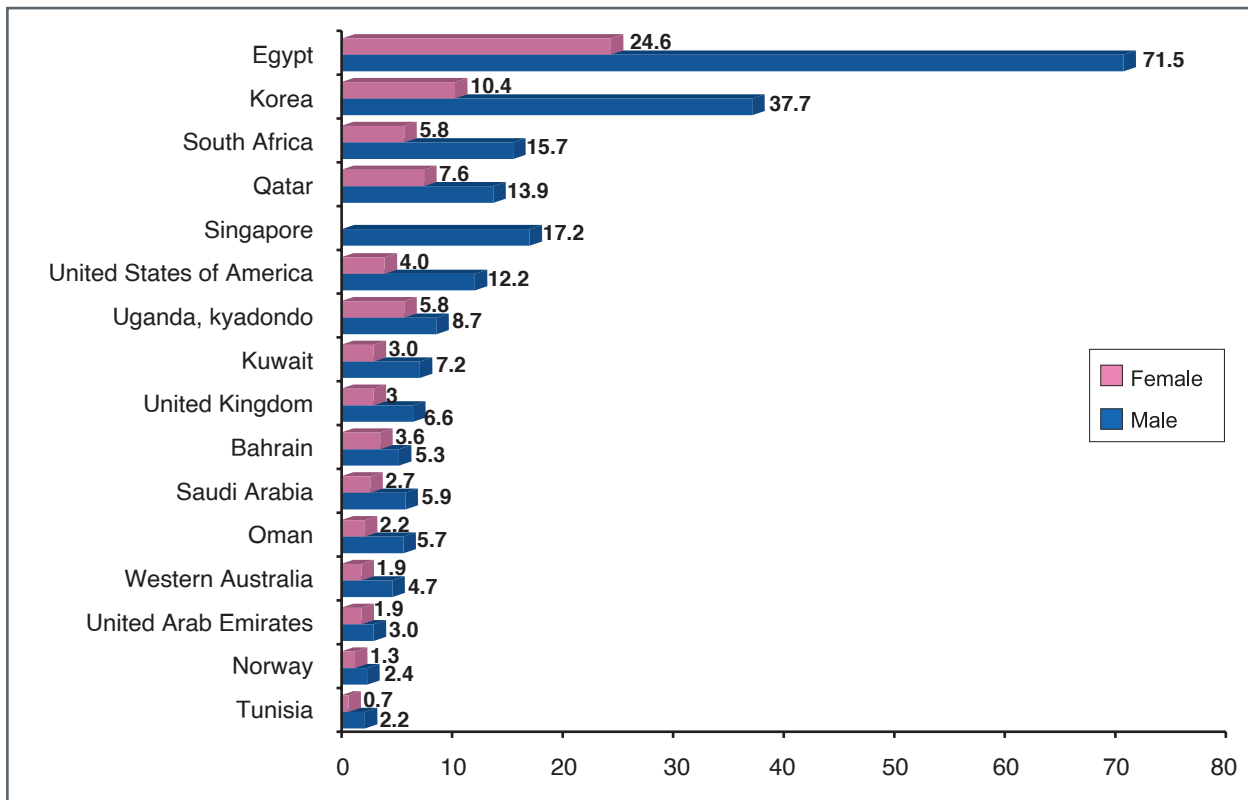


Figure 3.6.2 Stage Distribution of Liver Cancer, 2009



**Figure 3.6.4 Comparison of ASR\* for Liver Cancer among Saudis with ASR in Selected Countries\*\***

\* ASR Per 100,000

\*\* Source for this information is summarized on page 64

## Lung (C33-C34)

There were 379 cases of lung cancer accounting for 3.9% of all diagnosed cases in year 2009. Lung cancer ranked Sixth among male population and thirteenth among female population. It affected 276 (72.8%) males and 103 (27.2%) females with a male to female ratio of 268:100. The overall ASR was 3.9/100,000. ASR was 5.7/100,000 for males and

2/100,000 for females. The median age at diagnosis was 66 years among males (range 3-94 years) and 60 years among females (range 6-98 years).

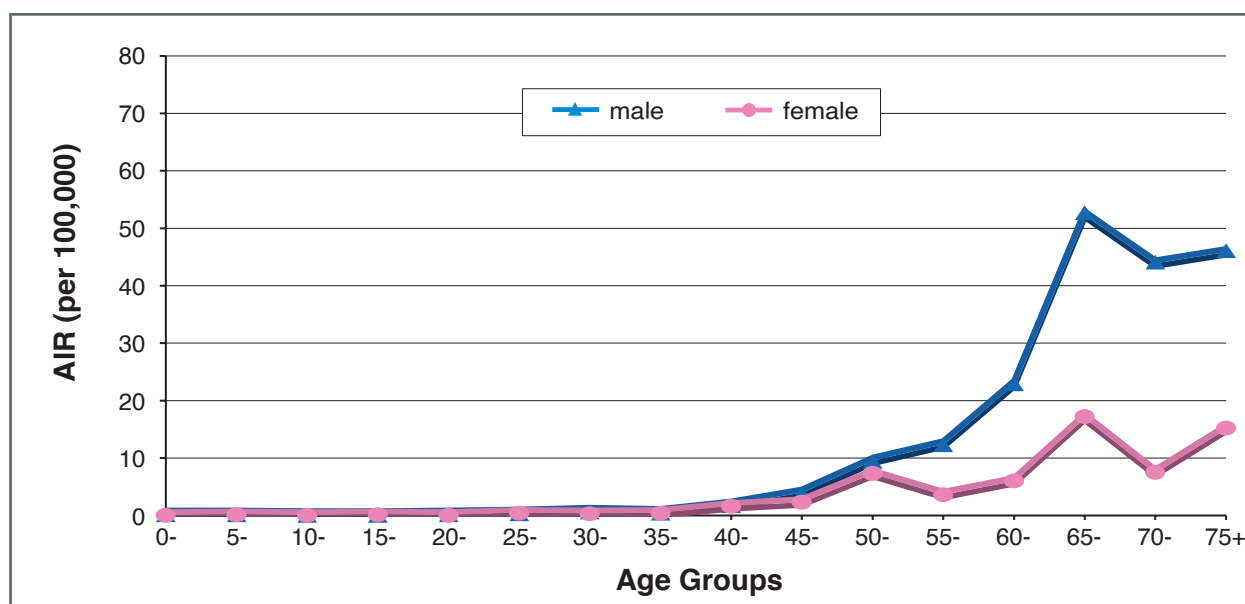


Figure 3.7.1 Age-Specific Incidence Rate (AIR) for Lung Cancer in Saudi Arabia, 2009

ICD-O-3	Morphology	Male	%	Female	%
8140	Adenocarcinoma, NOS	67	24.3	27	26.2
8046	Non-small cell carcinoma	52	18.8	12	11.7
8070	Squamous cell carcinoma, NOS	50	18.1	13	12.6
8041	Small cell carcinoma, NOS	34	12.3	6	5.8
8000	Neoplasm, malignant	18	6.5	9	8.7
8010	Carcinoma, NOS	8	2.9	6	5.8
8250	Bronchiolo-alveolar adenocarcinoma, NOS	5	1.8	6	5.8
8246	Neuroendocrine carcinoma, NOS	8	2.9	2	1.9
8071	Squamous cell carcinoma, keratinizing, NOS	6	2.2	2	1.9
8012	Large cell carcinoma, NOS	6	2.2	0	0.0
8240	Carcinoid tumor, NOS	1	0.4	5	4.9
8255	Adenocarcinoma with mixed subtypes	3	1.1	1	1.0
8490	Signet ring cell carcinoma	3	1.1	1	1.0
8560	Adenosquamous carcinoma	1	0.4	3	2.9
8072	Squamous cell carcinoma, large cell, nonkeratinizing, NOS	2	0.7	1	1.0
	Others	12	4.3	9	8.7

Table 3.7.1 Morphological Distribution of Lung Cancer in Saudi Arabia, 2009

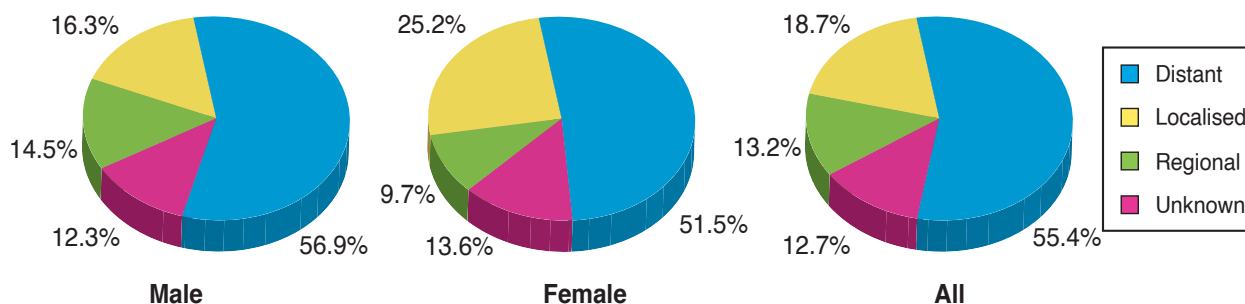
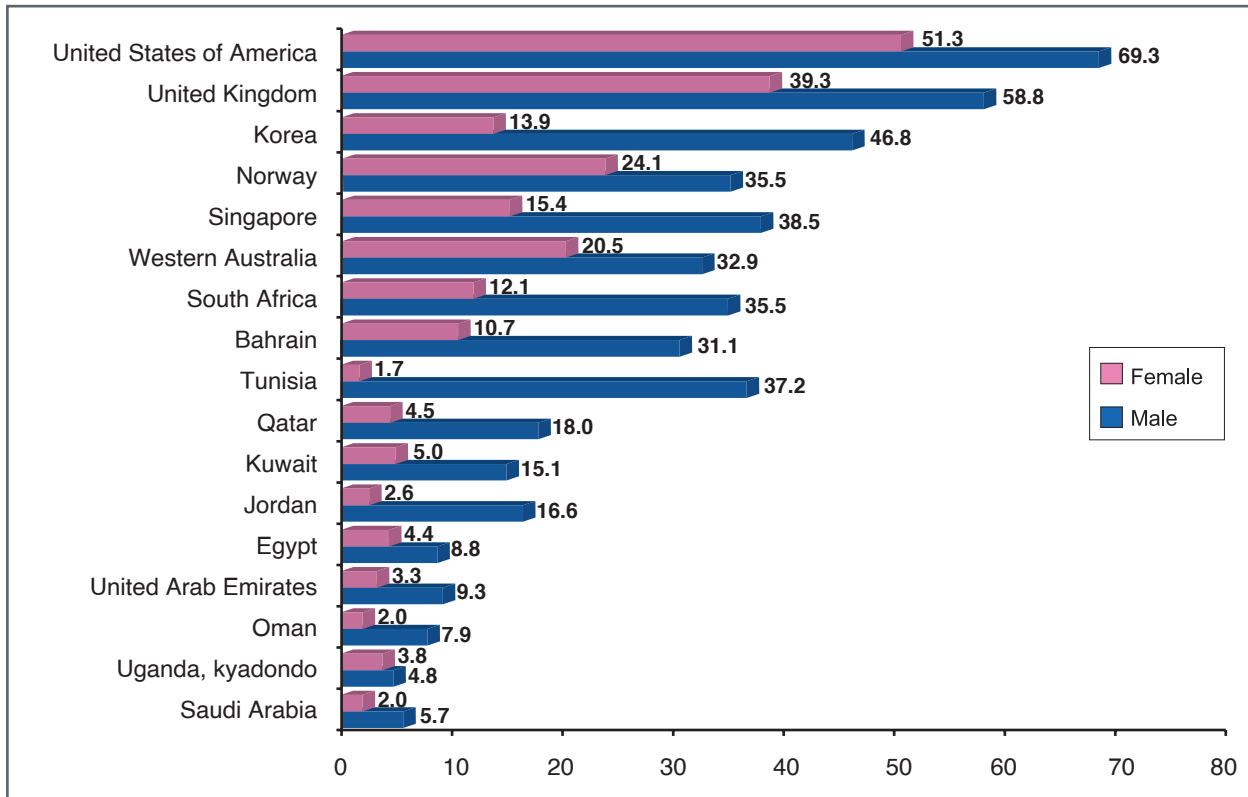


Figure 3.7.2 Stage Distribution of Lung Cancer, 2009



**Figure 3.7.4 Comparison of ASR\* for Lung Cancer among Saudis with ASR in Selected Countries\*\***

\* ASR Per 100,000

\*\* Source for this information is summarized on page 64

## Hodgkin disease (C 81)

There were 344 cases of Hodgkin disease cancer accounting for 3.5% of all newly diagnosed cases in year 2009. This cancer ranked ninth among male and eighth in female population. It affected 194 (56.4%) males and 150 (43.6%) females with a male to female ratio of 129:100. The overall ASR was 2/100,000.

ASR was 2.3/100,000 for males and 1.7/100,000 for females. The median age at diagnosis was 26 years (range 3-83 years) in males and 21 year in females (range 4-96).

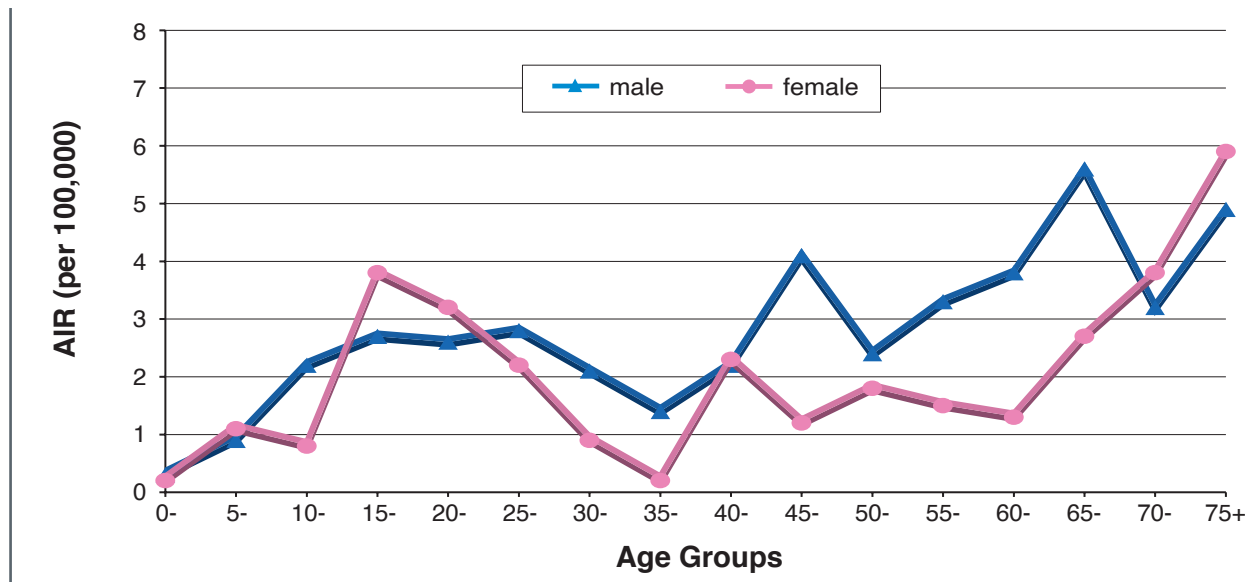


Figure 3.8.1 Age-Specific Incidence Rate (AIR) for Hodgkin disease in Saudi Arabia, 2009

ICD-O-3	Morphology	Male	%	Female	%
9663	Hodgkin lymphoma, nodular sclerosis, NOS	99	51.0	78	52.0
9652	Hodgkin lymphoma, mixed cellularity, NOS	33	17.0	18	12.0
9650	Hodgkin lymphoma, NOS	20	10.3	26	17.3
9651	Hodgkin lymphoma, lymphocyte-rich	13	6.7	10	6.7
9659	Hodgkin lymphoma, nodular lymphocyte predominance	11	5.7	9	6.0
9665	Hodgkin lymphoma, nodular sclerosis, grade 1	7	3.6	4	2.7
9664	Hodgkin lymphoma, nodular sclerosis, cellular phase	4	2.1	3	2.0
9667	Hodgkin lymphoma, nodular sclerosis, grade 2	3	1.5	2	1.3
9653	Hodgkin lymphoma, lymphocyte depletion, NOS	4	2.1	0	0.0
	All	194	100.0	150	100.0

Table 3.8.1 Morphological Distribution of Hodgkin disease in Saudi Arabia, 2009

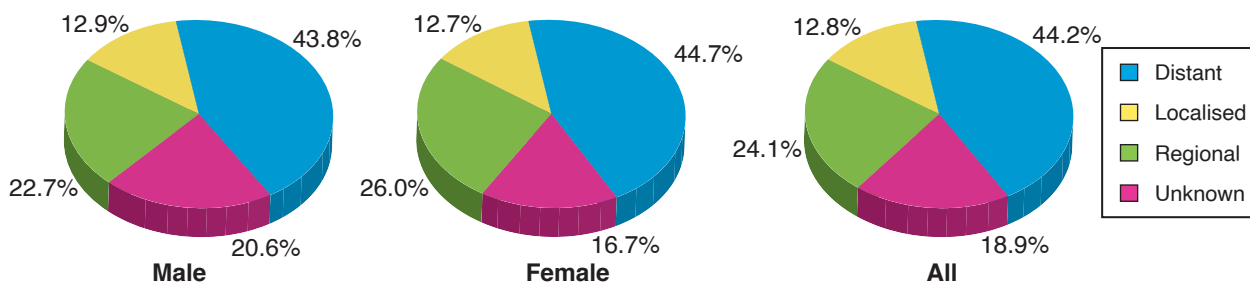
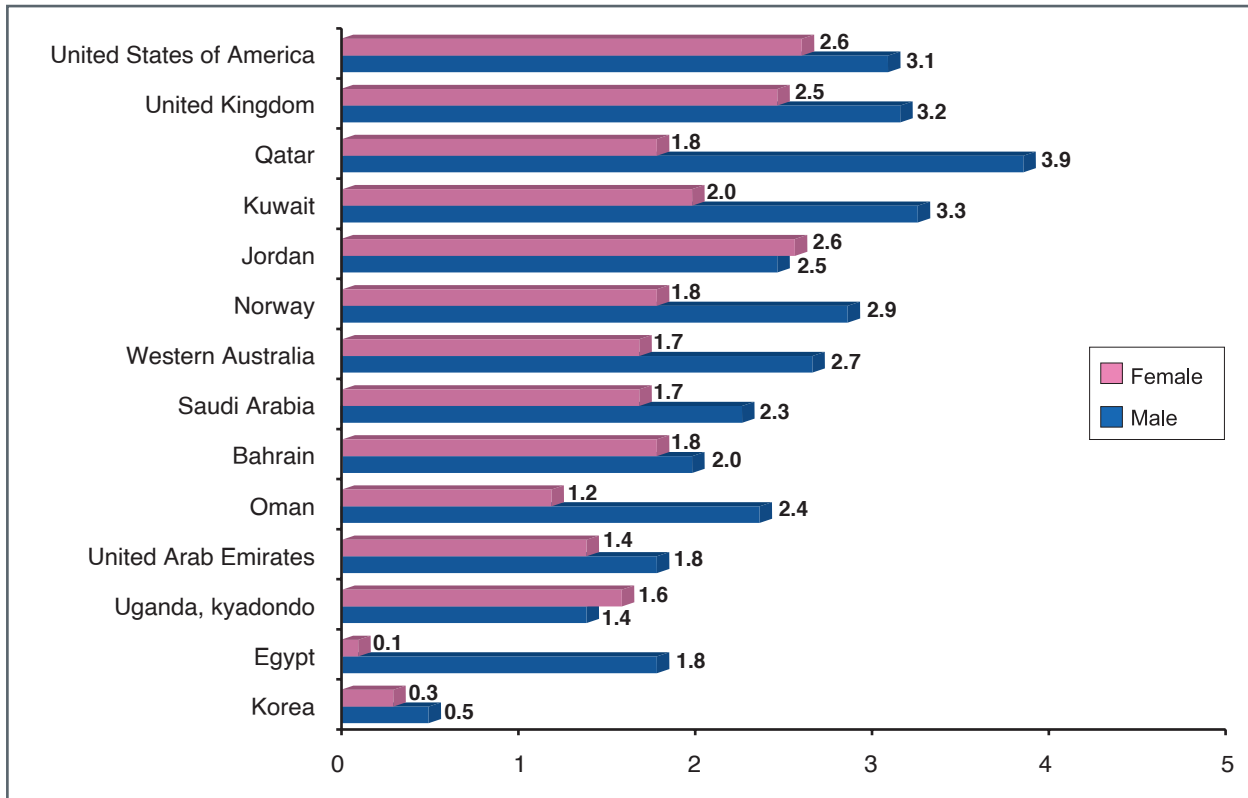


Figure 3.8.2 Stage Distribution of Hodgkin disease, 2009



**Figure 3.8.4 Comparison of ASR\* for Hodgkin disease among Saudis with ASR in Selected Countries\*\***

\* ASR Per 100,000

\*\* Source for this information is summarized on page 64

## Skin (Non-Melanoma) (C 44)

There were 322 cases of skin cancer accounting for 3.3% of all newly diagnosed cases in year 2009. This cancer ranked tenth for males and ninth for females. It affected 181 (56.2%) males and 141 (43.8%) females with a male to female ratio of 128:100. The overall ASR was 3.1/100,000. ASR was 3.5/100,000 for males and 2.7/100,000 for females.

The median age at diagnosis was 68 years among males (range 15-109 years) and 63 years among female (range 12-100 years).

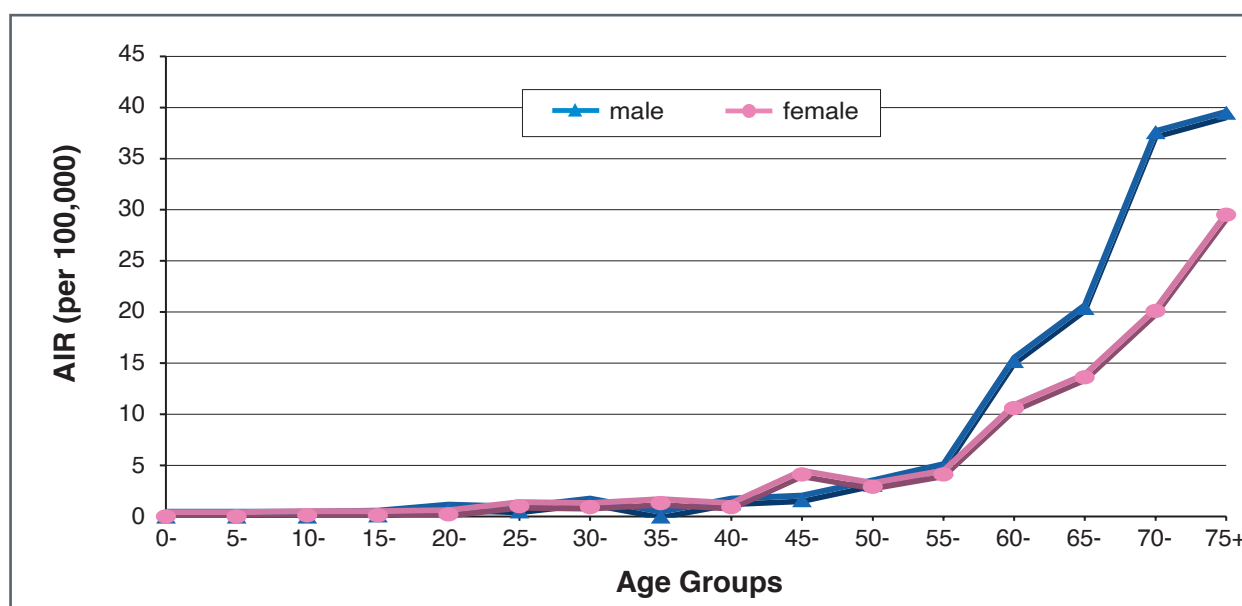


Figure 3.9.1 Age-Specific Incidence Rate (AIR) for Skin Cancer in Saudi Arabia, 2009

ICD-O-3	Morphology	Male	%	Female	%
8090	Basal cell carcinoma, NOS	80	44.2	58	41.1
8070	Squamous cell carcinoma, NOS	38	21.0	33	23.4
8832	Dermatofibrosarcoma, NOS	13	7.2	18	12.8
8071	Squamous cell carcinoma, keratinizing, NOS	16	8.8	7	5.0
8097	Basal cell carcinoma, nodular	8	4.4	6	4.3
8094	Basosquamous carcinoma	6	3.3	1	0.7
8410	Sebaceous adenocarcinoma	2	1.1	5	3.5
8200	Adenoid cystic carcinoma	0	0.0	4	2.8
8051	Verrucous carcinoma, NOS	2	1.1	1	0.7
8000	Neoplasm, malignant	2	1.1	0	0.0
8083	Basaloid squamous cell carcinoma	1	0.6	1	0.7
8091	Multifocal superficial basal cell carcinoma	2	1.1	0	0.0
8092	Infiltrating basal cell carcinoma, NOS	0	0.0	2	1.4
8095	Metatypical carcinoma	2	1.1	0	0.0
8140	Adenocarcinoma, NOS	2	1.1	0	0.0
8247	Merkel cell carcinoma	1	0.6	1	0.7
	Others	6	3.3	4	2.8

Table 3.9.1 Morphological Distribution of Skin Cancer in Saudi Arabia, 2009

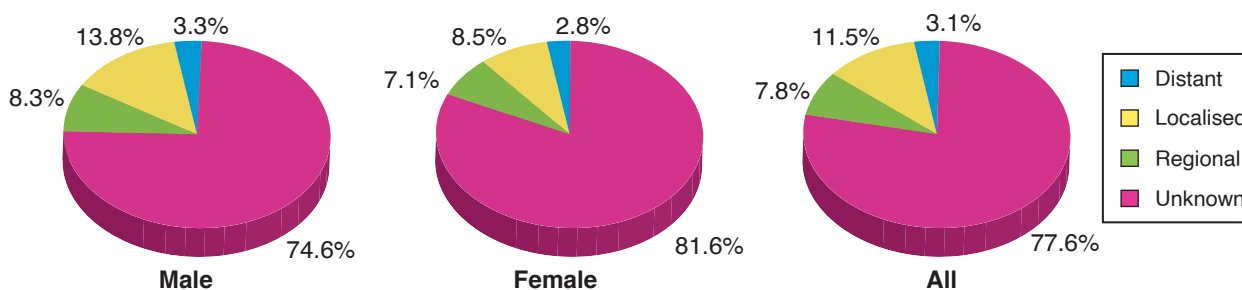


Figure 3.9.2 Stage Distribution of Skin Cancer, 2009

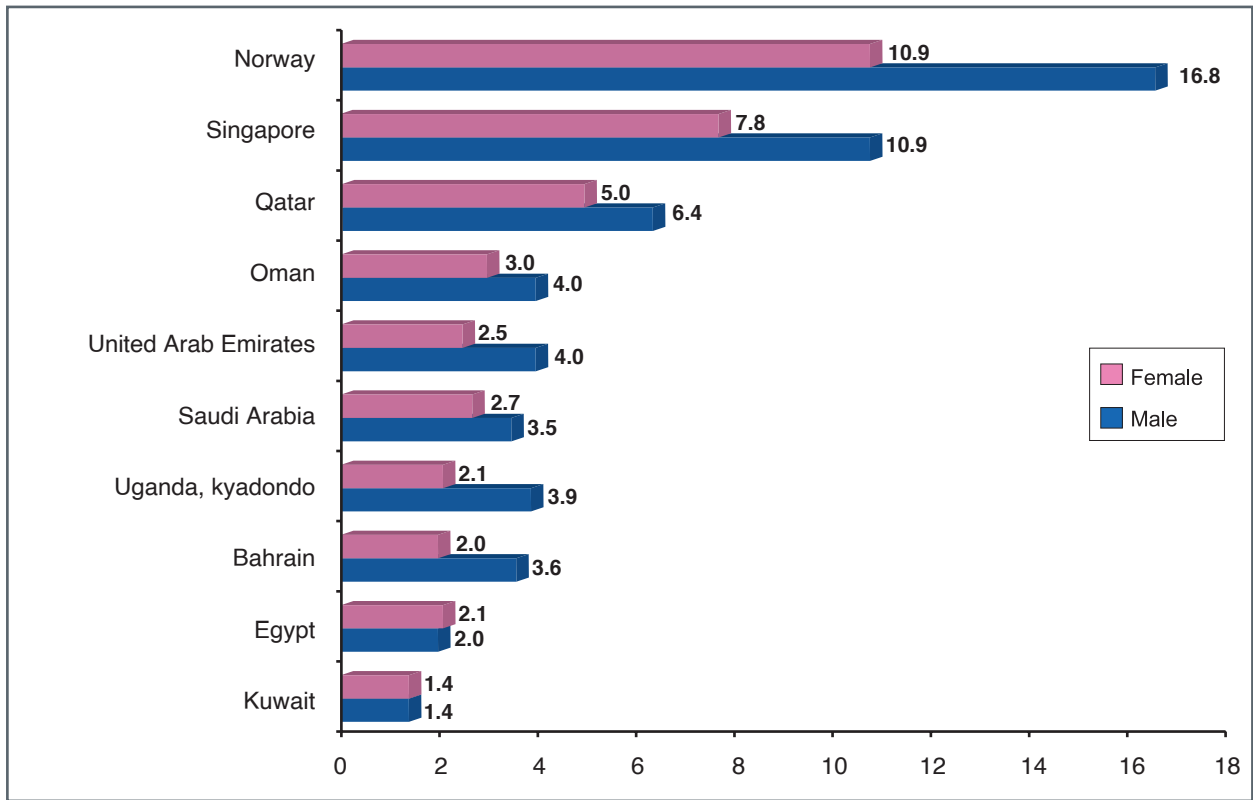


Figure 3.9.4 Comparison of ASR\* for Skin Cancer among Saudis with ASR in Selected Countries\*\*

\* ASR Per 100,000

\*\* Source for this information is summarized on page 64

## Stomach (C 16)

There were 313 cases of stomach cancer accounting for 3.2% of all newly diagnosed cases in year 2009. This cancer ranked seventh among male population and twelfth among female population. It affected 201 (64.2%) males and 112 (35.8%) females with a male to female ratio of 179:100. The overall ASR

was 3/100,000. ASR was 3.9/100,000 for male and 2.1/100,000 for females. The median age at diagnosis was 69 years among males (range 1-106 years) and 59 years among female (range 25-100 years).

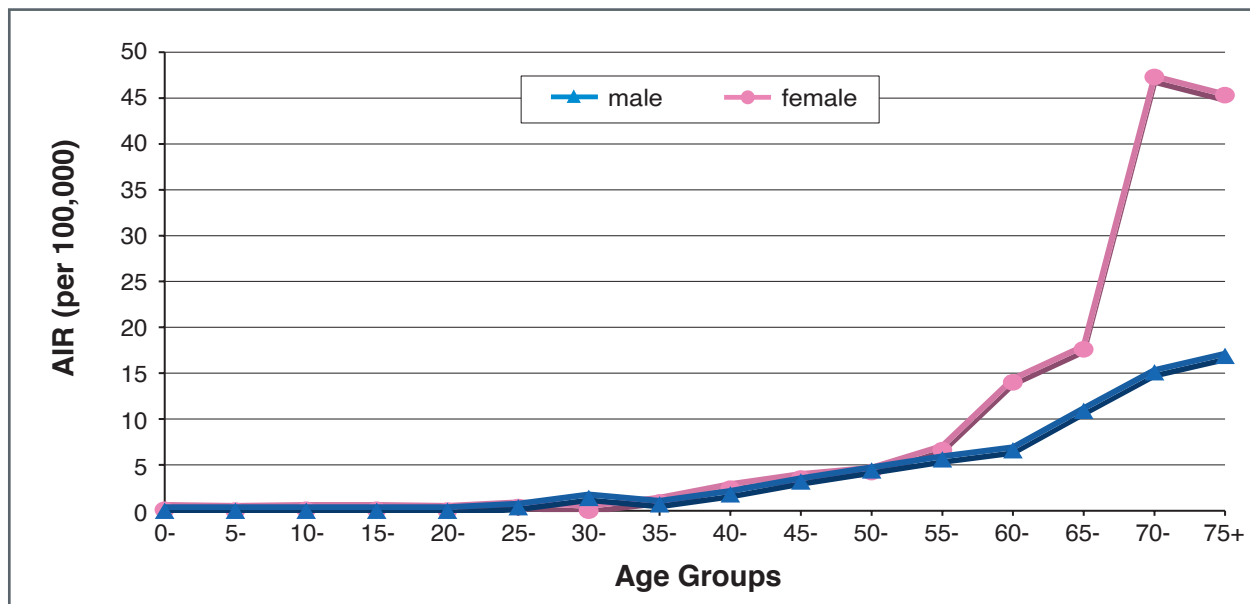


Figure 3.10.1 Age-Specific Incidence Rate (AIR) for Stomach Cancer in Saudi Arabia, 2009

ICD-O-3	Morphology	Male	%	Female	%
8140	Adenocarcinoma, NOS	93	46.3	37	33.0
8490	Signet ring cell carcinoma	50	24.9	46	41.1
8144	Adenocarcinoma, intestinal type	16	8.0	8	7.1
8936	Gastrointestinal stromal sarcoma	3	1.5	5	4.5
8000	Neoplasm, malignant	4	2.0	2	1.8
8010	Carcinoma, NOS	4	2.0	2	1.8
8246	Neuroendocrine carcinoma, NOS	5	2.5	0	0.0
8020	Carcinoma, undifferentiated, NOS	3	1.5	1	0.9
8070	Squamous cell carcinoma, NOS	4	2.0	0	0.0
8145	Carcinoma, diffuse type	3	1.5	1	0.9
8480	Mucinous adenocarcinoma	2	1.0	2	1.8
8240	Carcinoid tumor, NOS	1	0.5	2	1.8
8260	Papillary adenocarcinoma, NOS	3	1.5	0	0.0
8560	Adenosquamous carcinoma	1	0.5	1	0.9
8574	Adenocarcinoma with neuroendocrine differentiation	1	0.5	1	0.9
	Others	8	4.0	4	3.6

Table 3.10.1 Morphological Distribution of Stomach Cancer in Saudi Arabia, 2009

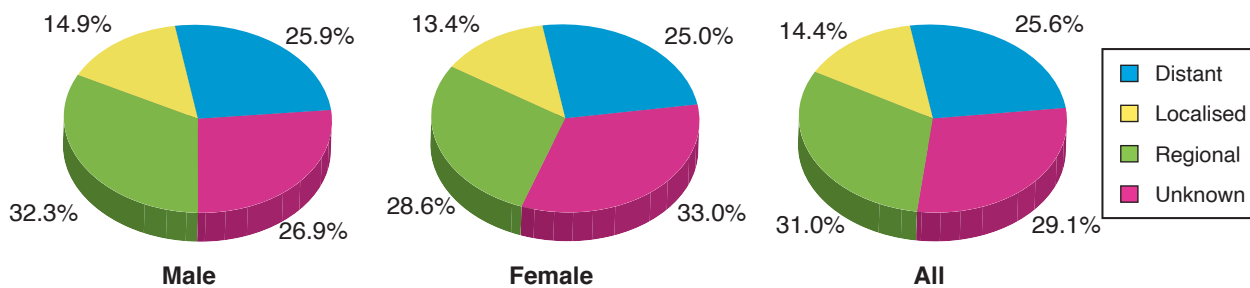
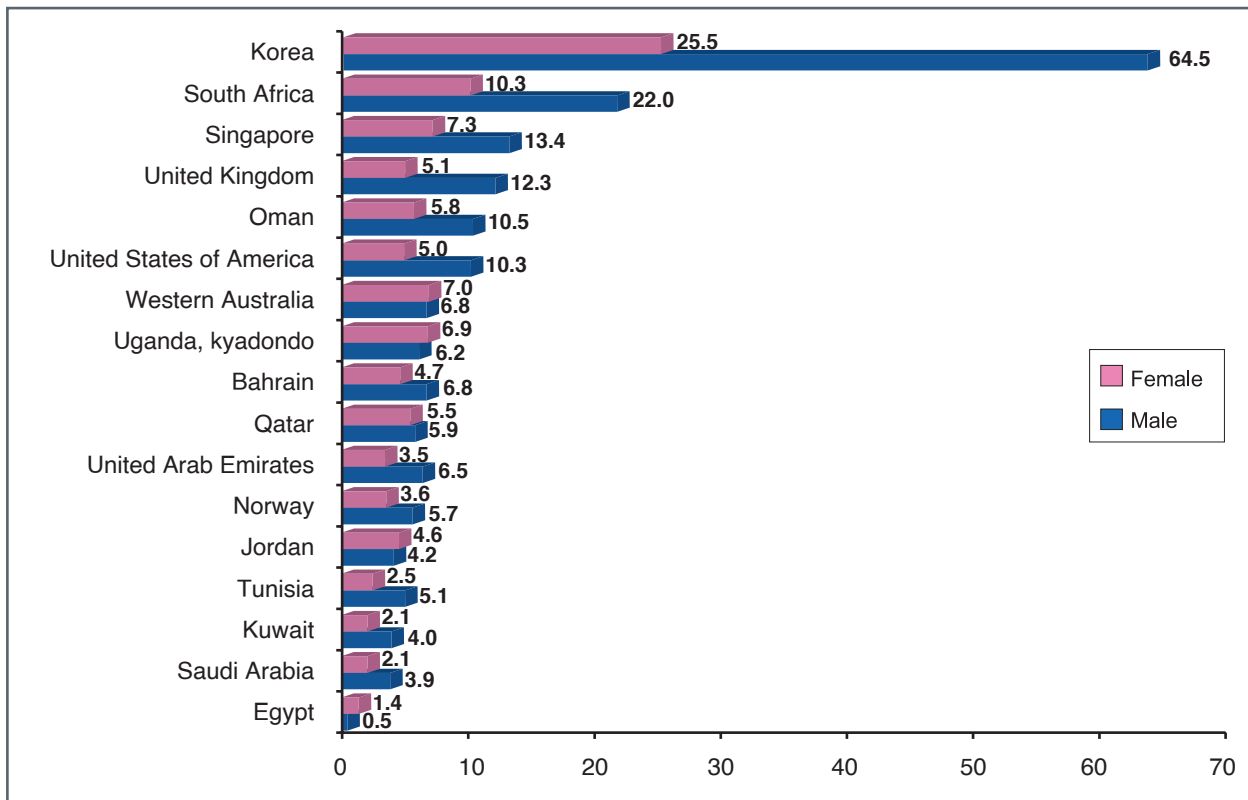


Figure 3.10.2 Stage Distribution of Stomach Cancer, 2009



**Figure 3.10.4 Comparison of ASR\* for Stomach Cancer among Saudis with ASR in Selected Countries\*\***

\* ASR Per 100,000

\*\* Source for this information is summarized on page 64

## Prostate (C 61)

There were 295 cases of prostate cancer accounting for 6.1% of all newly diagnosed cases among males in year 2009. This cancer ranked fifth among males. The ASR was 6.1/100,000 among male

population. The median age at diagnosis was 72 years (range 1-103 years).

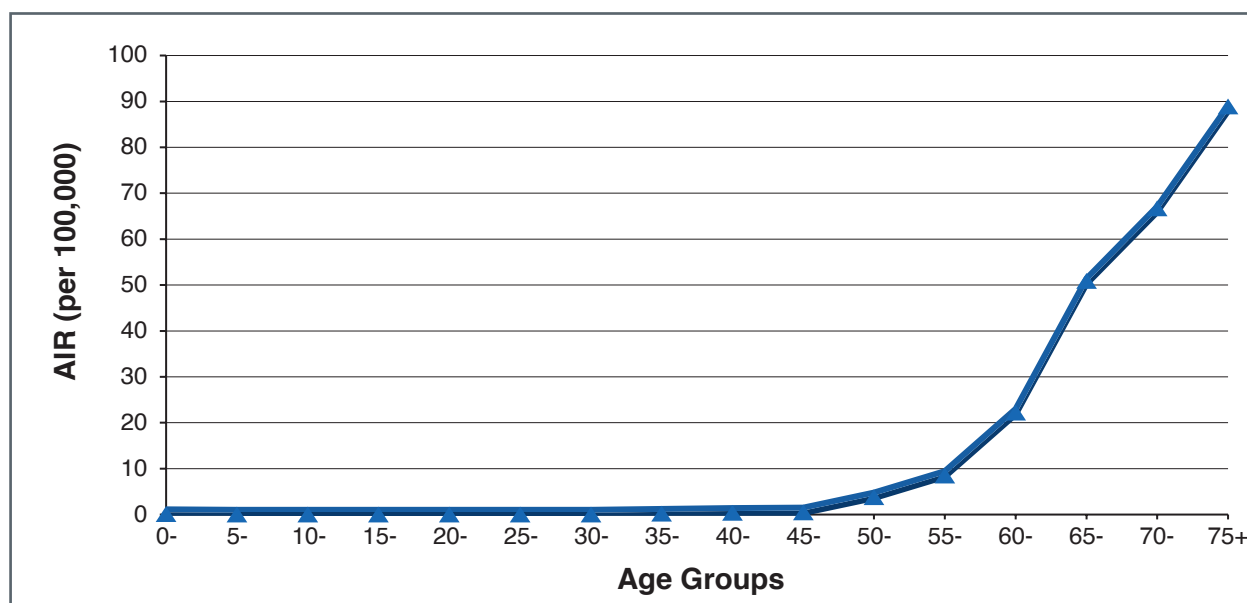


Figure 3.11.1 Age-Specific Incidence Rate (AIR) for Prostate Cancer in Saudi Arabia, 2009

ICD-O-3	Morphology	Male	%
8140	Adenocarcinoma, NOS	265	89.8
8000	Neoplasm, malignant	13	4.4
8010	Carcinoma, NOS	9	3.1
8550	Acinar cell carcinoma	5	1.7
8070	Squamous cell carcinoma, NOS	1	0.3
8260	Papillary adenocarcinoma, NOS	1	0.3
8910	Embryonal rhabdomyosarcoma, NOS	1	0.3
	All	295	100.0

Table 3.11.1 Morphological Distribution of Prostate Cancer in Saudi Arabia, 2009

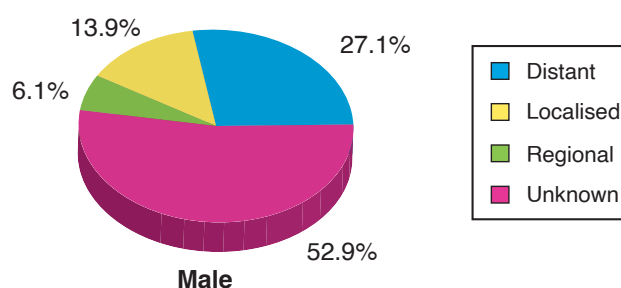
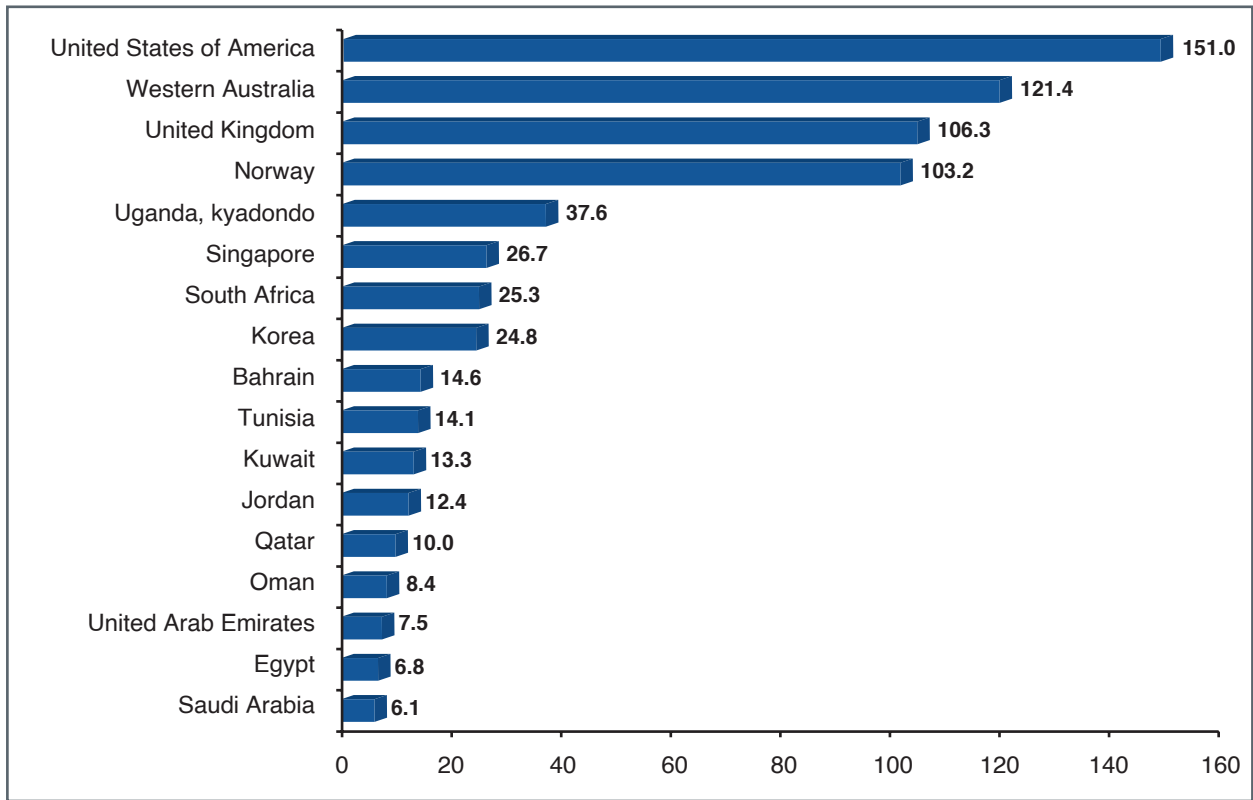


Figure 3.11.2 Stage Distribution of Prostate Cancer in Saudi Arabia, 2009



**Figure 3.11.4 Comparison of ASR\* for Prostate Cancer among Saudi males with ASR in Selected Countries\*\***

\* ASR Per 100,000

\*\* Source for this information is summarized on page 64

## Corpus uteri (C 54)

There were 253 cases of corpus uteri cancer among females accounting for 4.9% of all newly diagnosed cases for females (5,205) in year 2009. This cancer ranked sixth among female population. The ASR was 5.3/100,000 for female population.

The median age at diagnosis was 62 years (range 28-93 years).

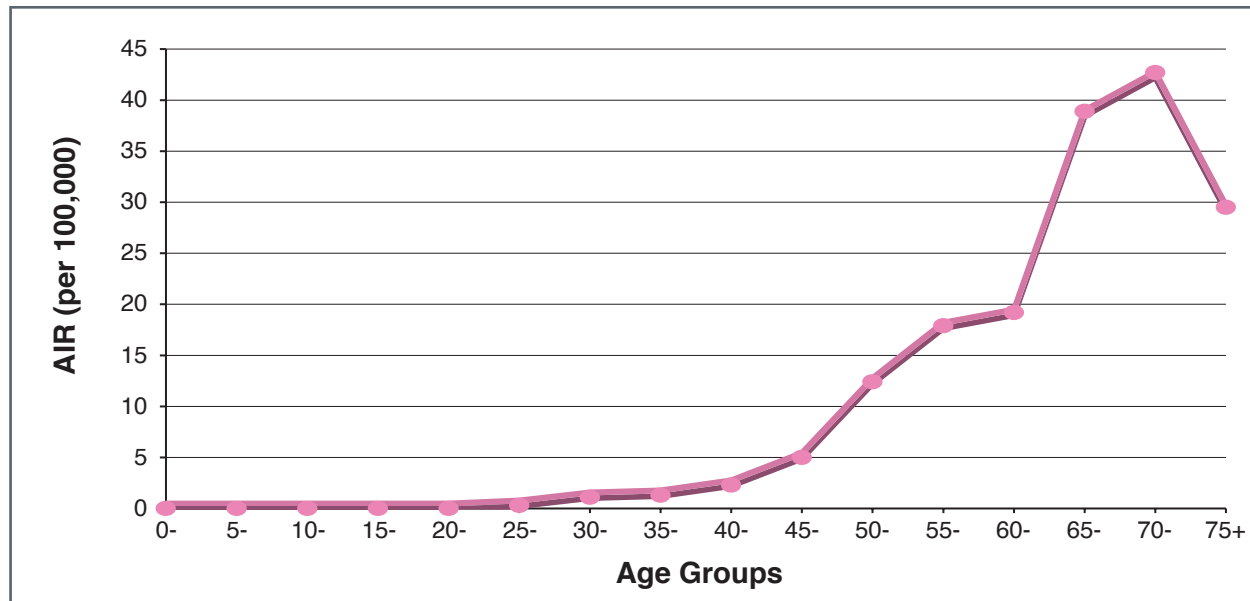


Figure 3.12.1 Age-Specific Incidence Rate (AIR) for Corpus uteri Cancer in Saudi Arabia, 2009

ICD-O-3	Morphology	Female	%
8380	Endometrioid adenocarcinoma, NOS	146	57.7
8140	Adenocarcinoma, NOS	34	13.4
8010	Carcinoma, NOS	11	4.3
8950	Mullerian mixed tumor	10	4.0
8460	Papillary serous cystadenocarcinoma	7	2.8
8930	Endometrial stromal sarcoma, NOS	6	2.4
8310	Clear cell adenocarcinoma, NOS	5	2.0
8441	Serous cystadenocarcinoma, NOS	5	2.0
8461	Serous surface papillary carcinoma	5	2.0
8980	Carcinosarcoma, NOS	5	2.0
8931	Endometrial stromal sarcoma, low grade	4	1.6
8382	Endometrioid adenocarcinoma, secretory variant	3	1.2
8560	Adenosquamous carcinoma	3	1.2
8050	Papillary carcinoma, NOS	2	0.8
8890	Leiomyosarcoma, NOS	2	0.8
	Others	5	2.0

Table 3.12.1 Morphological Distribution of Corpus uteri Cancer in Saudi Arabia, 2009

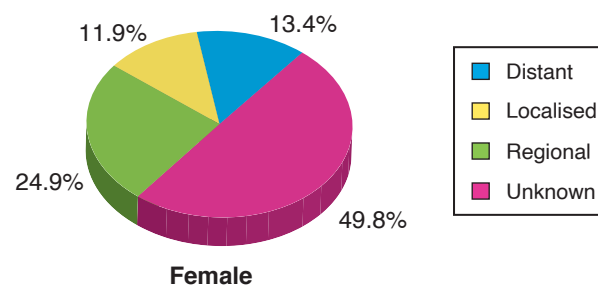
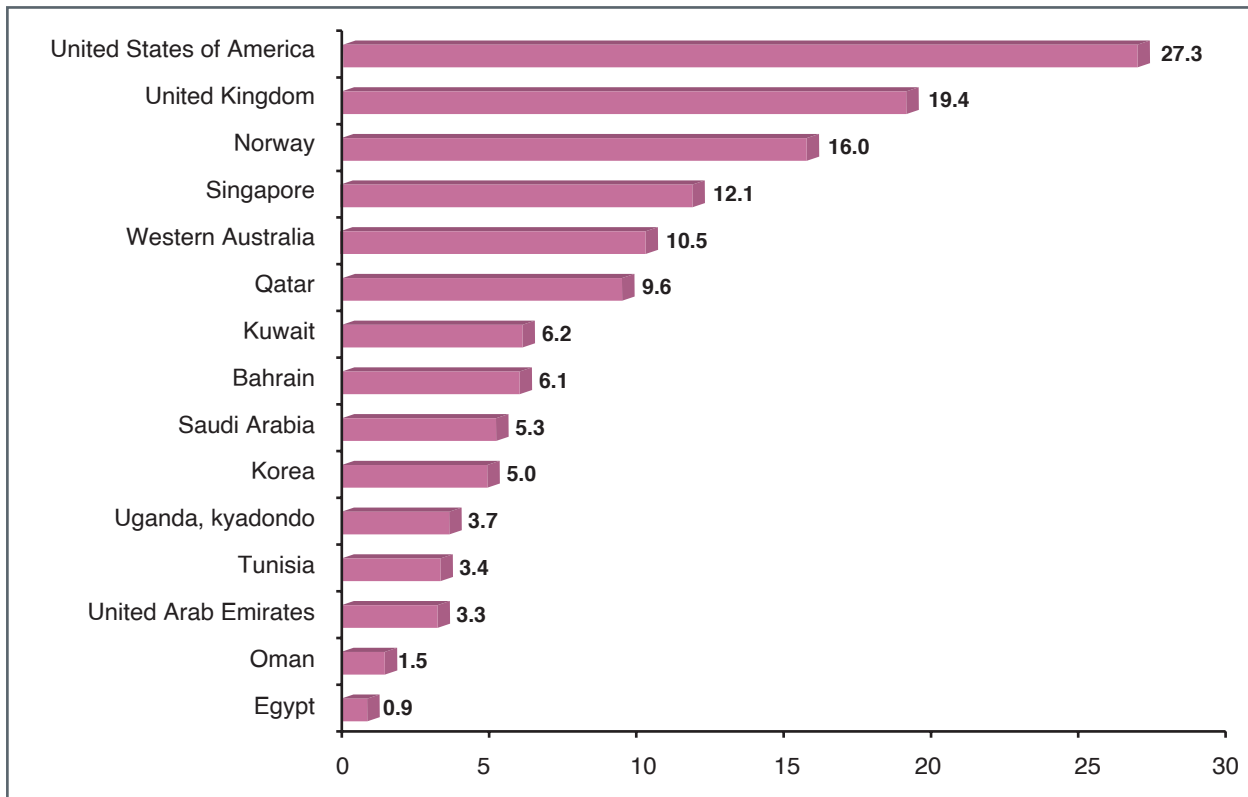


Figure 3.12.2 Stage Distribution of Corpus uteri Cancer, 2009



**Figure 3.12.4 Comparison of ASR\* for Corpus uteri Cancer among Saudi females with ASR in Selected Countries\*\***

\* ASR Per 100,000

\*\* Source for this information is summarized on page 64

## Bladder (C 67)

There were 235 cases of bladder cancer accounting for 2.4% of all newly diagnosed cases in year 2009. This cancer ranked eighth among male population and 23<sup>rd</sup> among female population. It affected 197 (83.8%) males and 38 (16.2%) females with a male to female ratio of 517:100. The overall ASR

was 2.3/100,000. ASR was 3.9/100,000 for males and 0.7/100,000 for females. The median age at diagnosis was 65 among males (range 18-100 years) and 70 among females (range 7-95 years).

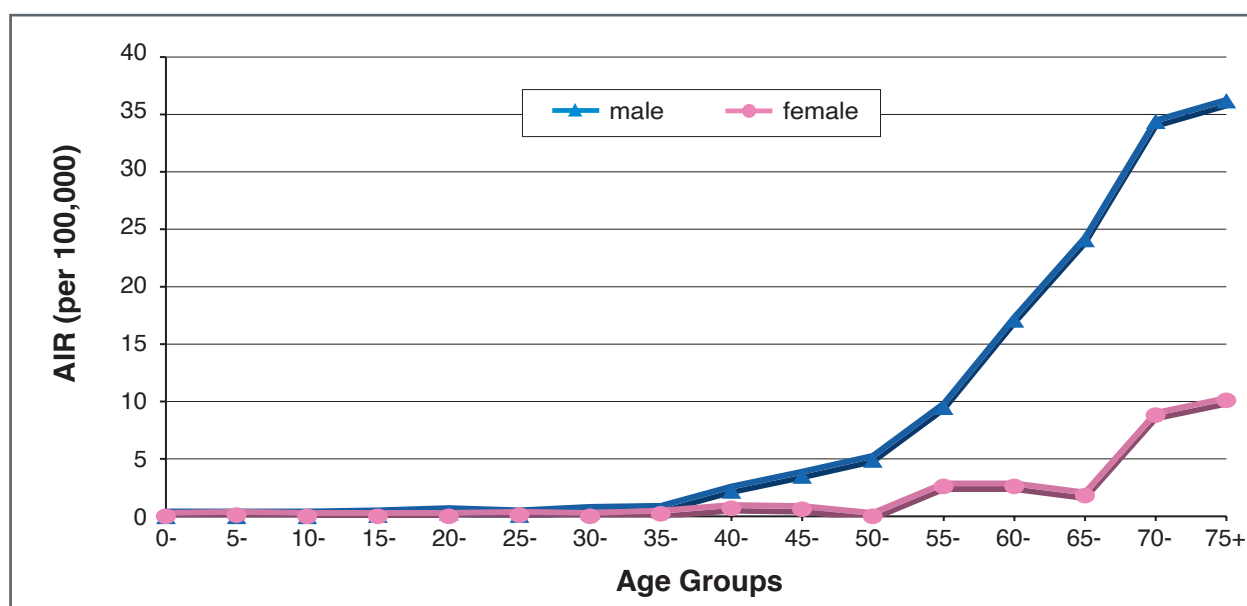


Figure 3.13.1 Age-Specific Incidence Rate (AIR) for Bladder Cancer in Saudi Arabia, 2009

ICD-O-3	Morphology	Male	%	Female	%
8130	Papillary transitional cell carcinoma	94	47.7	16	42.1
8120	Transitional cell carcinoma, NOS	69	35.0	14	36.8
8000	Neoplasm, malignant	8	4.1	1	2.6
8070	Squamous cell carcinoma, NOS	8	4.1	1	2.6
8071	Squamous cell carcinoma, keratinizing, NOS	4	2.0	2	5.3
8140	Adenocarcinoma, NOS	4	2.0	1	2.6
8010	Carcinoma, NOS	2	1.0	1	2.6
8072	Squamous cell carcinoma, large cell, nonkeratinizing, NOS	2	1.0	1	2.6
	Others	6	3.0	1	2.6

Table 3.13.1 Morphological Distribution of Bladder Cancer in Saudi Arabia, 2009

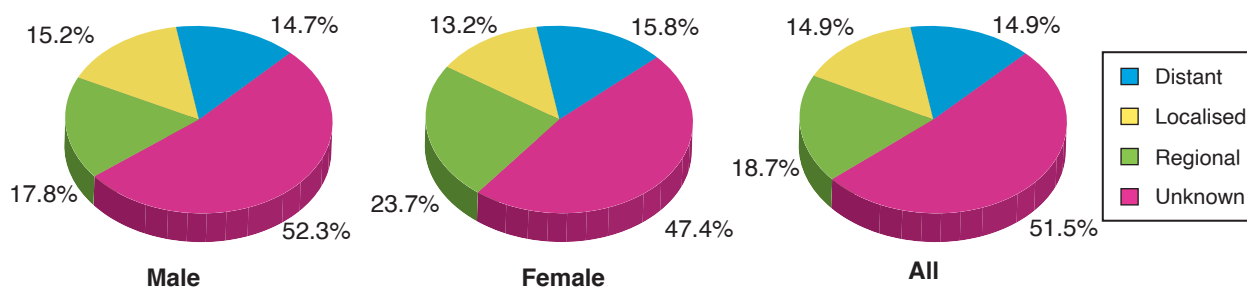
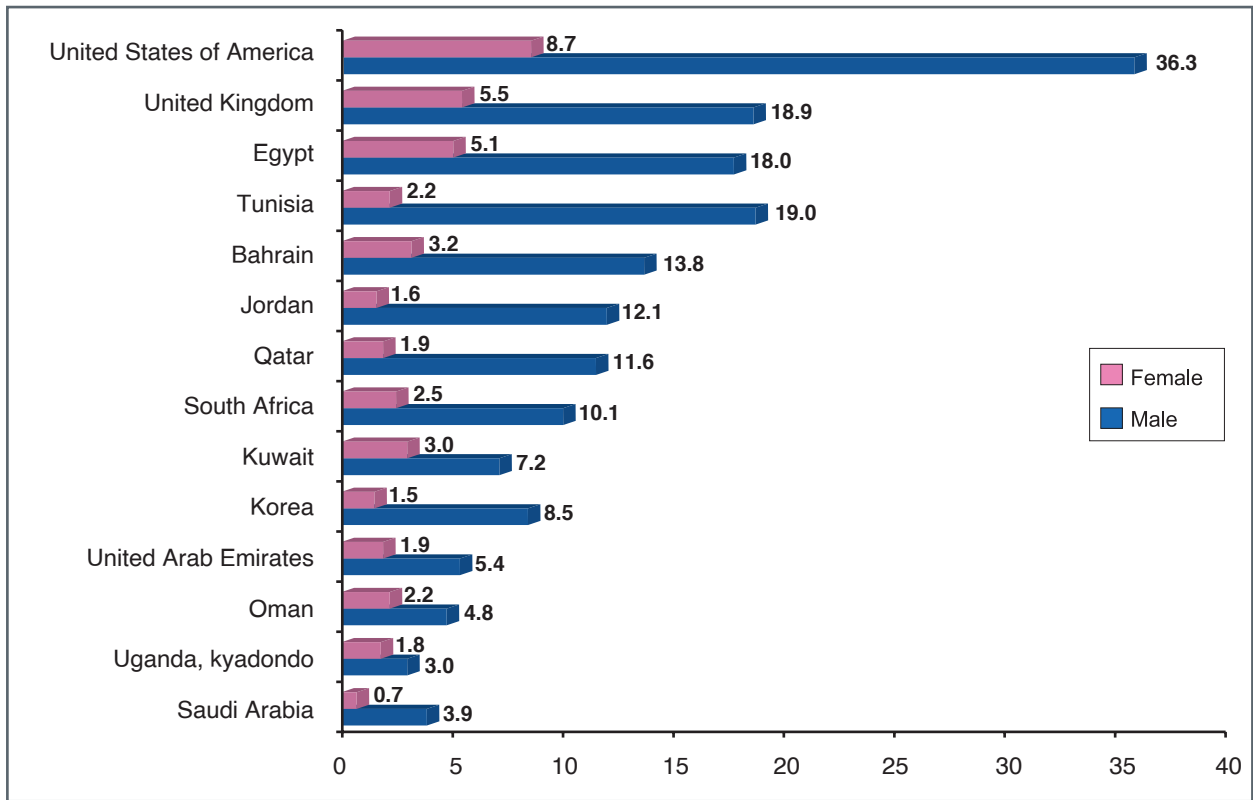


Figure 3.13.2 Stage Distribution of Bladder Cancer, 2009



**Figure 3.13.4 Comparison of ASR\* for Bladder Cancer among Saudis with ASR in Selected Countries\*\***

\* ASR Per 100,000

\*\* Source for this information is summarized on page 64

## Ovarian Cancer (C 56)

There were 173 cases of ovarian cancer among females accounting for 3.3% of all newly diagnosed cases among females (5,205) in year 2009. This cancer ranked seventh among female population.

The ASR was 3/100,000 for females. The median age at diagnosis was 51 years (range 0-97 years).

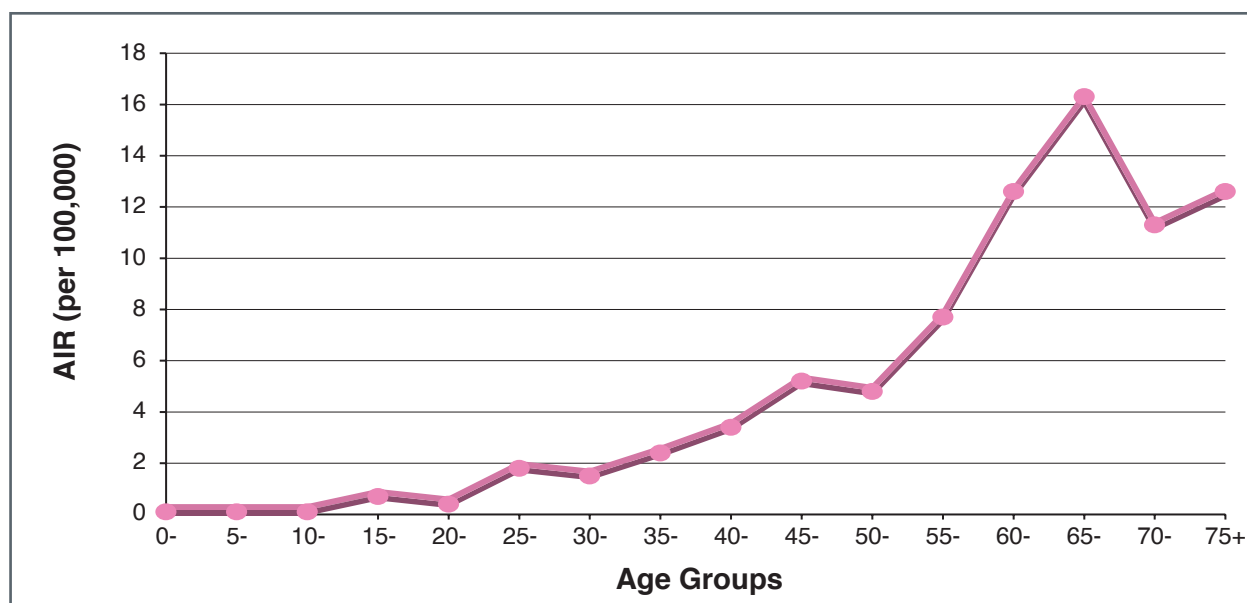


Figure 3.14.1 Age-Specific Incidence Rate (AIR) for Ovarian Cancer in Saudi Arabia, 2009

ICD-O-3	Morphology	Female	%
8460	Papillary serous cystadenocarcinoma	30	17.3
8441	Serous cystadenocarcinoma, NOS	28	16.2
8140	Adenocarcinoma, NOS	22	12.7
8480	Mucinous adenocarcinoma	17	9.8
8000	Neoplasm, malignant	15	8.7
8010	Carcinoma, NOS	9	5.2
8380	Endometrioid adenocarcinoma, NOS	9	5.2
9060	Dysgerminoma	7	4.0
8461	Serous surface papillary carcinoma	6	3.5
9080	Teratoma, malignant, NOS	5	2.9
9085	Mixed germ cell tumor	4	2.3
8310	Clear cell adenocarcinoma, NOS	3	1.7
8260	Papillary adenocarcinoma, NOS	2	1.2
8470	Mucinous cystadenocarcinoma, NOS	2	1.2
8950	Mullerian mixed tumor	2	1.2
	Others	12	6.9

Table 3.14.1 Morphological Distribution of Ovarian Cancer in Saudi Arabia, 2009

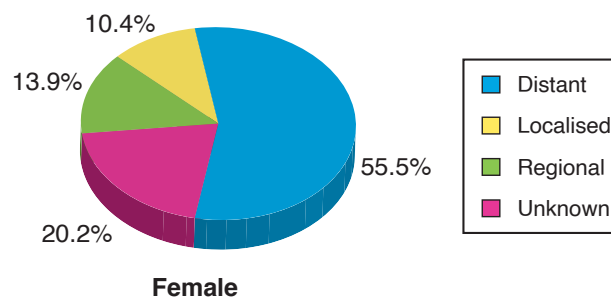
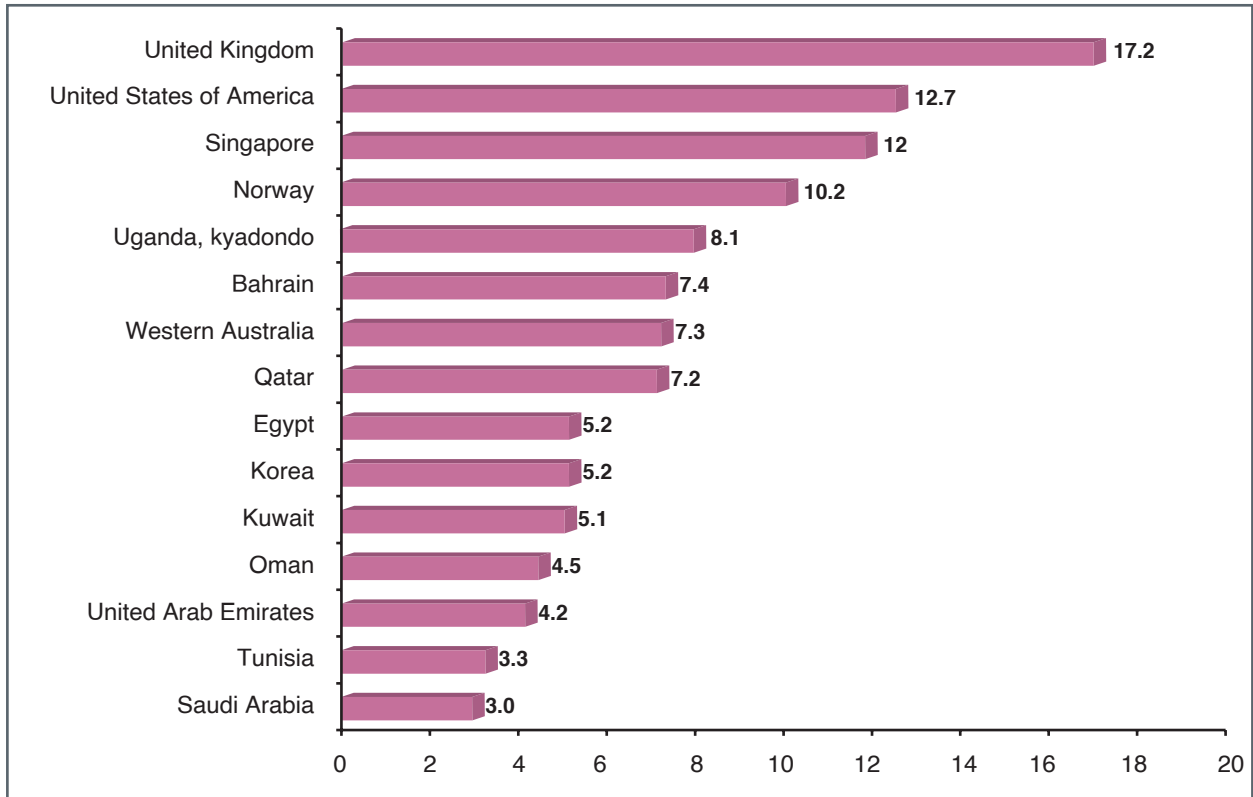


Figure 3.14.2 Stage Distribution of Ovarian Cancer, 2009



**Figure 3.14.4 Comparison of ASR\* for Ovarian Cancer among Saudi Females with ASR in Selected Countries\*\***

\* ASR Per 100,000

\*\* Source for this information is summarized on page 64

**\*\* Sources:**

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**PART IV**  
**CANCER AMONG NON-SAUDIS**  
**2009**



## Cancer Among Non- Saudi Population 2009

Between January and December 2009, a total of 2,948 cancer cases were reported among the Non-Saudi population. Seventy nine in situ cases and 7 were ICD-O-3 coded cases that failed to convert to ICD-10 codes as described in the data Management (see page 12). This puts the total number of exclusions from the analysis as 86 cases. As a result, the total number of cases analyzed were 2,860 out of this 1540 (53.8%) were males and 1,320 (46.2%) were females. The male to female ratio was 117:100. Taking into consideration the population structure of non-Saudis and the fact

that cancer is primarily a disease of the elderly, the pattern of cancer had some significant differences. Those under 15 years of age represented 19.4%, over 60 years represented 2% and the 15 to 59 age-group represented 78.7% of non-Saudi population. During 2009, approximately 3.6% of all cancers occurred before the age of 15, 23.2% occurred between the ages 15 to 39 years, 57.6% were between the ages 40-64, and 14.2% occurred after the age of 64. The median age at diagnosis was 52 years in males (range 0-95 years) and 45 years in females (range 0-108 years).

Cancer	No.	%
Breast	552	19.3
Colo-Rectal	323	11.3
Leukemia	160	5.6
Skin	152	5.3
NHL	148	5.2
Thyroid	129	4.5
Prostate	117	4.1
Lung	111	3.9
Stomach	86	3.0
Bladder	81	2.8
Other Sites	1001	35.0

Table 4.1 Ten Most common Cancers among non-Saudis, 2009

Nationality	Male	%	Female	%	All	%
Yemen	274	17.3	195	14.3	469	15.9
Egypt	220	13.9	142	10.4	362	12.3
Sudan	141	8.9	122	9.0	263	8.9
Philippines	110	6.9	132	9.7	242	8.2
Pakistan	115	7.3	68	5.0	183	6.2
Syrian Arab Republic	103	6.5	72	5.3	175	5.9
India	100	6.3	59	4.3	159	5.4
Indonesia	15	0.9	85	6.2	100	3.4
Palestinian	75	4.7	53	3.9	128	4.3
Jordan	43	2.7	53	3.9	96	3.3
Bahrain	21	1.3	36	2.6	57	1.9
Bangladesh	46	2.9	9	0.7	55	1.9
Eritrea	22	1.4	32	2.3	54	1.8
United States of America	40	2.5	13	1.0	53	1.8
Ethiopia	9	0.6	42	3.1	51	1.7
Somalia	18	1.1	26	1.9	44	1.5
United Kingdom	29	1.8	11	0.8	40	1.4
Morocco	12	0.8	23	1.7	35	1.2
Lebanon	19	1.2	13	1.0	32	1.1
Nigeria	17	1.1	15	1.1	32	1.1
Chad	15	0.9	16	1.2	31	1.1
Afghanistan	16	1.0	13	1.0	29	1.0
Kuwait	8	0.5	16	1.2	24	0.8
Sri Lanka	10	0.6	10	0.7	20	0.7
Myanmar (formerly Burma)	3	0.2	15	1.1	18	0.6
Canada	8	0.5	8	0.6	16	0.5
Qatar	1	0.1	5	0.4	6	0.2
Oman	1	0.1	1	0.1	2	0.1
Other Nationalities	95	6.0	77	5.7	172	5.8

Table 4.2 Distribution of Cancer Cases among Different Nationalities in Order of Relative Frequency, 2009

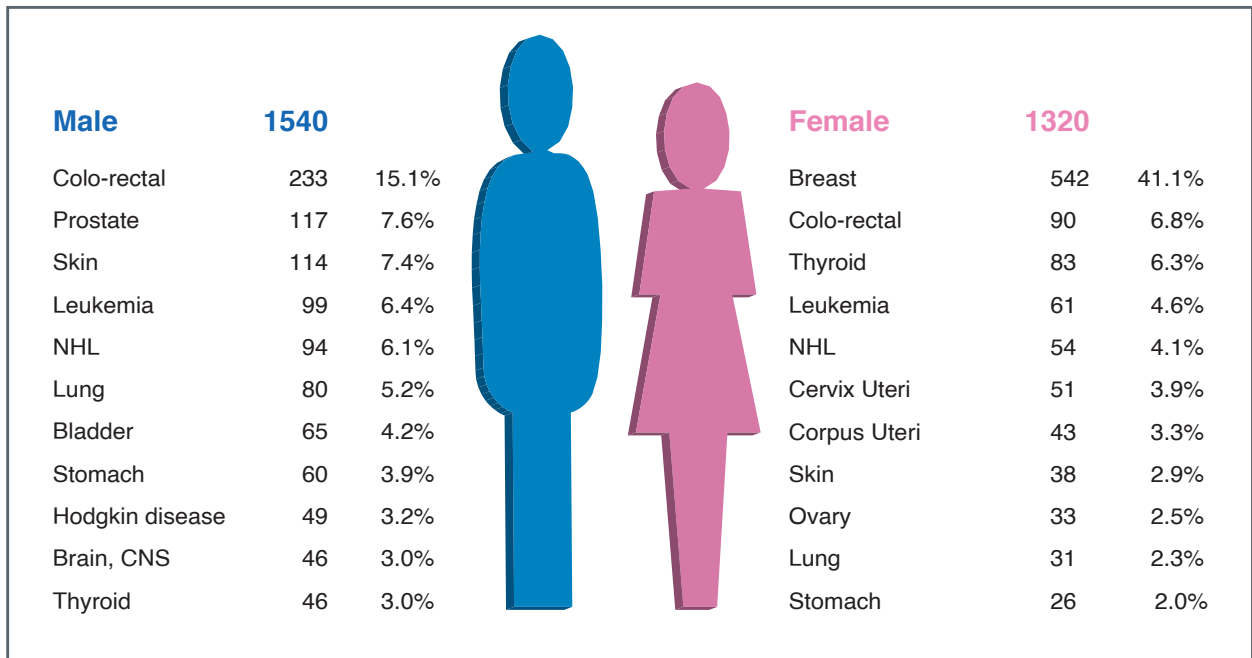


Figure 4.1 Ten Most Common Cancer among non-Saudis by sex, 2009

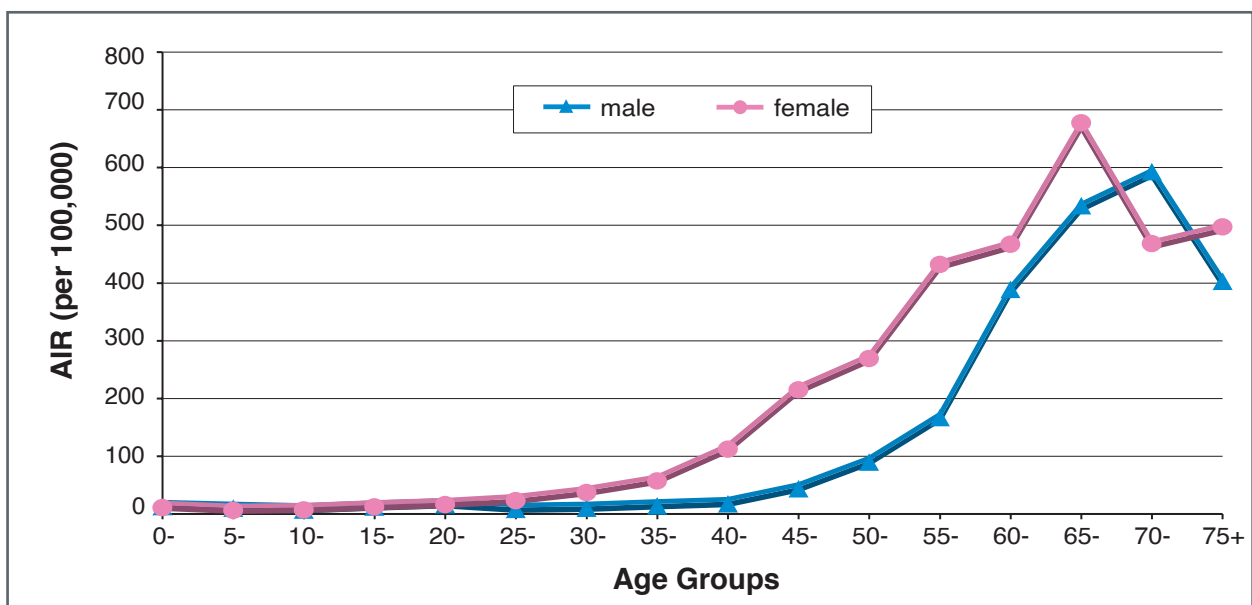


Figure 4.2 Age-Specific Incidence Rate (AIR) for All Cancers among non-Saudis in Saudi Arabia, 2009

# **PART V**

# **TABLES**

Table 5. I. I Number of Cancer Cases among Saudi Males by Primary Site and Age Groups, 2009

ICD (10th)	Site	All Ages	Age Unk	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75+	Total (%)
C00	Lip	6	0	0	0	0	0	0	0	0	0	0	1	1	1	2	0	0	0	0.1
C01-C02	Tongue	42	0	0	0	0	0	0	0	0	0	2	4	6	4	4	7	4	10	0.9
C03-C06	Mouth	39	0	0	0	0	0	1	1	1	4	1	3	2	1	5	7	6	7	0.8
C07-C08	Salivary glands	17	0	0	1	0	0	2	0	0	0	1	6	0	1	1	1	2	1	0.4
C09	Tonsil	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
C10	Other Oropharynx	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0.0
C11	Nasopharynx	93	0	0	0	1	2	2	1	9	9	11	15	10	6	8	8	4	7	2.0
C12-C13	Hypopharynx	6	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	3	0	0.1
C14	Pharynx unspecified.	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.0
C15	Oesophagus	67	0	0	0	0	0	0	0	0	0	0	1	5	2	6	9	6	11	1.5
C16	Stomach	201	0	1	0	1	1	0	3	0	5	11	13	12	14	22	19	44	55	4.4
C17	Small intestine	30	0	0	0	0	0	0	0	0	0	3	2	0	4	3	3	4	7	0.6
C18	Colon	341	0	0	0	1	3	1	7	10	13	27	30	38	30	39	50	29	63	7.4
C19-C20	Rectum	276	0	0	0	0	0	2	5	6	13	20	26	37	37	28	26	31	45	6.0
C21	Anus	21	0	0	0	0	0	0	0	1	0	2	1	3	2	3	1	2	5	0.5
C22	Liver	295	0	2	2	1	0	2	0	4	0	12	11	17	34	40	42	47	81	6.4
C23-C24	Gallbladder etc.	56	0	0	0	0	0	0	0	0	2	1	2	6	5	6	6	9	19	1.2
C25	Pancreas	117	0	0	0	0	0	0	0	1	6	7	6	10	10	17	17	10	33	2.5
C30-C31	Nose, sinuses etc.	5	0	0	1	0	0	0	0	0	1	0	1	0	1	0	1	0	0	0.1
C32	Larynx	55	0	0	0	0	0	0	0	0	0	0	2	10	5	11	10	12	12	1.2
C33-C34	Trachea, Bronchus, Lung	276	0	1	1	0	1	1	2	4	2	8	14	27	26	36	57	41	56	6.0
C37-C38	Other Thoracic organs	17	0	3	0	1	1	1	1	0	1	0	1	2	0	1	2	0	4	0.4
C40-C41	Bone	59	0	2	6	12	18	6	2	2	2	3	2	1	0	1	1	0	1	1.3
C43	Melanoma of Skin	13	0	1	0	0	1	1	1	1	0	0	0	1	0	0	1	1	6	0.3
C44	Other Skin	181	0	0	0	0	1	7	4	9	0	6	6	9	10	24	22	35	48	3.9
C45	Mesothelioma	5	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	1	1	0.1
C46	Kaposi sarcoma	33	0	0	0	0	0	0	1	0	0	3	5	2	2	3	5	2	10	0.7
C47,C49	Connective, Soft tissue	70	0	6	5	3	5	6	2	6	4	6	6	8	1	0	3	2	7	1.5
C50	Breast	23	0	1	0	0	0	2	0	0	1	1	1	3	2	3	4	2	4	0.5
C60	Penis	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0.0
C61	Prostate	295	0	1	0	0	0	0	0	0	0	1	2	2	11	18	35	55	62	6.4
C62	Testis	74	0	2	1	1	6	16	15	7	9	6	4	5	0	0	0	1	1	1.6
C63	Other male genital	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
C64	Kidney	174	0	19	4	3	0	0	0	6	5	21	18	16	15	17	12	22	16	3.8
C65	Renal Pelvis	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.1
C66	Ureter	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
C67	Bladder	197	0	0	0	0	1	3	1	3	3	10	13	14	20	27	26	32	44	4.3
C68	Other Urinary organs	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
C69	Eye	28	0	11	1	1	1	1	0	0	0	1	0	1	0	0	3	2	1	0.6
C70-C72	Brain, Nervous system	145	0	20	11	12	6	14	9	3	3	6	11	9	6	9	7	10	9	3.1
C73	Thyroid	141	0	0	0	1	4	7	15	8	23	11	20	9	6	8	7	10	12	3.1
C74	Adrenal gland	18	0	12	3	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0.4
C75	Other Endocrine	5	0	0	1	1	1	0	0	1	0	1	0	0	0	0	0	0	0	0.1
C81	Hodgkin disease	194	0	4	10	24	27	25	22	14	8	10	15	7	7	6	6	3	6	4.2
C82-C85;C96	Non-Hodgkin lymphoma	422	0	10	8	18	22	18	26	23	12	27	29	27	31	29	34	35	73	9.1
C88	Immunoproliferative dis.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
C90	Multiple Myeloma	57	0	0	0	0	1	1	2	1	2	2	4	14	2	6	7	7	11	1.2
C91	Lymphoid Leukemia	180	0	42	24	19	22	6	6	1	4	3	5	5	5	10	5	7	16	3.9
C92-C94	Myeloid Leukemia	145	0	6	4	13	11	16	6	12	12	7	7	14	8	5	6	10	8	3.1
C95	Leukemia unspecified	18	0	1	1	1	1	1	1	2	0	0	1	2	0	0	1	3	2	0.4
Other	Other & unspecified	166	0	5	1	1	1	4	4	2	1	11	10	11	8	18	22	25	42	3.6
All	All sites Total	4618	0	150	83	116	136	145	137	138	153	247	300	357	330	432	494	533	867	100.0
Not C44	All sites but C44	4437	0	150	83	116	135	138	133	129	153	241	294	348	320	408	472	498	819	96.1

Table 5.1.1.2 Number of Cancer Cases among Saudi Females by Primary Site and Age Groups, 2009

ICD (10th)	Site	All Ages	Age Unk	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75+	Total (%)
C00	Lip	8	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	4	0	0.2
C01-C02	Tongue	37	0	0	0	0	0	0	0	0	0	3	5	6	5	3	6	5	0	0.7
C03-C06	Mouth	37	0	0	0	1	1	1	1	0	2	2	4	1	2	3	8	4	8	0.7
C07-C08	Salivary glands	21	0	0	2	3	2	0	0	0	2	6	1	1	1	0	1	1	1	0.4
C09	Tonsil	3	0	0	0	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0.1
C10	Other Oropharynx	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
C11	Nasopharynx	42	0	0	0	3	3	3	3	2	1	7	5	7	2	4	1	1	3	0.8
C12-C13	Hypopharynx	11	0	0	0	0	0	0	0	0	0	3	0	3	0	0	1	2	1	0.2
C14	Pharynx unspecified.	3	0	0	0	0	0	0	0	1	1	2	0	2	0	0	0	0	1	0.1
C15	Oesophagus	46	0	0	0	0	0	0	0	1	2	0	3	6	2	5	8	5	13	0.9
C16	Stomach	112	0	0	0	0	0	0	3	9	4	8	11	12	11	10	12	12	20	2.2
C17	Small intestine	26	0	0	0	0	0	0	0	0	0	4	4	3	4	0	2	3	3	0.5
C18	Colon	299	0	0	0	2	2	2	7	11	13	22	34	45	31	23	39	22	48	5.7
C19-C20	Rectum	193	0	0	0	0	0	1	3	7	11	16	25	17	32	16	20	17	28	3.7
C21	Anus	14	0	0	0	0	0	0	1	1	1	0	2	3	3	0	2	1	1	0.3
C22	Liver	136	0	4	0	2	2	2	2	0	2	6	10	14	13	19	11	22	29	2.6
C23-C24	Gallbladder etc.	87	0	0	0	0	0	0	0	0	3	7	6	11	4	9	16	11	20	1.7
C25	Pancreas	82	0	1	0	0	0	1	0	1	2	8	6	5	8	11	6	18	15	1.6
C30-C31	Nose, sinuses etc.	5	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0.1
C32	Larynx	18	0	0	0	0	0	0	0	0	1	0	0	1	2	4	1	2	5	0.3
C33-C34	Trachea, Bronchus, Lung	103	0	0	1	0	1	0	3	2	2	7	8	20	7	9	19	6	18	2.0
C37-C38	Other Thoracic organs	9	0	3	0	0	0	0	1	0	0	2	0	1	0	0	1	0	0	0.2
C40-C41	Bone	43	0	2	5	11	7	3	3	5	1	0	1	0	2	0	2	1	0	0.8
C43	Melanoma of Skin	8	0	0	0	0	0	0	1	0	0	2	0	1	1	0	1	1	1	0.2
C44	Other Skin	141	0	0	0	1	1	2	8	6	7	4	14	8	8	16	15	16	35	2.7
C45	Mesothelioma	10	0	0	0	0	0	0	0	0	0	2	3	2	0	3	0	0	0	0.2
C46	Kaposi sarcoma	4	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0.1
C47;C49	Connective, Soft tissue	65	0	9	4	2	6	8	6	3	5	3	6	3	1	3	2	0	4	1.2
C50	Breast	1308	0	0	0	1	10	44	93	132	209	237	237	170	114	113	83	50	52	25.1
C51	Vulva	6	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	1	0.1
C52	Vagina	3	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0.1
C53	Cervix Uteri	101	0	1	0	0	0	0	3	3	13	17	12	11	8	10	11	2	10	1.9
C54	Corpus Uteri	253	0	0	0	0	0	2	7	7	10	17	34	35	29	43	34	35	35	4.9
C55	Uterus unspecified.	28	0	0	0	0	0	0	2	0	2	4	2	4	2	6	3	5	1	0.5
C56	Ovary	173	0	1	1	7	4	14	10	13	15	18	13	15	19	19	18	9	15	3.3
C57	Other Female Genital	8	0	0	0	0	1	0	0	1	0	1	0	1	1	1	0	2	0	0.2
C58	Placenta	10	0	0	0	1	1	1	1	1	1	3	2	0	0	0	0	0	0	0.2
C64	Kidney	120	0	21	4	0	0	4	7	6	8	7	14	10	7	7	11	6	8	2.3
C65	Renal Pelvis	3	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0.1
C66	Ureter	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
C67	Bladder	38	0	0	1	0	0	0	1	0	1	3	2	0	5	4	2	7	12	0.7
C68	Other Urinary organs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
C69	Eye	22	0	12	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4
C70-C72	Brain, Nervous system	103	0	10	11	7	3	3	11	5	6	6	4	3	6	7	8	3	10	2.0
C73	Thyroid	538	0	0	1	24	54	68	59	77	56	66	66	40	30	20	21	10	12	10.3
C74	Adrenal gland	10	0	6	2	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0.2
C75	Other Endocrine	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
C81	Hodgkin disease	150	0	2	12	9	37	29	17	6	1	10	4	5	3	2	3	3	7	2.9
C82-C85;C96	Non-Hodgkin lymphoma	287	0	3	2	5	11	14	16	16	13	15	23	31	24	23	25	29	37	5.5
C88	Immunoproliferative dis.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
C90	Multiple Myeloma	39	0	0	0	0	0	0	0	1	1	2	3	6	3	7	5	4	7	0.7
C91	Lymphoid Leukemia	127	0	46	18	15	9	4	3	3	3	4	2	4	1	3	4	5	3	2.4
C92-C94	Myeloid Leukemia	126	0	10	6	8	14	14	8	7	3	7	12	7	6	4	9	5	6	2.4
C95	Leukemia unspecified	23	0	3	1	3	2	1	1	0	0	2	1	0	2	1	2	1	1	0.4
Other	Other & unspecified	162	0	2	2	0	3	1	3	1	9	4	8	13	19	13	16	14	20	3.1
All	All sites Total	5205	0	139	72	67	137	167	240	277	349	495	586	531	420	418	442	344	521	100.0
Not C44	All sites but C44	5064	0	139	72	66	136	165	232	271	342	491	572	523	412	402	427	328	486	97.3

Table 5.1.3 Age-Specific Incidence Rate (AIR), Age-Standardized Incidence Rate (ASR) among Saudi Males (per 100,000) by Primary Site and Age Groups, 2009

ICD (10th)	Site	All Ages	Age Unk	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75+	Crude Rate	ASR World
C00	Lip	6	0	0	0	0	0	0	0	0	0	0	0.3	0.3	0.5	0.6	1.9	0	0	0.1	0.1
C01-C02	Tongue	42	0	0	0	0	0	0	0	0.1	0.4	0.1	1.1	2.1	1.9	2.5	6.5	4.3	8.2	0.5	0.8
C03-C06	Mouth	39	0	0	0	0	0	0.1	0.1	0.1	0.7	0.2	0.8	0.7	0.5	3.2	6.5	6.5	5.8	0.4	0.8
C07-C08	Salivary glands	17	0	0	0	0	0	0.2	0	0	0.2	1.3	0	0.3	0.5	0.6	0.9	2.2	0.8	0.2	0.3
C09	Tonsil	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C10	Other Oropharynx	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	0	0	0	0	0
C11	Nasopharynx	93	0	0	0	0.1	0.2	0.2	0.1	1.3	1.6	2.4	4.1	3.5	2.8	5.1	7.4	4.3	5.8	1	1.5
C12-C13	Hypopharynx	6	0	0	0	0	0	0	0	0	0	0	0	0.7	0.5	0	0	3.2	0	0.1	0.1
C14	Pharynx unspecified.	1	0	0	0	0	0	0	0	0	0	0	0.3	0	0	0	0	0	0	0	0
C15	Oesophagus	67	0	0	0	0	0	0	0	0	0	0.2	1.4	0.7	2.8	5.7	5.6	11.8	22.2	0.7	1.3
C16	Stomach	201	0	0.1	0	0.1	0.1	0	0.4	0	0.9	2.4	3.5	4.2	6.6	14	17.6	47.3	45.3	2.2	3.9
C17	Small intestine	30	0	0	0	0	0	0	0	0	0.5	0.4	0	1.4	1.9	2.8	4.3	5.8	0.6	0.6	0.6
C18	Colon	341	0	0	0	0.1	0.3	0.1	0.9	1.5	2.4	5.9	8.2	13.2	14.2	24.8	46.3	31.2	51.9	3.7	6.5
C19-C20	Rectum	276	0	0	0	0	0	0.2	0.6	0.9	2.4	4.4	7.1	12.9	17.5	17.8	24.1	33.3	37	3	5.1
C21	Anus	21	0	0	0	0	0	0	0.1	0	0.1	0	0.4	0.3	1	0.9	1.9	0.9	2.2	4.1	0.4
C22	Liver	295	0	0.2	0.2	0.1	0	0.2	0	0.6	0	2.6	3	5.9	16.1	25.4	38.9	50.5	66.7	3.2	5.9
C23-C24	Gallbladder etc.	56	0	0	0	0	0	0	0	0	0.4	0.2	0.5	2.1	2.4	3.8	5.6	9.7	15.6	0.6	1.1
C25	Pancreas	117	0	0	0	0	0	0	0	0.1	1.1	1.5	1.6	3.5	4.7	10.8	15.7	10.8	27.2	1.3	2.3
C30-C31	Nose, sinuses etc.	5	0	0	0	0	0	0	0	0.1	0	0.2	0	0	0.5	0	0.9	0	0	0.1	0.1
C32	Larynx	55	0	0	0	0	0	0	0	0	0	0	0.5	3.5	2.4	3.2	10.2	10.8	9.9	0.6	1.1
C33-C34	Trachea, Bronchus, Lung	276	0	0.1	0.1	0	0	0.1	0.3	0.6	0.4	1.7	3.8	9.4	12.3	22.9	52.7	44.1	46.1	3	5.7
C37-C38	Other Thoracic organs	17	0	0.2	0	0	0.1	0.1	0.1	0	0.2	0	0.3	0.7	0	0.6	1.9	0	3.3	0.2	0.3
C40-C41	Bone	59	0	0.2	0.5	1.1	1.8	0.6	0.3	0.3	0.4	0.7	0.5	0.3	0	0.6	0.9	0	0.8	0.6	0.6
C43	Melanoma of Skin	13	0	0.1	0	0	0	0.1	0.1	0.1	0	0	0	0.3	0	0	0.9	1.1	4.9	0.1	0.2
C44	Other Skin	181	0	0	0	0	0.1	0.7	0.5	1.3	0	1.3	1.6	3.1	4.7	15.2	20.4	37.6	39.5	2	3.5
C45	Mesothelioma	5	0	0	0	0	0	0	0	0	0.2	0.4	0	0	0	0	0	0	1.1	0.8	0.1
C46	Kaposi sarcoma	33	0	0	0	0	0	0	0	0	0.7	1.4	0.7	1.4	0.9	1.9	4.6	2.2	8.2	0.4	0.6
C47;C49	Connective, Soft tissue	70	0	0.5	0.4	0.3	0.5	0.6	0.3	0.9	0.7	1.3	1.6	2.8	0.5	0	2.8	2.2	5.8	0.8	0.9
C50	Breast	23	0	0.1	0	0	0	0.2	0	0	0.2	0.2	0.8	0.7	1.4	0	3.7	2.2	3.3	0.2	0.4
C60	Penis	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	0	1.1	0	0	0
C61	Prostate	295	0	0.1	0	0	0	0	0	0	0.2	0.4	0.5	3.8	8.5	22.2	50.9	66.7	88.9	3.2	6.1
C62	Testis	74	0	0.2	0.1	0.1	0.6	1.7	1.9	1	1.6	1.3	1.1	1.7	0	0	0	1.1	0.8	0.8	0.8
C63	Other male genital	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.1	0.8	0
C64	Kidney	174	0	1.6	0.4	0.3	0	0	0	0.9	0.9	4.6	4.9	5.6	7.1	10.8	11.1	23.7	13.2	1.9	3
C65	Renal Pelvis	5	0	0	0	0	0	0	0	0	0	0	0.5	0	0	0	0.9	0	1.6	0.1	0.1
C66	Ureter	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.8	0	0
C67	Bladder	197	0	0	0	0	0.1	0.3	0.1	0.4	0.5	2.2	3.5	4.9	9.5	17.1	24.1	34.4	36.2	2.1	3.9
C68	Other Urinary organs	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C69	Eye	28	0	0.9	0.1	0.1	0.1	0	0	0	0.2	0	0.3	0	0	1.9	1.9	1.1	4.9	0.3	0.4
C70-C72	Brain, Nervous system	145	0	1.7	1	1.1	0.6	1.5	1.1	0.4	0.5	1.3	3	3.1	2.8	5.7	6.5	10.8	7.4	1.6	2
C73	Thyroid	141	0	0	0	0.1	0.4	0.7	1.9	1.2	4.2	2.4	5.4	3.1	2.8	5.1	6.5	10.8	9.9	1.5	2.1
C74	Adrenal gland	18	0	1	0.3	0.1	0.1	0	0	0	0	0	0	0	0	0	0	1.1	0	0.2	0.2
C75	Other Endocrine	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.1	0	0.1	0.1
C81	Hodgkin disease	194	0	0.3	0.9	2.2	2.7	2.6	2.8	2.1	1.4	2.2	4.1	2.4	3.3	3.8	5.6	3.2	4.9	2.1	2.3
C82-C85;C96	Non-Hodgkin lymphoma	422	0	0.8	0.7	1.7	2.2	1.9	3.3	3.4	2.2	5.9	7.9	9.4	14.7	18.4	31.5	37.6	60.1	4.6	6.8
C88	Immunoproliferative dis.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.1	0	0
C90	Multiple Myeloma	57	0	0	0	0	0.1	0	0.1	0.3	0.4	0	1.1	4.9	0.9	3.8	6.5	7.5	9.1	0.6	1.1
C91	Lymphoid Leukemia	180	0	3.5	2.1	1.8	2.2	0.6	0.8	0.1	0.7	0.7	1.4	1.7	2.4	6.3	4.6	7.5	13.2	2	2.3
C92-C94	Myeloid Leukemia	145	0	0.5	0.4	1.2	1.1	1.7	0.8	1.8	2.2	1.5	1.9	4.9	3.8	3.2	5.6	10.8	6.6	1.6	2
C95	Leukemia unspecified.	18	0	0.1	0.1	0.1	0.1	0.1	0.3	0	0	0.2	0.5	0.7	0	0	0.9	3.2	1.6	0.2	0.3
Other	Other & unspecified	166	0	0.4	0.1	0.1	0.1	0.4	0.5	0.3	0.2	2.4	2.7	3.8	3.8	11.4	20.4	26.9	34.6	1.8	3.1
All	All sites Total	4618	0	12	7	11	13	15	17	20	28	54	82	124	156	274	457	573	714	50.1	80.9
Not C44	All sites but C44	4437	0	12	7	11	13	15	17	19	28	53	80	121	151	259	437	535	674	48.1	77.4

Table 5.1.4 Age-Specific Incidence Rate (AIR), Age-Standardized Incidence Rate (ASR) among Saudi Females (per 100,000) by Primary Site and Age Groups, 2009

ICD (10th)	Site	All Ages	Age Unk	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75+	Crude Rate	ASR World
C00	Lip	8	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.3	0.9	5	0	0	0.2
C01-C02	Tongue	37	0	0	0	0	0	0	0	0	0.6	1.1	1.7	1.8	1.5	4	4.5	5	3.4	0.4	0.7
C03-C06	Mouth	37	0	0	0	0.1	0.1	0.1	0.1	0	0	0.5	1.2	0.4	1	2	7.2	5	6.7	0.4	0.7
C07-C08	Salivary glands	21	0	0	0.2	0.3	0.2	0	0	0	0	1.4	0.3	0.4	0.5	0	0.9	1.3	0.8	0.2	0.3
C09	Tonsil	3	0	0	0	0	0	0	0	0	0	0.5	0	0	0.5	0	0	0	0	0	0
C10	Other Oropharynx	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C11	Nasopharynx	42	0	0	0	0.3	0.3	0.4	0.3	0.2	0.2	1.6	1.5	2.6	1	2.6	0.9	1.3	2.5	0.5	0.7
C12-C13	Hypopharynx	11	0	0	0	0	0	0	0	0	0.7	0	0	0.7	0	0	0	2.5	0.8	0.1	0.2
C14	Pharynx unspecified.	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1
C15	Oesophagus	46	0	0	0	0	0	0	0.1	0.2	0.4	0.9	0.9	2.2	1	3.3	7.2	6.3	11	0.5	0.9
C16	Stomach	112	0	0	0	0	0	0	0.4	1.4	0.7	1.8	3.2	4.4	5.6	6.6	10.9	15.1	16.9	1.3	2.1
C17	Small intestine	26	0	0	0	0	0	0	0	0	0.7	0.9	0.9	1.1	2	0	1.8	3.8	2.5	0.3	0.5
C18	Colon	299	0	0	0	0.2	0.2	0.9	1.7	2.4	5	9.9	16.4	15.8	15.2	15.2	35.3	27.6	40.5	3.4	5.7
C19-C20	Rectum	193	0	0	0	0	0.1	0.4	1.1	2	3.7	7.3	6.2	16.4	10.6	18.1	21.3	23.6	2.2	3.7	3.7
C21	Anus	14	0	0	0	0	0	0	0	0.2	0.2	0.6	1.1	1.5	0	1.8	1.3	0.8	0.2	0.2	0.3
C22	Liver	136	0	0.3	0	0.2	0.2	0.3	0	0.4	1.4	2.9	5.1	6.6	12.6	10	27.6	24.5	1.5	1.5	2.7
C23-C24	Gallbladder etc.	87	0	0.1	0	0	0	0	0	0.6	1.6	1.7	4	2	6	14.5	13.8	16.9	1	1.7	1.8
C25	Pancreas	82	0	0	0	0	0	0.1	0	0.2	0.4	1.8	1.7	1.8	4.1	7.3	5.4	22.6	12.6	0.9	1.7
C30-C31	Nose, sinuses etc.	5	0	0.1	0	0	0	0	0	0	0	0.3	0.4	0	0	0	0.9	0	0	0.1	0.1
C32	Larynx	18	0	0	0	0	0	0	0	0.2	0	0	0.3	0.7	1	2.6	0.9	2.5	4.2	0.2	0.4
C33-C34	Trachea, Bronchus, Lung	103	0	0.1	0	0.1	0	0.4	0.3	0.4	1.6	2.3	7.3	3.6	6	17.2	7.5	15.2	1.2	1.2	2
C37-C38	Other Thoracic organs	9	0	0.3	0	0	0	0.1	0	0	0.2	0.5	0	0.4	0	0	0.9	0	0	0.1	0.1
C40-C41	Bone	43	0	0.2	0.5	1	0.7	0.3	0.4	0.8	0.2	0	0.3	0	1	0	1.8	1.3	0	0.5	0.5
C43	Melanoma of Skin	8	0	0	0	0	0	0	0	0	0	0.5	0	0.4	0.5	0	0.9	1.3	0.8	0.1	0.1
C44	Other Skin	141	0	0	0.1	0.1	0.2	1	0.9	1.3	0.9	4.1	2.9	4.1	10.6	13.6	20.1	29.5	1.6	1.6	2.7
C45	Mesothelioma	10	0	0	0	0	0	0	0	0	0	0.5	0.9	0.7	0	2	0	0	0	0.1	0.2
C46	Kaposi sarcoma	4	0	0	0	0	0	0	0	0	0	0.2	0.3	0.4	0	0	0	1.3	0	0	0.1
C47;C49	Connective, Soft tissue	65	0	0.8	0.4	0.2	0.6	0.9	0.8	0.5	0.9	0.7	1.7	1.1	0.5	2	1.8	0	3.4	0.7	0.8
C50	Breast	1308	0	0	0	0.1	1.1	5.6	14	24.2	47.8	69.1	62.1	62.1	58.3	74.8	75.1	62.7	43.8	14.7	22.7
C51	Vulva	6	0	0	0	0	0	0	0	0	0	0	0	0.4	0	0	1.8	2.5	0.8	0.1	0.1
C52	Vagina	3	0	0	0	0	0	0	0	0	0	0	0.3	0	0	0	0.9	1.3	0	0	0.1
C53	Cervix Uteri	101	0	0.1	0	0	0	0	0.4	0.5	2.4	3.9	3.5	4	4.1	6.6	10	2.5	8.4	1.1	1.8
C54	Corpus Uteri	253	0	0	0	0	0	0.3	1.1	1.3	2.3	5	12.4	17.9	19.2	38.9	42.7	29.5	2.8	2.8	5.3
C55	Uterus unspecified.	28	0	0	0	0	0	0.3	0	0	0	0.5	1.2	0.7	3.1	2	4.5	1.3	2.5	0.3	0.6
C56	Ovary	173	0	0.1	0.1	0.1	0.7	0.4	1.8	1.5	2.4	3.4	5.2	4.8	7.7	12.6	16.3	11.3	12.6	1.9	3
C57	Other Female Genital	8	0	0	0	0	0.1	0	0	0.2	0	0.2	0	0.4	0.5	0.7	0	2.5	0	0.1	0.1
C58	Placenta	10	0	0	0	0.1	0.1	0.1	0.2	0.2	0.7	0.6	0	0	0	0	0	0	0	0.1	0.1
C64	Kidney	120	0	1.8	0.4	0	0	0.4	0.9	0.9	1.5	1.6	4.1	3.7	3.6	4.6	10	7.5	6.7	1.4	1.9
C65	Renal Pelvis	3	0	0	0	0	0	0	0	0.2	0	0	0	0	0.5	0.7	0	0	0	0	0.1
C66	Ureter	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.9	0	0	0	0
C67	Bladder	38	0	0	0.1	0	0	0	0.1	0	0.2	0.7	0.6	0	2.6	2.6	1.8	8.8	10.1	0.4	0.7
C68	Other Urinary organs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C69	Eye	22	0	1	0.1	0.1	0	0	0	0	0	0.2	0	0	0.5	2	0	0	2.5	0.2	0.3
C70-C72	Brain, Nervous system	103	0	0.9	1	0.7	0.3	0.3	1.4	0.8	1.1	1.4	1.2	1.1	3.1	4.6	7.2	3.8	8.4	1.2	1.5
C73	Thyroid	538	0	0	0.1	2.5	6	8.7	8.9	14.1	12.8	19.2	19.2	14.6	15.3	13.2	19	12.5	10.1	6.1	7.6
C74	Adrenal gland	10	0	0.5	0.2	0.1	0	0	0	0	0	0	0	0	0	0.7	0	0	0	0.1	0.1
C75	Other Endocrine	2	0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C81	Hodgkin disease	150	0	0.2	1.1	0.8	3.8	3.2	2.2	0.9	0.2	2.3	1.2	1.8	1.5	1.3	2.7	3.8	5.9	1.7	1.7
C82-C85;C96	Non-Hodgkin lymphoma	287	0	0.3	0.2	0.5	1.1	1.6	2.1	2.4	2.4	3.4	6.7	11.3	12.3	15.2	22.6	36.4	31.2	3.2	5.1
C88	Immunoproliferative dis.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.8	0	0
C90	Multiple Myeloma	39	0	0	0	0	0	0	0	0.2	0.2	0.5	0.9	2.2	1.5	4.6	4.5	5	5.9	0.4	0.8
C91	Lymphoid Leukemia	127	0	4	1.6	1.4	0.9	0.4	0.4	0.5	0.6	0.9	0.6	1.5	0.5	2	3.6	6.3	2.5	1.4	1.5
C92-C94	Myeloid Leukemia	126	0	0.9	0.5	0.8	1.4	1.6	1	1.1	0.6	1.6	3.5	2.6	3.1	2.6	8.1	6.3	5.1	1.4	1.8
C95	Leukemia unspecified.	23	0	0.3	0.1	0.3	0.2	0.1	0	0	0	0.5	0.3	0	1	1.3	0.9	1.3	3.4	0.3	0.4
Other	Other & unspecified	162	0	0.2	0.2	0	0.1	0.3	0.1	1.4	0.7	1.8	3.8	6.9	6.6	10.6	12.7	25.1	31.2	1.8	3.1
All	All sites Total	5205	0	12	7	6	14	19	31	42	64	113	171	194	215	277	400	432	439	58.6	90.1
Not C44	All sites but C44	5064	0	12	7	6	14	18	30	41	63	112	167	191	211	266	387	412	410	57	87.4

Table 5.4.I Number of Cancer Cases among Non-Saudi Males by Primary Site and Age Groups, 2009

ICD (10th)	Site	All Ages	Age Unk	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75+	Total (%)
C00	Lip	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.1
C01-C02	Tongue	10	0	0	0	0	0	0	0	0	0	2	2	3	0	1	0	0	1	0.6
C03-C06	Mouth	21	0	0	0	0	0	0	0	0	2	1	5	4	2	5	2	0	0	1.4
C07-C08	Salivary glands	11	0	1	0	0	0	0	1	1	0	1	0	2	1	2	1	1	0	0.7
C09	Tonsil	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1
C10	Other Oropharynx	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
C11	Nasopharynx	30	0	0	1	0	0	0	2	0	2	5	8	7	4	0	0	1	0	1.9
C12-C13	Hypopharynx	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.1
C14	Pharynx unspecified.	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.1
C15	Oesophagus	24	0	0	0	0	0	0	0	0	0	1	2	3	3	2	3	6	2	1.6
C16	Stomach	60	0	0	0	0	0	0	0	0	6	7	7	11	7	11	4	1	5	3.9
C17	Small intestine	11	0	0	0	0	0	0	1	0	1	2	2	1	0	2	1	0	1	0.7
C18	Colon	148	0	0	0	0	0	4	2	8	12	8	24	24	20	17	15	10	4	9.6
C19-C20	Rectum	85	0	0	0	0	0	1	1	2	9	11	13	13	16	11	1	6	1	5.5
C21	Anus	9	0	0	0	0	0	0	0	0	1	3	2	1	1	0	0	1	0	0.6
C22	Liver	45	0	1	0	0	0	0	0	0	1	0	3	5	9	8	6	2	5	2.9
C23-C24	Gallbladder etc.	19	0	0	0	0	0	1	0	0	0	2	5	1	3	0	3	1	3	1.2
C25	Pancreas	28	0	0	0	0	0	0	0	0	1	0	4	6	5	3	4	1	2	1.8
C30-C31	Nose, sinuses etc.	6	0	0	0	0	0	0	0	0	0	2	0	1	0	0	1	0	0	0.4
C32	Larynx	26	0	0	0	0	0	0	0	0	0	1	6	8	4	3	3	1	0	1.7
C33-C34	Trachea, Bronchus, Lung	80	0	0	0	0	0	1	0	3	5	6	6	16	10	10	9	7	7	5.2
C37-C38	Other Thoracic organs	4	0	1	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0.3
C40-C41	Bone	25	0	0	3	2	3	3	4	1	3	1	0	3	1	1	0	0	0	1.6
C43	Melanoma of Skin	10	0	0	0	0	0	0	0	0	0	2	2	2	2	1	2	0	1	0.6
C44	Other Skin	114	1	0	0	1	0	0	1	3	12	7	10	20	18	19	14	1	7	7.4
C45	Mesothelioma	5	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	1	0.3
C46	Kaposi sarcoma	2	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0.1
C47,C49	Connective, Soft tissue	29	0	0	0	0	0	1	1	1	4	4	9	7	2	1	0	0	0	1.9
C50	Breast	10	0	0	0	0	0	0	0	0	1	2	2	2	1	2	1	0	1	0.6
C60	Penis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
C61	Prostate	117	0	0	0	0	0	0	0	0	0	1	3	16	28	25	21	11	12	7.6
C62	Testis	36	0	0	0	1	4	6	7	1	4	7	1	4	0	1	0	0	0	2.3
C63	Other male genital	2	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0.1
C64	Kidney	43	0	4	0	0	0	1	0	1	0	2	9	3	9	7	4	2	1	2.8
C65	Renal Pelvis	2	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0	0.1
C66	Ureter	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.1
C67	Bladder	65	0	0	0	0	0	0	1	2	3	2	13	16	11	4	6	5	2	4.2
C68	Other Urinary organs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
C69	Eye	3	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.2
C70-C72	Brain, Nervous system	46	0	5	0	2	0	1	0	7	4	4	4	5	9	3	2	0	0	3.0
C73	Thyroid	46	0	0	0	1	4	5	7	4	7	4	11	4	6	2	0	0	1	3.0
C74	Adrenal gland	6	0	1	0	0	0	0	0	1	1	1	1	1	0	1	0	0	0	0.4
C75	Other Endocrine	3	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0.2
C81	Hodgkin disease	49	0	0	0	2	5	8	8	4	7	5	4	5	1	0	0	0	0	3.2
C82-C85;C96	Non-Hodgkin lymphoma	94	0	3	0	3	6	8	7	3	13	13	13	12	6	13	4	3	0	6.1
C88	Immunoproliferative dis.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0.1
C90	Multiple Myeloma	35	0	0	0	0	0	0	0	1	1	1	0	9	2	8	7	2	4	2.3
C91	Lymphoid Leukemia	46	0	8	9	0	3	3	0	1	6	2	4	5	3	1	1	0	0	3.0
C92-C94	Myeloid Leukemia	46	0	1	0	2	1	5	1	3	10	5	1	5	7	2	2	0	1	3.0
C95	Leukemia unspecified.	7	0	0	0	0	0	0	1	1	1	0	2	0	0	1	2	0	0	0.5
Other	Other & unspecified	74	0	0	0	0	0	1	5	5	2	15	4	11	11	8	5	3	4	4.8
All	All sites Total	1540	1	27	14	12	15	43	51	68	110	148	195	236	210	171	110	67	62	100.0
Not C44	All sites but C44	1426	0	27	14	11	15	43	50	65	98	141	185	216	192	152	96	66	55	92.6

Table 5.4.2 Number of Cancer Cases among Non-Saudi Females by Primary Site and Age Groups, 2009

ICD (10th)	Site	All Ages	Age Unk	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75+	Total (%)
C00	Lip	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.1
C01-C02	Tongue	8	0	0	0	0	0	2	0	0	0	2	0	0	0	1	1	0	0	0.6
C03-C06	Mouth	3	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0.2
C07-C08	Salivary glands	9	0	1	0	0	0	2	1	0	0	0	0	1	0	1	2	0	0	0.7
C09	Tonsil	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2
C10	Other Oropharynx	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
C11	Nasopharynx	6	0	0	0	0	1	1	0	0	0	1	0	0	0	1	0	0	1	0.5
C12-C13	Hypopharynx	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2
C14	Pharynx unspecified.	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
C15	Oesophagus	14	0	0	0	0	0	0	0	3	1	0	2	1	4	0	1	0	2	1.1
C16	Stomach	26	0	0	0	0	0	0	0	1	1	3	6	2	3	3	3	2	2	2.0
C17	Small intestine	45	0	0	0	0	0	0	3	0	0	6	4	7	5	3	7	1	3	3.4
C18	Colon	45	0	0	0	0	0	0	2	2	7	5	7	5	6	3	3	2	1	3.4
C19-C20	Rectum	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
C21	Anus	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1
C22	Liver	16	0	1	0	0	0	0	0	0	0	1	0	2	4	5	1	1	0	1.2
C23-C24	Gallbladder etc.	14	0	0	0	0	0	0	0	1	3	1	1	0	2	1	1	2	2	1.1
C25	Pancreas	9	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0.7
C30-C31	Nose, sinuses etc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
C32	Larynx	3	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0.2
C33-C34	Trachea, Bronchus, Lung	31	0	0	0	0	0	0	0	2	0	4	3	4	3	3	6	3	3	2.3
C37-C38	Other Thoracic organs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
C40-C41	Bone	5	0	0	0	1	2	0	2	0	0	0	2	1	0	0	0	0	0	0.4
C43	Melanoma of Skin	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2
C44	Other Skin	38	0	1	0	0	0	2	2	2	3	5	6	5	4	6	1	1	0	2.9
C45	Mesothelioma	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1
C46	Kaposi sarcoma	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1
C47,C49	Connective, Soft tissue	14	0	1	0	1	1	0	0	1	2	1	2	4	0	0	0	0	0	1.1
C50	Breast	542	0	0	0	0	4	14	56	85	99	106	77	42	23	17	14	5	41.1	
C51	Vulva	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1
C52	Vagina	3	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.2
C53	Cervix Uteri	51	0	0	0	2	0	0	2	6	7	6	14	3	3	1	3	0	4	3.9
C54	Corpus Uteri	43	0	0	0	0	0	0	0	2	1	4	3	6	11	3	10	1	2	3.3
C55	Uterus unspecified.	12	0	0	0	0	0	0	1	0	1	3	0	1	5	0	0	0	1	0.9
C56	Ovary	33	0	0	2	0	1	0	1	5	2	8	6	2	3	0	1	1	1	2.5
C57	Other Female Genital	5	0	0	0	0	0	0	0	0	0	0	0	1	2	0	1	0	0	0.4
C58	Placenta	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.1
C64	Kidney	17	0	1	0	0	0	1	0	0	2	4	2	2	2	1	2	0	0	1.3
C65	Renal Pelvis	2	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0.2
C66	Ureter	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
C67	Bladder	16	0	0	0	0	0	1	0	0	2	1	1	2	3	1	1	3	1	1.2
C68	Other Urinary organs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
C69	Eye	7	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5
C70-C72	Brain, Nervous system	16	0	1	1	2	0	1	0	1	0	3	2	1	1	2	0	1	0	1.2
C73	Thyroid	83	0	0	0	2	1	6	12	18	10	12	8	8	4	1	1	0	0	6.3
C74	Adrenal gland	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3
C75	Other Endocrine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
C81	Hodgkin disease	18	0	0	1	0	5	2	1	1	1	0	2	1	4	0	0	0	0	1.4
C82-C85,C96	Non-Hodgkin lymphoma	54	0	0	0	0	0	0	4	5	3	4	2	6	13	8	2	0	5	4.1
C88	Immunoproliferative dis.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
C90	Multiple Myeloma	11	0	0	0	0	0	0	0	0	4	1	2	1	0	1	0	2	0	0.8
C91	Lymphoid Leukemia	26	0	6	5	4	2	2	1	1	0	4	2	1	0	1	0	0	0	2.0
C92-C94	Myeloid Leukemia	30	0	0	2	1	2	4	0	3	7	3	2	2	1	0	1	2	0	2.3
C95	Leukemia unspecified.	5	0	1	0	0	1	1	1	0	0	0	0	0	1	0	1	0	0	0.4
Other	Other & unspecified	43	1	0	0	0	0	3	2	1	3	6	3	6	6	3	2	4	3	3.3
All	All sites Total	1320	1	24	11	14	17	35	53	115	151	187	198	154	136	76	68	42	38	100.0
Not C44	All sites but C44	1282	1	23	11	14	17	33	51	113	148	182	192	149	132	70	67	41	38	97.1

Table 5.4.3 Age-Specific Incidence Rate (AIR), Age-Standardized Incidence Rate (ASR) among Non-Saudi Males (per 100,000) by Primary Site and Age Groups, 2009

ICD (10th)	Site	All Ages	Age Unk	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75+	Crude Rate	ASR World
C00	Lip	2	0	0	0	0	0	0	0	0	0	0.1	0	0	0.7	0	0	0	0	0	0
C01-C02	Tongue	10	0	0	0	0	0.4	0	0	0	0	0.3	0.4	1	1	1.8	0	0	6.2	0.2	0.3
C03-C06	Mouth	21	0	0	0	0	0	0	0	0	0.2	0.1	1	1.4	1.4	8.9	0	0	0	0.4	0.8
C07-C08	Salivary glands	11	0	0.3	0	0	0	0	0.1	0.1	0	0.1	0	0.7	0.7	3.6	4.4	7.1	0	0.2	0.5
C09	Tonsil	2	0	0	0	0	0	0	0	0	0	0	0	0	0.7	0	0	0	0	0	0
C10	Other Oropharynx	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C11	Nasopharynx	30	0	0	0.3	0	0	0	0.3	0	0.2	0.7	1.6	2.4	2.9	0	0	7.1	0	0.5	0.6
C12-C13	Hypopharynx	1	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0
C14	Pharynx unspecified.	1	0	0	0	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0	0
C15	Oesophagus	24	0	0	0	0	0	0	0	0	0.1	0.3	0.4	1	2.1	3.6	13.3	42.9	12.3	0.4	1.8
C16	Stomach	60	0	0	0	0	0	0.1	0	0	0.6	1	1.4	3.8	5	19.9	17.7	7.1	30.8	1	2.7
C17	Small intestine	11	0	0	0	0	0	0	0	0	0.1	0.3	0.4	0.3	0	3.6	4.4	0	6.2	0.2	0.5
C18	Colon	148	0	0	0	0	0	1.5	0.3	0.8	1.2	1.1	4.9	8.3	14.3	30.8	66.4	71.5	24.7	2.6	6.8
C19-C20	Rectum	85	0	0	0	0	0	0.4	0.1	0.2	0.9	1.5	2.7	4.5	11.4	19.9	4.4	42.9	6.2	1.5	2.9
C21	Anus	9	0	0	0	0	0	0	0	0	0	0.1	0.4	0.3	0.7	0	0	7.1	0	0.2	0.2
C22	Liver	45	0	0.3	0	0	0	0	0	0.1	0	0.4	1	3.1	3.6	14.5	26.6	14.3	30.8	0.8	2.7
C23-C24	Gallbladder etc.	19	0	0	0	0	0	0.4	0	0	0	0.3	1	0.3	2.1	0	13.3	7.1	18.5	0.3	1.1
C25	Pancreas	28	0	0	0	0	0	0	0	0.1	0	0.5	1.2	1.7	2.1	7.2	4.4	14.3	12.3	0.5	1.2
C30-C31	Nose, sinuses etc.	6	0	0	0	0	0	0	0	0.2	0	0.3	0	0.3	0	0	4.4	0	0	0.1	0.2
C32	Larynx	26	0	0	0	0	0	0	0	0	0	0.1	1.2	2.8	2.9	5.4	13.3	7.1	0	0.4	1.1
C33-C34	Trachea, Bronchus, Lung	80	0	0	0	0	0	0.4	0	0.3	0.5	0.8	1.2	5.5	7.1	18.1	39.8	50	43.2	1.4	4.5
C37-C38	Other Thoracic organs	4	0	0.3	0	0	0	0	0	0	0	0.3	0	0	0	0	0	0	0	0.1	0.1
C40-C41	Bone	25	0	0	1	0.8	1.6	1.1	0.6	0.1	0.3	0.1	0	1	0.7	1.8	0	0	0	0.4	0.6
C43	Melanoma of Skin	10	0	0	0	0	0	0	0	0	0	0.3	0.4	0.7	0.7	3.6	0	0	6.2	0.2	0.4
C44	Other Skin	114	1	0	0	0.4	0	0	0.1	0.3	1.2	1	2.1	6.9	12.9	34.4	62	7.1	43.2	2	5.5
C45	Mesothelioma	5	0	0	0	0	0	0	0	0	0.1	0.1	0.2	0.3	0	0	0	0	6.2	0.1	0.2
C46	Kaposi sarcoma	2	0	0	0	0	0	0.4	0	0	0	0	0	0	0	1.8	0	0	0	0	0.1
C47;C49	Connective, Soft tissue	29	0	0	0	0	0	0.4	0.1	0.1	0.4	0.5	1.9	2.4	1.4	0	0	0	0	0.5	0.4
C50	Breast	10	0	0	0	0	0	0	0	0	0.1	0.3	0.4	0.3	1.4	1.8	0	0	6.2	0.2	0.3
C60	Penis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C61	Prostate	117	0	0	0	0	0	0	0	0	0	0.1	0.6	5.5	20	45.2	93	78.6	74	2	8.8
C62	Testis	36	0	0	0	0	0.5	1.5	0.8	0.7	0.1	0.5	1.4	0.3	2.9	0	4.4	0	0	0.6	0.7
C63	Other male genital	2	0	0	0	0	0	0.4	0	0	0.1	0	0	0	0	0	0	0	0	0	0
C64	Kidney	43	0	1.3	0	0	0	0	0.1	0	0.2	1.2	0.6	3.1	5	7.2	8.9	7.1	6.2	0.7	1.5
C65	Renal Pelvis	2	0	0	0	0	0	0	0	0	0.1	0	0	0	0.7	0	0	0	0	0	0
C66	Ureter	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C67	Bladder	65	0	0	0	0	0	0	0.1	0.2	0.3	0.3	2.7	5.5	7.9	7.2	26.6	35.7	12.3	1.1	2.9
C68	Other Urinary organs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C69	Eye	3	0	0.7	0	0	0	0	0	0	0	0	0	0.3	0	0	0	0	0	0.1	0.1
C70-C72	Brain, Nervous system	46	0	1.6	0	0.8	0	0.4	0	0.7	0.4	0.5	0.8	1.7	6.4	5.4	8.9	0	0	0.8	1.3
C73	Thyroid	46	0	0	0	0	0.5	0.4	0.6	0.5	0.7	0.5	2.3	1.4	4.3	3.6	0	0	6.2	0.8	0.9
C74	Adrenal gland	6	0	0.3	0.3	0	0	0	0	0	0.1	0.1	0.2	0	0.7	0	0	0	0	0.1	0.1
C75	Other Endocrine	3	0	0	0	0	0.5	0	0.1	0.1	0	0	0	0	0	0	0	0	0	0.1	0.1
C81	Hodgkin disease	49	0	0	0	0.8	2.7	3	1.1	0.4	0.7	0.7	0.8	1.7	0.7	0	0	0	0	0.8	0.9
C82-C85;C96	Non-Hodgkin lymphoma	94	0	1	0	1.3	0	2.2	1.1	0.7	0.3	1.8	2.7	4.1	4.3	23.5	17.7	21.4	0	1.6	3.1
C88	Immunoproliferative dis.	1	0	0	0	0	0	0	0	0	0	0	0	0	0.7	0	0	0	0	0	0
C90	Multiple Myeloma	35	0	0	0	0	0	0	0.1	0.1	0.1	0.1	0.9	0.7	5.7	12.7	8.9	28.6	0	0.6	1.7
C91	Lymphoid Leukemia	46	0	2.6	3.1	0	1.6	1.1	0	0.1	0.6	0.3	0.8	1.7	2.1	1.8	4.4	0	0	0.8	1.3
C92-C94	Myeloid Leukemia	46	0	0.3	0	0.8	0.5	1.9	0.1	0.3	1	0.7	0.2	1.7	5	3.6	8.9	0	6.2	0.8	1.3
C95	Leukemia unspecified.	7	0	0	0	0	0	0	0.1	0.1	0	0.3	0	0	0.7	3.6	0	0	0	0.1	0.2
Other	Other & unspecified	74	0	0	0	0	0	0.4	0.7	0.5	0.2	2.1	0.8	3.8	7.9	14.5	22.1	21.4	24.7	1.3	3
All	All sites Total	1540	1	9	5	5	8	16	7	7	11	20	40	81	150	309	487	479	382	26.6	63.6
Not C44	All sites but C44	1426	0	9	5	5	8	16	7	6	10	19	38	75	137	275	425	472	339	24.7	58.1

Table 5.4.4Age-Specific Incidence Rate (AIR), Age-Standardized Incidence Rate (ASR) among Non-Saudi Females (per 100,000) by Primary Site and Age Groups, 2009

ICD (10th)	Site	All Ages	Age Unk	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75+	Crude Rate	ASR World
C00	Lip	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C01-C02	Tongue	8	0	0	0	0	1.1	0	0	0	0	1.2	2.2	0	0	5.7	9.1	0	0	0	0.3
C03-C06	Mouth	3	0	0	0	0	0	0	0	0	0	0.6	2.2	0	0	0	0	0	0	0	0.1
C07-C08	Salivary glands	9	0	0.4	0	0	1.1	0.4	0.3	0	0	0	0	1.8	0	5.7	18.2	0	0	0	0.4
C09	Tonsil	2	0	0	0	0	0	0	0	0	0	0	2.2	0	0	0	0	0	0	0	0.1
C10	Other Oropharynx	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C11	Nasopharynx	6	0	0	0	0.6	0.6	0	0.3	0	0	0.6	0	0	0	5.7	0	0	10.5	0.2	0.6
C12-C13	Hypopharynx	2	0	0	0	0	0.4	0	0	0	0.3	0	0	0	0	0	0	0	0	0.1	0
C14	Pharynx unspecified.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C15	Oesophagus	14	0	0	0	0	0	0	0	0.8	0.3	0	2.2	1.8	12.5	0	9.1	0	21	0.6	1.5
C16	Stomach	26	0	0	0	0	0	0	0	0.3	0.3	1.8	6.7	3.5	9.4	17	27.3	19.4	21	1.1	3.4
C17	Small intestine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C18	Colon	45	0	0	0	0	1.1	0.7	1.1	0.3	1.7	3.7	4.5	12.4	15.7	17	63.7	9.7	31.6	1.9	5.4
C19-C20	Rectum	45	0	0	0	0	1.1	0.7	0.5	2.3	3.1	7.8	8.8	8.8	18.8	17	27.3	19.4	10.5	1.9	4.3
C21	Anus	1	0	0	0	0	0	0	0	0	0	0	1.1	0	0	0	0	0	0	0	0
C22	Liver	16	0	0.4	0	0	0	0	0	0.3	0	0.6	0	3.5	12.5	28.3	9.1	9.7	0	0.7	2.4
C23-C24	Gallbladder etc.	14	0	0	0	0	0	0	0	0.3	1	0.6	1.1	0	6.3	5.7	9.1	19.4	21	0.6	1.7
C25	Pancreas	9	0	0	0	0	0.6	0	0	0	0	0.6	0	0	6.3	5.7	9.1	19.4	10.5	0.4	1.4
C30-C31	Nose, sinuses etc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C32	Larynx	3	0	0	0	0	0	0	0.4	0	0	0	1.1	1.8	0	0	0	0	0	0	0
C33-C34	Trachea, Bronchus, Lung	31	0	0	0	0	0	0	0	0.5	0	2.5	3.3	7.1	9.4	17	54.6	29.1	31.6	1.3	4.6
C37-C38	Other Thoracic organs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C40-C41	Bone	5	0	0	0	0.5	1.2	0	0.7	0	0	0	0	0	0	0	0	0	0	0.2	0.2
C43	Melanoma of Skin	3	0	0	0	0	0	0	0	0	0	0	2.2	1.8	0	0	0	0	0	0.1	0.2
C44	Other Skin	38	0	0.4	0	0	1.1	0.7	0.5	1	0.3	3.1	6.7	8.8	12.5	33.9	9.1	9.7	0	1.6	3.6
C45	Mesothelioma	1	0	0	0	0	0	0	0	0	0	0	0	0	0	5.7	0	0	0	0	0.2
C46	Kaposi sarcoma	1	0	0	0	0	0	0	0	0	0	0.6	0	0	0	0	0	0	0	0	0
C47,C49	Connective, Soft tissue	14	0	0.4	0	0.5	0.6	0	0	0.3	0.7	0.6	2.2	7.1	0	0	0	0	10.5	0.6	0.9
C50	Breast	542	0	0	0	0	2.2	5.1	15.3	28.5	60.8	118	136	132	130	155	136	52.6	22.3	39.6	0
C51	Vulva	1	0	0	0	0	0	0	0	0	0	0	0	1.8	0	0	0	0	0	0	0
C52	Vagina	3	0	0	0	0	0	0	0.7	0	0	0.6	0	0	0	0	0	0	0	0.1	0.1
C53	Cervix Uteri	51	0	0	0	0.9	0	0	0.7	1.6	2.3	3.7	15.6	5.3	9.4	5.7	27.3	0	42.1	2.1	4.1
C54	Corpus Uteri	43	0	0	0	0	0	0	0	0.5	0.3	2.5	3.3	10.6	34.5	17	91.1	9.7	21	1.8	6.3
C55	Uterus unspecified.	12	0	0	0	0	0	0	0.4	0	0.3	1.8	0	1.8	15.7	0	0	10.5	0.5	1.1	1.1
C56	Ovary	33	0	0	0.8	0	0.6	0	0.4	1.4	0.7	4.9	6.7	3.5	9.4	0	9.1	9.7	10.5	1.4	2.2
C57	Other Female Genital	5	0	0	0	0	0	0	0	0	0	0	1.1	1.8	6.3	0	9.1	0	0	0.2	0.7
C58	Placenta	1	0	0	0	0	0	0	0.4	0	0	0	0	0	0	0	0	0	0	0	0
C64	Kidney	17	0	0.4	0	0	0.6	0	0	0	0.7	2.5	2.2	3.5	6.3	5.7	18.2	0	0	0.7	1.6
C65	Renal Pelvis	2	0	0	0	0	0	0	0	0	0	0	1.1	0	3.1	0	0	0	0	0.1	0.2
C66	Ureter	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C67	Bladder	16	0	0	0	0	0.6	0	0	0	0.7	0.6	1.1	3.5	9.4	5.7	9.1	29.1	10.5	0.7	2
C68	Other Urinary organs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C69	Eye	7	0	2.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.3
C70-C72	Brain, Nervous system	16	0	0.4	0.4	0.9	0.6	0.6	0	0.3	0	1.8	2.2	1.8	3.1	11.3	0	9.7	0	0.7	1.3
C73	Thyroid	83	0	0	0.9	0.6	3.3	4.4	4.9	3.4	0	7.4	8.9	14.1	12.5	5.7	9.1	0	0	3.4	3.9
C74	Adrenal gland	4	0	1.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.2
C75	Other Endocrine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C81	Hodgkin disease	18	0	0	0.4	0	3	1.1	0.4	0.3	0.3	0	2.2	1.8	12.5	0	0	0	0	0.7	1.2
C82-C85,C96	Non-Hodgkin lymphoma	54	0	0	0	0.5	0.6	0	1.5	1.4	1	2.5	2.2	10.6	40.7	45.2	18.2	0	52.6	2.2	6.2
C88	Immunoproliferative dis.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C90	Multiple Myeloma	11	0	0	0	0	0	0	0	0	1.3	0.6	2.2	1.8	0	5.7	0	19.4	0	0.5	1
C91	Lymphoid Leukemia	26	0	2.1	1.9	1.9	1.2	1.1	0.4	0.3	0	1.8	2.2	0	3.1	11.3	0	0	0	1.1	1.6
C92-C94	Myeloid Leukemia	30	0	0	0.8	0.5	1.2	2.2	0	0.8	2.3	1.8	2.2	3.5	3.1	0	9.1	19.4	0	1.2	1.8
C95	Leukemia unspecified.	5	0	0.4	0	0	0.6	0.6	0	0	0	0	0	1.8	0	5.7	0	0	0	0.2	0.5
Other	Other & unspecified	43	1	0	0	0	1.7	0.7	0.3	1	3.7	3.3	10.6	18.8	17	18.2	38.7	31.6	0	1.8	4.7
All	All sites Total	1320	1	9	4	6	10	19	19	32	51	115	221	272	426	430	619	407	400	54.3	113.7
Not C44	All sites but C44	1282	1	8	4	6	10	18	19	31	50	112	214	263	414	396	610	397	400	52.7	110.1

**Table 5.5.I Number of New Cases by Primary Site and Years among Saudi Males, 1994 - 2009**

ICD-10	Site	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
C00	Lip	8	2	4	5	4	1	6	1	5	5	8	6	5	12	9	6
C01-C02	Tongue	32	15	21	24	13	25	29	14	23	29	32	38	38	40	30	42
C03-C06	Mouth	24	23	30	25	24	27	24	27	26	26	38	29	30	39	40	39
C07-C08	Salivary glands	4	10	6	11	7	12	8	16	14	11	14	15	17	20	17	17
C09	Tonsil	4	9	2	4	6	2	1	4	5	5	2	3	0	4	2	0
C10	Other Oropharynx	2	3	3	1	1	3	0	3	3	0	2	3	0	2	2	1
C11	Nasopharynx	78	59	86	99	109	96	88	121	84	87	101	113	97	92	122	93
C12-C13	Hypopharynx	10	10	18	7	6	6	5	8	6	7	7	10	9	14	5	6
C14	Pharynx unspecified.	0	2	0	0	1	1	0	2	2	4	4	4	3	2	3	1
C15	Oesophagus	77	71	68	60	80	53	67	62	70	68	54	57	58	70	52	67
C16	Stomach	130	128	133	108	123	103	124	125	146	182	150	160	168	169	166	201
C17	Small intestine	10	8	11	10	15	13	15	13	17	15	22	23	22	28	31	30
C18	Colon	61	87	72	85	104	100	115	119	152	177	201	262	231	269	291	341
C19-C20	Rectum	83	66	66	66	64	89	82	108	123	143	173	191	181	203	196	276
C21	Anus	10	9	7	8	6	5	10	12	14	11	17	16	8	12	12	21
C22	Liver	299	298	276	268	327	296	290	274	291	281	276	289	316	330	322	295
C23-C24	Gallbladder etc.	24	32	25	22	28	25	27	39	42	39	26	37	48	54	55	56
C25	Pancreas	50	49	53	45	60	58	68	53	75	85	82	98	101	128	101	117
C30-C31	Nose, sinuses etc.	5	6	10	4	10	13	5	9	14	10	10	14	9	10	14	5
C32	Larynx	49	48	43	40	46	43	44	53	32	60	55	51	64	55	60	55
C33-C34	Trachea, Bronchus, Lung	188	183	184	163	223	203	197	189	195	201	253	280	237	324	293	276
C37-C38	Other Thoracic organs	7	11	12	13	8	17	7	6	5	12	12	21	15	19	11	17
C40-C41	Bone	47	50	34	46	51	53	51	67	50	45	66	57	65	68	77	59
C43	Melanoma of Skin	21	8	8	8	6	7	11	9	12	10	13	13	12	17	12	13
C44	Other Skin	104	117	113	107	98	120	112	154	149	166	140	156	190	167	160	181
C45	Mesothelioma	5	4	5	5	7	2	7	5	3	6	6	9	8	12	18	5
C46	Kaposi sarcoma	15	10	14	14	12	11	19	19	21	26	26	22	22	18	18	33
C47;C49	Connective, Soft tissue	84	68	51	60	50	68	55	48	64	69	58	74	64	72	71	70
C50	Breast	11	15	6	12	19	11	15	12	16	16	13	15	17	20	18	23
C60	Penis	3	4	1	8	0	1	1	1	3	1	3	5	1	0	3	2
C61	Prostate	150	147	154	123	159	149	184	169	196	192	247	271	235	256	274	295
C62	Testis	32	21	25	29	38	31	35	35	45	38	47	44	39	63	74	74
C63	Other male genital	1	2	0	3	1	2	3	3	3	4	3	2	4	0	0	2
C64	Kidney	69	78	56	63	71	79	73	86	90	83	124	104	120	145	152	174
C65	Renal Pelvis	5	5	0	0	10	2	6	2	1	7	8	4	5	4	5	5
C66	Ureter	1	3	1	0	3	0	4	1	0	6	3	3	1	2	3	2
C67	Bladder	165	154	126	126	152	152	156	143	160	176	174	168	173	174	175	197
C68	Other Urinary organs	1	1	1	0	1	1	0	0	1	1	1	0	0	1	1	1
C69	Eye	21	12	18	34	16	24	25	22	24	21	21	17	28	23	27	28
C70-C72	Brain, Nervous system	131	99	126	122	101	120	139	120	121	148	155	141	154	138	163	145
C73	Thyroid	73	61	58	73	84	84	77	74	91	87	94	93	120	121	135	141
C74	Adrenal gland	8	9	8	8	4	9	10	7	6	15	6	10	20	16	16	18
C75	Other Endocrine	2	3	5	1	2	2	1	4	1	5	3	6	5	4	9	5
C81	Hodgkin disease	104	105	105	96	134	118	125	136	121	144	175	166	176	178	184	194
C82-C85;C96	Non-Hodgkin lymphoma	272	214	231	226	283	268	266	246	271	328	351	352	363	424	383	422
C88	Immunoproliferative dis.	0	0	0	1	0	1	0	0	0	1	2	0	0	0	0	1
C90	Multiple Myeloma	59	41	30	36	48	37	46	36	30	39	45	60	52	46	40	57
C91	Lymphoid Leukemia	151	118	146	139	150	137	152	159	145	165	154	166	161	194	167	180
C92-C94	Myeloid Leukemia	94	90	84	103	94	109	91	128	115	90	117	107	129	114	143	145
C95	Leukemia unspecified.	10	5	5	5	8	6	14	13	12	14	14	15	26	28	37	18
Other	Other & unspecified	148	122	98	131	142	138	126	135	153	140	149	180	181	169	154	166
All	All sites Total	2942	2695	2639	2647	3009	2933	3016	3092	3248	3501	3757	3980	4028	4370	4353	4618
Not C44	All sites but C44	2838	2578	2526	2540	2911	2813	2904	2938	3099	3335	3617	3824	3838	4203	4193	4437

**Table 5.5.2 Number of New Cases by Primary Site and Years among Saudi Females, 1994-2009**

ICD-10	Site	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
C00	Lip	3	3	4	2	1	5	4	3	6	5	8	6	4	5	6	8
C01-C02	Tongue	21	20	28	28	29	31	23	19	30	30	29	22	25	38	29	37
C03-C06	Mouth	23	38	37	22	32	39	26	27	29	29	22	43	36	51	46	37
C07-C08	Salivary glands	8	7	6	3	11	8	14	8	6	10	12	13	14	18	17	21
C09	Tonsil	0	3	3	3	1	1	3	1	5	4	1	1	1	3	3	3
C10	Other Oropharynx	0	1	0	0	1	0	0	0	2	0	2	2	0	1	0	0
C11	Nasopharynx	38	27	39	31	37	36	23	41	41	39	45	35	44	57	47	42
C12-C13	Hypopharynx	19	10	14	15	19	16	10	12	12	2	16	16	10	9	17	11
C14	Pharynx unspecified.	2	3	1	1	1	1	2	0	3	1	3	0	1	3	1	3
C15	Oesophagus	75	54	68	52	45	49	55	37	58	50	51	65	63	56	56	46
C16	Stomach	67	72	64	58	66	71	62	73	77	75	76	74	114	126	101	112
C17	Small intestine	9	11	9	10	16	8	10	14	8	11	13	13	13	14	14	26
C18	Colon	65	80	85	76	72	105	108	142	133	145	179	197	222	244	276	299
C19-C20	Rectum	44	50	52	59	57	86	72	87	104	107	118	143	142	151	162	193
C21	Anus	6	3	1	3	5	2	4	2	5	9	7	8	8	12	7	14
C22	Liver	109	88	101	86	123	93	121	101	116	128	120	114	137	130	123	136
C23-C24	Gallbladder etc.	51	37	25	32	50	59	46	54	41	60	53	68	72	85	82	87
C25	Pancreas	28	30	24	25	50	41	35	35	54	41	35	53	78	53	70	82
C30-C31	Nose, sinuses etc.	6	9	5	4	9	8	6	5	8	2	6	10	12	13	7	5
C32	Larynx	10	2	7	10	9	10	9	2	7	4	6	6	9	10	5	18
C33-C34	Trachea, Bronchus, Lung	51	55	48	53	50	47	52	57	52	64	69	87	81	92	83	103
C37-C38	Other Thoracic organs	7	6	5	6	5	5	8	5	3	10	9	11	11	7	12	9
C40-C41	Bone	26	37	38	25	44	37	38	43	36	39	40	41	39	29	49	43
C43	Melanoma of Skin	11	7	7	2	8	8	6	8	7	9	12	9	14	18	11	8
C44	Other Skin	78	55	87	58	82	77	80	101	95	123	132	131	135	120	126	141
C45	Mesothelioma	1	0	1	1	0	4	1	1	3	7	5	6	5	3	2	10
C46	Kaposi sarcoma	0	3	0	8	7	8	4	5	3	6	5	8	15	6	5	4
C47;C49	Connective, Soft tissue	42	55	42	46	61	50	48	43	39	53	75	51	41	66	55	65
C50	Breast	430	434	462	467	517	515	604	558	673	714	817	945	988	1171	1194	1308
C51	Vulva	8	6	7	3	3	3	8	7	5	6	11	1	3	4	5	6
C52	Vagina	5	6	2	4	2	3	1	5	5	1	5	7	1	4	0	3
C53	Cervix Uteri	79	73	83	75	94	79	82	84	86	91	92	97	74	102	93	101
C54	Corpus Uteri	58	47	39	48	60	58	92	79	88	111	125	150	150	184	194	253
C55	Uterus unspecified.	4	2	11	10	17	13	5	13	14	14	13	17	24	28	22	28
C56	Ovary	96	100	97	114	107	100	104	111	108	123	119	146	138	148	169	173
C57	Other Female Genital	1	1	0	2	2	4	3	5	4	5	10	6	9	8	6	8
C58	Placenta	16	10	11	7	9	12	9	14	16	5	8	14	23	12	13	10
C64	Kidney	60	37	50	57	53	64	49	70	69	68	84	65	79	83	96	120
C65	Renal Pelvis	0	1	0	2	3	3	2	1	1	2	1	5	4	1	1	3
C66	Ureter	0	1	1	0	1	1	0	1	1	1	2	4	2	0	0	1
C67	Bladder	28	39	23	30	39	37	39	51	41	43	42	39	42	36	40	38
C68	Other Urinary organs	0	0	0	0	0	1	1	0	0	0	1	1	0	0	1	0
C69	Eye	15	16	18	13	12	24	24	17	20	16	18	20	19	20	17	22
C70-C72	Brain, Nervous system	78	73	76	93	85	78	84	84	85	95	108	102	108	118	95	103
C73	Thyroid	207	218	198	210	266	281	260	259	278	365	346	391	429	458	488	538
C74	Adrenal gland	10	6	10	11	9	10	14	8	10	13	17	9	10	9	13	10
C75	Other Endocrine	2	1	2	1	2	3	1	0	0	1	2	5	5	4	2	2
C81	Hodgkin disease	59	69	59	57	74	75	87	78	76	113	105	103	120	135	137	150
C82-C85;C96	Non-Hodgkin lymphoma	143	150	142	146	185	176	186	202	202	238	244	259	245	289	308	287
C88	Immunoproliferative dis.	0	0	0	1	0	1	1	1	0	1	0	0	0	0	0	1
C90	Multiple Myeloma	20	33	20	13	24	27	25	19	19	16	26	26	33	49	29	39
C91	Lymphoid Leukemia	76	89	80	80	74	95	112	86	101	93	85	85	91	117	117	127
C92-C94	Myeloid Leukemia	78	78	74	90	83	90	93	103	100	99	124	100	121	105	107	126
C95	Leukemia unspecified.	6	6	1	5	6	12	9	4	5	11	11	17	9	19	30	23
Other	Other & unspecified	105	95	93	95	138	127	122	116	117	162	175	147	171	152	166	162
All	All sites Total	2384	2357	2360	2353	2756	2797	2887	2903	3107	3470	3740	3994	4244	4676	4755	5205
Not C44	All sites but C44	2306	2302	2273	2295	2674	2720	2807	2802	3012	3347	3608	3863	4109	4556	4629	5064

**Table 5.5.3 Age Standardized Incidence Rate by Primary Site and Years among Saudi Males, 1994-2009**

ICD-10	Site	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
C00	Lip	0.2	0.1	0.1	0.1	0.1	0	0.1	0	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.1
C01-C02	Tongue	0.9	0.5	0.6	0.6	0.3	0.6	0.8	0.3	0.5	0.6	0.8	0.9	0.8	0.8	0.6	0.8
C03-C06	Mouth	0.7	0.7	0.9	0.6	0.6	0.6	0.5	0.7	0.6	0.6	0.8	0.7	0.8	0.8	0.8	0.8
C07-C08	Salivary glands	0.1	0.3	0.2	0.3	0.1	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.3	0.4	0.3	0.3
C09	Tonsil	0.1	0.2	0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0	0.1	0	0
C10	Other Oropharynx	0.1	0.1	0.1	0	0	0.1	0	0.1	0.1	0	0	0.1	0	0	0	0
C11	Nasopharynx	2.1	1.5	2.3	2.5	2.6	2.2	2	2.5	1.8	1.7	2	2.2	1.7	1.5	2	1.5
C12-C13	Hypopharynx	0.3	0.2	0.4	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.3	0.1	0.1
C14	Pharynx unspecified.	0	0	0	0	0	0	0	0	0	0.1	0.1	0.1	0.1	0	0.1	0
C15	Oesophagus	2.2	1.9	1.7	1.5	2	1.2	1.5	1.6	1.6	1.6	1.2	1.3	1.4	1.4	1	1.3
C16	Stomach	3.7	3.6	3.5	2.7	3	2.4	3	2.9	3.2	4.2	3.5	3.5	4.1	3.5	3.2	3.9
C17	Small intestine	0.3	0.2	0.3	0.3	0.4	0.3	0.4	0.3	0.4	0.3	0.5	0.5	0.5	0.5	0.6	0.6
C18	Colon	1.8	2.4	1.9	2.1	2.6	2.5	2.8	2.8	3.5	4.1	4.4	5.8	5.3	5.4	5.4	6.5
C19-C20	Rectum	2.4	1.9	1.6	1.7	1.6	2.4	2	2.5	2.7	3.3	4.1	4.3	4.3	4	3.8	5.1
C21	Anus	0.3	0.2	0.2	0.2	0.2	0.1	0.3	0.3	0.3	0.3	0.4	0.3	0.2	0.2	0.2	0.4
C22	Liver	8.7	8.6	7.5	7.1	8.3	7.5	7.3	7.3	7	7	6.6	6.8	8.2	7.2	6.6	5.9
C23-C24	Gallbladder etc.	0.7	0.9	0.7	0.6	0.7	0.6	0.7	1	1	1	0.6	0.9	1.3	1.2	1	1.1
C25	Pancreas	1.4	1.3	1.5	1.2	1.5	1.4	1.6	1.3	1.7	2	2	2.2	2.6	2.7	2	2.3
C30-C31	Nose, sinuses etc.	0.1	0.2	0.3	0.1	0.2	0.3	0.1	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1
C32	Larynx	1.5	1.4	1.2	1	1.2	1.1	1.1	1.5	0.8	1.5	1.3	1.3	1.6	1.2	1.2	1.1
C33-C34	Trachea, Bronchus, Lung	5.6	5.3	5	4.4	5.8	5.1	5	4.8	5	5.2	5.9	6.6	6.2	6.9	6	5.7
C37-C38	Other Thoracic organs	0.2	0.2	0.2	0.2	0.2	0.3	0.1	0.1	0.1	0.3	0.2	0.3	0.2	0.3	0.2	0.3
C40-C41	Bone	0.7	0.7	0.5	0.7	0.7	0.7	0.7	0.8	0.6	0.6	0.7	0.6	0.7	0.7	0.9	0.6
C43	Melanoma of Skin	0.6	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.2	0.3	0.3	0.3	0.4	0.2	0.2
C44	Other Skin	2.7	3	2.8	2.8	2.4	2.7	2.5	3.6	3.2	3.7	3.1	3.4	4.5	3.3	3	3.5
C45	Mesothelioma	0.1	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.4	0.1
C46	Kaposi sarcoma	0.5	0.3	0.3	0.3	0.3	0.2	0.4	0.5	0.5	0.6	0.6	0.4	0.5	0.3	0.3	0.6
C47;C49	Connective, Soft tissue	1.7	1.4	1	1.2	0.8	1.2	1	0.9	1.1	1.2	0.8	1	1	1	1	0.9
C50	Breast	0.3	0.4	0.1	0.3	0.5	0.2	0.4	0.3	0.4	0.4	0.3	0.3	0.4	0.4	0.3	0.4
C60	Penis	0.1	0.1	0	0.2	0	0	0	0	0.1	0	0.1	0.1	0	0	0.1	0
C61	Prostate	4	3.8	3.8	2.9	3.9	3.5	4	4.3	4.3	4.6	5.8	6.4	6.3	5.6	5.8	6.1
C62	Testis	0.7	0.4	0.5	0.5	0.7	0.6	0.6	0.5	0.7	0.5	0.6	0.5	0.5	0.7	0.8	0.8
C63	Other male genital	0	0	0	0.1	0	0	0.1	0.1	0.1	0.1	0.1	0	0.1	0	0	0
C64	Kidney	1.8	2	1.4	1.5	1.7	1.6	1.7	1.9	1.8	1.7	2.5	2.1	2.6	2.7	2.6	3
C65	Renal Pelvis	0.1	0.1	0	0	0.3	0.1	0.1	0	0	0.2	0.2	0.1	0.1	0.1	0.1	0.1
C66	Ureter	0	0.1	0	0	0.1	0	0.1	0	0	0.2	0.1	0.1	0	0	0.1	0
C67	Bladder	4.6	4.3	3.4	3.2	3.8	3.7	4	3.4	3.5	4.1	4.1	3.6	4.1	3.5	3.6	3.9
C68	Other Urinary organs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C69	Eye	0.5	0.2	0.3	0.5	0.2	0.4	0.3	0.5	0.4	0.3	0.4	0.3	0.4	0.3	0.3	0.4
C70-C72	Brain, Nervous system	2.9	1.8	2.4	2.2	1.6	2.1	2.3	2.1	2	2.5	2.5	2.2	2.6	2	2.2	2
C73	Thyroid	2	1.5	1.5	1.8	1.9	1.7	1.5	1.6	1.9	1.7	1.7	1.6	2.1	1.9	2.1	2.1
C74	Adrenal gland	0.1	0.1	0.2	0.1	0	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.2
C75	Other Endocrine	0.1	0.1	0.1	0	0	0	0	0	0	0.1	0	0.1	0.1	0	0.1	0.1
C81	Hodgkin disease	2.1	1.9	1.7	1.5	2.2	1.9	1.8	2	1.8	1.9	2.3	2.1	2.1	2.1	2	2.3
C82-C85;C96	Non-Hodgkin lymphoma	6.7	5.1	5.5	5	6.2	6.1	5.4	5	5.2	6.4	6.3	6.5	6.7	7.1	6.2	6.8
C88	Immunoproliferative dis.	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0	0
C90	Multiple Myeloma	1.8	1.1	0.8	1	1.3	1	1.1	0.9	0.6	0.9	1.1	1.3	1.3	1	0.8	1.1
C91	Lymphoid Leukemia	2.2	1.8	2.1	2	2.3	2	2.1	2.4	2	2.2	2.1	2	2.4	2.4	2.1	2.3
C92-C94	Myeloid Leukemia	1.9	1.7	1.7	2	2	1.8	1.7	2.1	2	1.6	1.8	1.6	2	1.6	2	2
C95	Leukemia unspecified.	0.2	0.1	0.1	0.1	0.2	0.1	0.3	0.3	0.2	0.3	0.2	0.2	0.5	0.4	0.6	0.3
Other	Other & unspecified	4	3.1	2.6	3.3	3.4	3.4	2.8	3.4	3.5	3.2	3.3	3.9	4.2	3.4	3	3.1
All	All sites Total	75.8	67.1	63.1	61	68.7	64.9	65.2	67.9	67.4	73.8	76.2	79.9	86.2	80.3	76.1	80.9
Not C44	All sites but C44	73.1	64	60.3	58.2	66.4	62.2	62.7	64.3	64.2	70.1	73.2	76.5	81.7	77	73.2	77.4

**Table 5.5.4 Age Standardized Incidence Rate by Primary Site and Years among Saudi Females, 1994-2009**

ICD-10	Site	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
C00	Lip	0.1	0.1	0.1	0	0	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.2
C01-C02	Tongue	0.7	0.7	0.9	0.8	0.9	0.9	0.6	0.5	0.8	0.7	0.7	0.5	0.6	0.8	0.6	0.7
C03-C06	Mouth	0.7	1.2	1.1	0.7	1	1.1	0.7	0.6	0.7	0.7	0.5	0.9	0.8	1	0.9	0.7
C07-C08	Salivary glands	0.2	0.2	0.2	0.1	0.3	0.2	0.2	0.2	0.1	0.2	0.3	0.2	0.2	0.3	0.2	0.3
C09	Tonsil	0	0.1	0.1	0.1	0	0	0.1	0	0.1	0.1	0	0	0	0.1	0.1	0
C10	Other Oropharynx	0	0	0	0	0	0	0	0	0.1	0	0.1	0.1	0	0	0	0
C11	Nasopharynx	0.9	0.6	1	0.7	0.9	0.8	0.4	0.7	0.8	0.7	0.9	0.7	0.8	0.9	0.7	0.7
C12-C13	Hypopharynx	0.6	0.3	0.5	0.5	0.6	0.4	0.3	0.3	0.2	0	0.4	0.4	0.2	0.2	0.3	0.2
C14	Pharynx unspecified.	0	0.1	0	0	0	0	0.1	0	0.1	0	0.1	0	0	0	0	0.1
C15	Oesophagus	2.7	1.8	2.2	1.7	1.4	1.4	1.5	1	1.5	1.2	1.2	1.5	1.6	1.2	1.1	0.9
C16	Stomach	2.4	2.4	2.1	1.8	2	1.9	1.6	1.7	1.8	1.8	1.7	1.7	2.7	2.5	1.9	2.1
C17	Small intestine	0.3	0.4	0.3	0.3	0.5	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.5
C18	Colon	2.3	2.7	2.6	2.3	2.2	2.9	2.6	3.4	3	3.4	4.1	4.2	5.1	4.6	5.3	5.7
C19-C20	Rectum	1.6	1.7	1.6	1.9	1.7	2.3	1.8	2	2.3	2.5	2.7	3.1	3.2	2.9	3.2	3.7
C21	Anus	0.2	0.1	0	0.1	0.2	0	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.1	0.3
C22	Liver	3.9	3	3.3	2.9	3.8	2.7	3.2	2.7	2.8	3.3	2.9	2.6	3.3	2.8	2.5	2.7
C23-C24	Gallbladder etc.	1.8	1.3	0.8	1	1.6	1.7	1.3	1.4	1.1	1.5	1.2	1.6	1.7	1.9	1.7	1.8
C25	Pancreas	1.1	1.1	0.8	0.9	1.6	1.2	0.9	0.8	1.4	1	0.9	1.3	1.9	1.2	1.5	1.7
C30-C31	Nose, sinuses etc.	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0	0.1	0.2	0.3	0.2	0.1	0.1
C32	Larynx	0.3	0.1	0.2	0.3	0.3	0.3	0.2	0	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.4
C33-C34	Trachea, Bronchus, Lung	1.9	2	1.5	1.6	1.5	1.4	1.5	1.5	1.2	1.6	1.6	1.9	2	1.9	1.7	2
C37-C38	Other Thoracic organs	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0	0.1	0.2	0.2	0.2	0.1	0.2	0.1
C40-C41	Bone	0.4	0.7	0.7	0.4	0.6	0.5	0.4	0.5	0.4	0.5	0.5	0.4	0.4	0.3	0.6	0.5
C43	Melanoma of Skin	0.3	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.2	0.1
C44	Other Skin	2.7	1.7	2.7	1.8	2.4	2.1	2	2.4	2.2	2.9	3.1	2.9	3	2.5	2.4	2.7
C45	Mesothelioma	0	0	0	0	0	0.1	0	0	0.1	0.2	0.1	0.1	0.1	0.1	0	0.2
C46	Kaposi sarcoma	0	0.1	0	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.4	0.1	0.1	0.1
C47;C49	Connective, Soft tissue	0.9	1.3	1	1	1.1	1	0.8	0.6	0.6	0.8	1.3	0.7	0.6	0.8	0.8	0.8
C50	Breast	13.3	12.9	13.2	12.7	13.8	12.5	13.5	12	13.9	14.6	16.2	18.3	18.2	20.5	19.9	22.7
C51	Vulva	0.3	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0	0.1	0.1	0.1	0.1
C52	Vagina	0.2	0.2	0	0.2	0	0.1	0	0.1	0	0.1	0	0.1	0.2	0	0.1	0.1
C53	Cervix Uteri	2.4	2.2	2.5	2.2	2.8	2	1.9	2	1.8	1.9	1.9	2.1	1.5	1.8	1.7	1.8
C54	Corpus Uteri	2.1	1.4	1.4	1.5	2	1.6	2.5	2	2.2	2.7	3	3.5	3.8	4	4	5.3
C55	Uterus unspecified.	0.1	0.1	0.3	0.3	0.5	0.4	0.1	0.3	0.3	0.3	0.3	0.4	0.6	0.7	0.4	0.6
C56	Ovary	2.9	3	2.7	3.1	3.1	2.3	2.2	2.4	2.2	2.3	2.4	3	2.9	2.7	3.2	3
C57	Other Female Genital	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.1	0.1
C58	Placenta	0.4	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.3	0.2	0.1	0.1
C64	Kidney	1.4	1	1.1	1.3	1.4	1.4	0.9	1.4	1.4	1.4	1.8	1.2	1.5	1.4	1.6	1.9
C65	Renal Pelvis	0	0	0	0.1	0.1	0.1	0.1	0	0	0.1	0	0.1	0.1	0	0	0.1
C66	Ureter	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0
C67	Bladder	0.9	1.1	0.7	1	1.3	1	1.1	1.2	1	1	1	0.8	1	0.7	0.8	0.7
C68	Other Urinary organs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C69	Eye	0.3	0.3	0.4	0.2	0.2	0.4	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.3
C70-C72	Brain, Nervous system	1.4	1.4	1.4	1.8	1.5	1.4	1.5	1.5	1.3	1.6	1.7	1.4	1.7	1.7	1.4	1.5
C73	Thyroid	5.5	5.2	4.6	4.9	5.7	5.5	4.7	4.6	4.8	6.1	5.7	6.2	6.5	6.4	6.9	7.6
C74	Adrenal gland	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1
C75	Other Endocrine	0.1	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0.1	0	0
C81	Hodgkin disease	1.4	1.3	1	1.1	1.3	1.2	1.2	1.2	1	1.5	1.4	1.3	1.6	1.6	1.6	1.7
C82-C85;C96	Non-Hodgkin lymphoma	4.3	4.3	4.1	4	5	4.2	4.1	4.4	4.3	5	4.9	5.2	5.1	5.2	5.5	5.1
C88	Immunoproliferative dis.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C90	Multiple Myeloma	0.8	1.2	0.7	0.4	0.7	0.8	0.7	0.5	0.5	0.4	0.6	0.6	0.8	1	0.6	0.8
C91	Lymphoid Leukemia	1	1.6	1.2	1	1	1.3	1.7	1.3	1.2	1.2	1.1	1	1.2	1.5	1.4	1.5
C92-C94	Myeloid Leukemia	1.8	1.6	1.6	1.7	1.6	1.6	1.6	1.8	1.8	1.6	2	1.6	2.2	1.6	1.4	1.8
C95	Leukemia unspecified.	0.1	0.1	0	0.1	0.1	0.3	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.4	0.4
Other	Other & unspecified	3.5	3.1	2.8	2.8	4.1	3.2	3.1	2.9	2.7	3.8	4	3.2	4	3.1	3.3	3.1
All	All sites Total	70.8	66.9	64.4	62.3	72	65.9	63.3	62.3	64.1	71	74.9	77.6	84.4	82.7	81.8	90.1
Not C44	All sites but C44	68.1	65.1	61.7	60.5	69.6	63.8	61.4	59.9	61.9	68.1	71.8	74.7	81.4	80.2	79.3	87.4

**Table 6.1 Number of In situ Cases among Saudis and Non-Saudis, 2009**

ICD-10	Topography	Saudis			Non-Saudis			All
		Male	Female	Total	Male	Female	Total	
D013	Anus	3	1	4	0	0	0	4
D015	Bile tract	0	1	1	0	0	0	1
D090	Bladder	71	12	83	11	3	14	97
D050;D051;D057;D059	Breast	1	60	61	0	7	7	68
D60; D69	Cervix	0	29	29	0	8	8	37
D010	Colon	7	4	11	0	1	1	12
D001	Esophagus	1	1	2	0	0	0	2
D049; D092	Eye	11	5	16	1	0	1	17
D020	Glottis	4	1	5	3	1	4	9
D000	Lip	0	0	0	0	1	1	1
D000	Nasopharynx	1	0	1	0	0	0	1
D000	Oropharynx	1	0	1	0	0	0	1
D073	Ovary	0	3	3	0	1	1	4
D091	Renal pelvis	1	0	1	0	0	0	1
D074	Penis	1	0	1	0	0	0	1
D011	Recto sigmoid	2	0	2	0	0	0	2
D012	Rectum	5	0	5	0	1	1	6
D033;D035;D036;D039;D042;D045-D047;D049	Skin	11	3	14	3	1	4	18
D014	Small intestine	1	1	2	0	0	0	2
D000	Floor of mouth	1	0	1	0	0	0	1
D002	Stomach	0	2	2	0	0	0	2
D091	Ureter	1	0	1	0	0	0	1
D073	Uterus	0	1	1	0	0	0	1
D071	Vulva	0	2	2	0	0	0	2
<b>Total</b>		<b>123</b>	<b>126</b>	<b>249</b>	<b>18</b>	<b>24</b>	<b>42</b>	<b>291</b>

**Table 6.2 Number of Myelodysplastic syndromes and chronic Myeloproliferative disorders among Saudis and Non-Saudis, 2009**

ICD-O-3	Morphology	Saudis			Non-Saudis			All
		Male	Female	Total	Male	Female	Total	
9963	Chronic neutrophilic leukemia	0	0	0	0	1	1	1
9950	Polycythemia vera	4	3	7	0	0	0	7
9960	Chronic myeloproliferative disease, NOS	11	9	20	1	1	2	22
9961	Myelosclerosis with myeloid metaplasia	0	1	1	0	0	0	1
9962	Essential thrombocythemia	4	7	11	1	0	1	12
9982	Refractory anemia with sideroblasts	2	0	2	0	0	0	2
9983	Refractory anemia with excess blasts	1	0	1	0	1	1	2
9984	Refractory anemia with excess blasts in transformation	0	1	1	2	0	2	3
9985	Refractory cytopenia with multilineage dysplasia	0	1	1	0	0	0	1
9986	Myelodysplastic syndrome with 5q-syndrome	0	1	1	0	0	0	1
9987	Therapy-related myelodysplastic syndrome, NOS	1	0	1	0	0	0	1
9989	Myelodysplastic syndrome, NOS	6	5	11	0	0	0	11
	<b>Total</b>	<b>29</b>	<b>28</b>	<b>57</b>	<b>4</b>	<b>3</b>	<b>7</b>	<b>64</b>

**PART VI**  
**APPENDICES**

## APPENDIX: A Reporting Health care Facilities

<b>Asir Region</b>	
Abha General Hospital (Maternity)	Khamis Mushayt General Hospital
Abha Private Hospital	King Fahad Hospital (Bisha)
AFS Military South Hospital	King Fahad Hospital, AFH
Ahli Hospital (Abha)	King Faisal Military Hospital
Al-Borg Laboratory (KhM)	Mahael General Hospital
Asir Central Hospital (Abha)	Majaridah General Hospital
Balasmir General Hospital	Namas General Hospital
Bashayer Hospital	Prince Abd Bin Abd Aziz Hospital
Bisha General Hospital	Sabt Alaya Hospital
Dhahran Janoob Hospital	Sarat Obeidah General Hospital
Ghassan Nagib Pharaon	Saudi German Hospital (Abha)
Hayat Hospital (KhM)	Tathleeth General Hospital
Khamis Mushayt Civil Hospital	Zafer Hospital
<b>Baha Region</b>	
Baljurashi General Hospital	Mikhwah Hospital
Ghodran Hospital	Physical Therapy Center
King Fahd Hospital (Baha)	Psychiatric Hospital (Baljurashi)
Mandaq Hospital	Qilwah Hospital
<b>Eastern Province</b>	
Ahli Hospital	King Fahad Specialist Hospital
Ahsa Hospital (Hofuf)	King Khalid General Hospital
Al-Borg Laboratory (DM)	Magrabi Eye Hospital (DM)
Amal Hospital (DM)	Mana General Hospital (DM)
Anak General Hospital	Mana General Hospital (Hofuf)
ARAMCO Clinic	Mana General Hospital (Jubail)
Armed Forces Hospital (Hafuf)	Mana General Hospital (Khobar)
Astoon Hospital (Thomairy)	Maternity & Children's
Badr Rubaie Dispensary	Mousa Hospital (Hofuf)
Dammam Central Hospital	Mouwasat Dispensary (DM)
Dammam National Dispensary	Mouwasat Hospital (DM)
Dhahran General Hospital	Mouwasat Hospital (Jubail)
Dossary Hospital (Khobar)	Mouwasat Hospital (Qatif)
Dr Fakhry & Mouhawis Hospital	Naim Clinic (Hofuf)
Dr Fakhry & Rajhi Hospital	Naireia General Hospital
Dr Noor Khan Hospital (Hafuf)	Obeid Hospital (Hofuf)
Fanateer Hospital	Prince Saud Bin Jalawi Hospital
Hafr Batin Hospital	Prince Sultan Hospital
Huwaylat Hospital	Qatif Central Hospital
Imam Abd Rahman Bin Faisal Hospital	Rafiaah Hospital
Jabir Eye & ENT Hospital	Rowdha Dispensary
Jubail General Hospital	Royal Commission Hospital
Jufer Hospital (Hofuf)	Saad Specialist Medical Center
Khafji General Hospital	Salama Hospital
Khafji Joint Operation	Saudi ARAMCO Medical Services
King Abd Aziz Airbase	Sulaiman Sulaiman Clinic
King Abdul Aziz Navy	Tadawy General Hospital
King Abdulaziz NGH Hospital	Taheeli Hospital
King Fahad Hospital (Hofuf)	Udhailiyah Health Center
King Fahad Hospital of the University	Uyun Hospital (Ahsa)
King Fahad Military Hospital	Yousif Hospital
<b>Hail Region</b>	
Al-Borg Laboratory (Hail)	Maternity & Children's Hospital
Baqa Hospital	Rashid Hospital
Hail General Hospital	Salamat Private Hospital
King Khaled General Hospital	Salimi Hospital (Shanan)

**APPENDIX: A (continued...)**

<b>Jazan Region</b>	
Abu Arish General Hospital	Garrash Polyclinic
Ahad Masarha Hospital	Jazan General Hospital
Al-Borg Laboratory (Ja)	King Fahd Central Hospital
Aridah Hospital	King Fahd Specialist H
Baysh General Hospital	Sabia General Hospital
Darb Hospital	Samtah General Hospital
Dental Center (JZ)	Tuwal Hospital
Emeis National Hospital	
<b>Jouf Region</b>	
Dawamat Jandal Hospital	Qurayat Psychiatric Hospital
Maternity & Children's	Suwair General Hospital
Pr Abd Rahman Sudairi	Tabarjal General Hospital
Qurayat General Hospital	
<b>Madinah Region</b>	
Al-Borg Laboratory	Meeqat Hospital
Ansar Hospital (MD)	Mouwasat Hospital (Madinah)
Ansary Spcialist Hospital	Ohoud Hospital
Badr General Hospital (Yanboa)	Prince Abd Mohsen Ola Hospital
Dar Hospital	Rahmah Hospital
Dr Erfan Saadi Hospital (Yanboa)	Royal Commission Medical Center
Dr Hamed Al Ahmadi Hospital	Safa Madinah Hospital
Ees General Hospital (Yanboa)	Saudi German Hospital (MD)
Hanakyah General Hospital	Taiba Diagnostic Cente
King Fahad Hospital (MD)	Yanboa Al Bahr Hospital
Madina National Hospital	Yanboa General Hospital
Madinah Maternity & Chest Hospital	Yanboa National Hospital
Magrabi Eye Hospital (MD)	Zahra Private Hospital
Mahd General Hospital	
<b>Makkah Region</b>	
Abd Rahman Qari Center	King Fahad General Hospital
Abdullah Saeim Daher	King Fahad, AFH(JD)
Abeer Polyclinic (JD)	King Fahd Air Base Hospital
Abuzinada Hospital	King Faisal (Al Shesha) Hospital
Adhm Hospital (Leeth)	King Faisal Hospital (Taif )
Adwani General Hospital (Taif)	King Faisal Specialist Hosital
Alawi Tunsi & Bros Hospital	King Saud Hospital (JD)
Al-Borg Laboratory (JD)	Maghraby Eye Hospital (JD)
Al-Borg Laboratory (MK)	Maternity & Children's
Amen Hospital (Taif)	Mohammad Saleh Bashrahil Hospital
Ansar Hospital (JD)	Mustaqbal Hospital
Bugshan General Hospital	Nahda National Hospital (Taif)
Chest Disease Hospital (Taif)	New Jedaani (Qulail) Hospital
Dr Abd Rahman Bakhsh Hospital	New Jeddah Clinic
Dr Erfan & Bagedo Hospital	New Jeddah Hospital
Dr Ghassan Pharaon Hospital	Noor Specialist Hospital ( MK)
Dr Halla Bin Laden Hospital	Nourah Oncology Center, NGH
Dr Khalid Idriss Hospital	Pioneers Laboratory
Dr Khalid Idriss Hospital	Prince Mansour Military Hospital
Dr Solaiman Fakeeh Hospital	Qunfudah General Hospital
Eye Hospital (JD)	Rabegh General Hospital
Hada Military Hospital (AFH)	Rafie Hospital (MK)
Hai Jamea Hospital	Royal Commission Medical Center
Hamra Hospital	Saedy Medical Clinic
Hassan Qaznaoi Hospital	Sahan Bani Saad Hospital
Hayat Hospital (JD)	Salam Hospital
Heda Sanitorium Hospital	

**APPENDIX: A (continued...)**

<b>Makkah Region Continued.....</b>	
Hera General Hospital (MK)	Saudi German Hospital (JD)
International Medical Center	Saudi Hospital
Jedaani (Safa) Hospital	Sheffaa Hospital
Jeddah Clinic Hospital	Taif Chest Hospital
Jeddah National Hospital	Taif Children's Hospital
Khadra Lab (JD)	Thagher Hospital
Khalid Idriss Hospital (JD)	Umm Qura General private
King Abd Aziz Hospital	United Doctors Hospital
King Abd Aziz Hospital & Oncology Center	Zahra Hospital (JD)
King Abd Aziz Specialist Hospital	
King Abd Aziz University	
<b>Najran Region</b>	
Dhafer Hospital (Najran)	Najran General Hospital
King Khaled Hospital (Najran)	Sharourah Armed Forces Hospital
Maternity & Children's Hospital	Sharourah General Hospital
Najran Armed Forces Hospital	
<b>Northern Region</b>	
Arar Central Hospital	Prince Abduaziz Bin MUSAED Hospital
Arar Psychiatric Hospital	Rafha General Hospital
Owaiqaliah Hospital	Turayf General Hospital
<b>Qassim Region</b>	
Al-Borg Laboratory (Buraidah)	King Fahd Specialist Hospital
Asyah Hospital	King Saud University Hospital
Badaya Hospital	Maternity & Children's Hospital
Bukairiya General Hospital	Midhnab General Hospital
Buraidah Central Hospital	Rass General Hospital
Dr Suliman Al Habib Medical Center	
<b>Riyadh Region</b>	
Abdul Azeem Bassam Medical	King Khaled Eye Specialist Hospital
Abdullah Medical Clinic	King Khaled General Hospital
Adama Hospital	King Khaled International Hospital
Advance Cell Laboratory	King Khaled University
Advanced Medicine Center	King Saud Medical City
AFH Military (RKH Program)	Maghraby Eye Hospital (RY)
Afif General Hospital	Mamlaka Hospital (Kingdom)
Aflaj General Hospital	Mansoura Medical Clinic
Ahmed Aba Nami Hospital	Maternity & Children's Hospital
Alam Medical Center	Mobarak Hospital
Al-Borg Laboratory (RY)	Modern Laboratories
Amal Clinic (I)	Mohd Anazi Medical Center
Amal Psychiatric Hospital	Mouwasat Hospital (Ry)
Anda Medical Laborator	Muzhamiyah General Hospital
Armed Forces Wadi Dawaser Hospital	Obeid Hospital(RY)
Artwiyah General Hospital	Olaya Medical Center
Aviccenna Polyclinic	Osrah Clinic
Badri Medical Center	Osrah International Hospital
Badruddin Medical Group	Prince Nasser Bin Saad Hospital
Bustan Clinic	Prince Salman Bin Abduaziz Hospital
Chest Diseases Hospital (Kharj)	Quwayiyah General Hospital
College of Dentistry KSU	Rathawiah Medical Specialist Center
Consultative Medical Center	Rawdhah National Clinic
Consulting Radiologist Center	Riyadh Care Hospital
Dallah Hospital	Riyadh Medical Center
Dar Shifa Hospital	Romah Hospital

**APPENDIX: A (continued....)**

<b>Riyadh Region Continued...</b>	
Dawadmi General Hospital	Safa Makka Polyclinic
Delta Medical Laboratoy	Sajir Hospital (Dawadmi)
Dr Abdl Rahman Mishari Hospital	Saleh Eye Care Center
Dr Daouk Clinic	Saudi German Hospital
Dr Moagel's Polyclinic	Security Forces Hospital
Dr Mofarreh Polyclinic	Shaqra General Hospital
Dr Mohamed Anazi Med Center	Shifa Health Center
Dr Suliman Habib Med Center	Shifa Jazeera Polyclin
Elite Medical&Surgical	Specialized Medical Center
Eman General Hospital	Sports Medicine Hospital
ENT Medical Center	Subhi Specialized Center
Faleh International Hospital	Sulail Hospital
Faraidy National Clinic	Taawin Polyclinic
Finger Print Laboratory	Thadeq General Hospital
Green Cresent Hospital	Thuriah Medical Center
Hammadi Hospital	Tumayr (Majmaah)
Hariq General Hospital	United Medical Laboratory
Heraa Medical Clinic	Wadi Dawasser Hospital
Hotta Bani Tammim Hospital	Watan Clinic
Howtat Sudair Hospital	Watani Hospital (Ry National)
Huraymila General Hospital	Wroud Medical Clinic
Jafel International Ho	Yamamah Hospital
Jazeera Medical Clinic	Zulfi General Hospital
Jazirah Clinical Lab	
King Abd Aziz Medical City	
King Abdul Aziz University	
King Fahad Medical City	
King Faisal Specialist Hospital & RC	
<b>Tabuk Region</b>	
Dhuba General Hospital	North West Armed Forces Hospital
King Fahad Hospital (Tabuk)	Prince Fahad Bin Sultan Hospital
King Khalid Civil	Taima General Hospital
King Khalid General Hospital	Umlujj General Hospital
King Khalid Military Hospital	Wajh General Hospital
Maternity & Children's Hospital	
<b>International Hospitals in the following Countries:</b>	
Bahrain	Nigeria
Canada	Pakistan
China	Philippines
Egypt	Qatar
Eritrea	Russian Federation
Ethiopia	Sudan
France	Switzerland
Germany	Syrian Arab Republic
Hong Kong (SARC)	Thailand
India	Turkey
Jordan	United Arab Emirates
Kuwait	United Kingdom
Lebanon	United States of America
Malaysia	Yemen
Mauritius	

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## APPENDIX: B Continued....

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Dep. Chairman**

# APPENDIX C: Cancer Registration Abstract Form

**SAUDI CANCER REGISTRY**  
**Ministry of Health**  
**Kingdom of Saudi Arabia**

## CANCER REGISTRATION ABSTRACT

Revised September 2012

1. ACCESSION DATE          
d d m m y y y y

2. CanReg-4 No. (Accession Number)              
(Computer Assigned)

### PATIENT

3. <small>(Must be filled in Arabic)</small>	4. <small>(Must be filled in Arabic)</small>	5.	6. <small>(Must be filled in Arabic)</small>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
3. First <small>(Must be filled )</small>	4. FATHER <small>(Must be filled)</small>	5. GRANDFATHER	6. FAMILY <small>(Must be filled)</small>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

*Use SCR standardized name spellings*

7. Saudi ID/Passport/ Iqama Number

8. Sex     -   -             
1-Male 2-Female 9-Unknown (if only year is known, use 01/07/\_\_\_\_)

9. Date of Birth

10. Age at Diagnosis

11. Nationality Code

12. Nationality Text (Must be filled)

13. Marital Status   
1. Single 2. Married 3. Divorced 4. Widowed 9. Unknown

14. Address Code (Must be filled)

15. Address Details (Must be filled)  
 City:  Suburb /District  P.O. Box  Zip Code:

16. Mobile Number (Must be filled)

17. Telephone Number 1 (Must be filled)

18. Extension 1

19. Telephone Number 2

20. Extension 2

### TUMOR

21. Date of Diagnosis (First time physician states that patient has a malignancy clinically or pathologically) (if only year is known, use 01/07/\_\_\_\_)            
d d m m y y y y

22. Topography Code

23. Topography Text (Must be filled)

24. Morphology Code

25. Morphology Text (Must be filled)

26. Behavior   
2. In situ 3. Malignant/Invasive

27. Grade   
1. Well differentiated / Differentiated, NOS 2. Moderately / Moderately well differentiated 3. Poorly Differentiated 4. Undifferentiated / Anaplastic 5. T-Cell\* 6. B-Cell/Pre-B/B-cursor\* 7. Null Cell/Non-T-Non-B\* 8. Natural Killer cell\* 9. Unknown\* \* for leukemias & lymphomas only

28. SEER Summary Stage (Extent)   
1. In situ 2. Localized 3. Regional by direct extent 4. Regional by lymph node 5. Regional (both 3 and 4) 6. Regional, NOS 7. Distant Metastasis / Systemic disease 9. Unknown

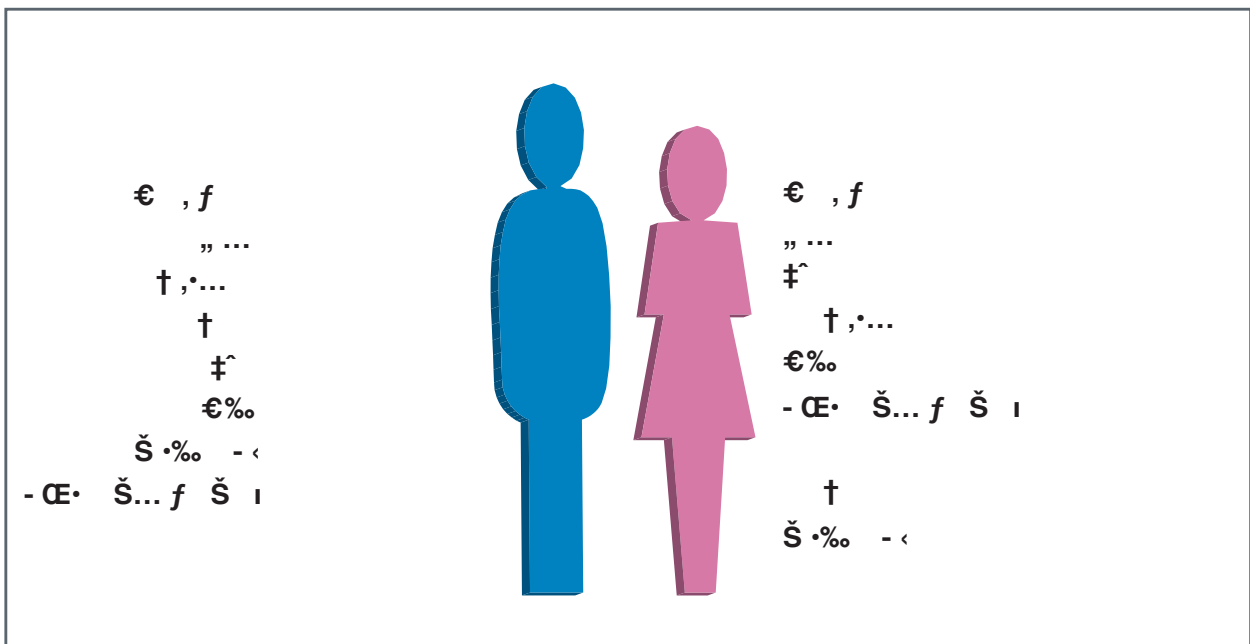
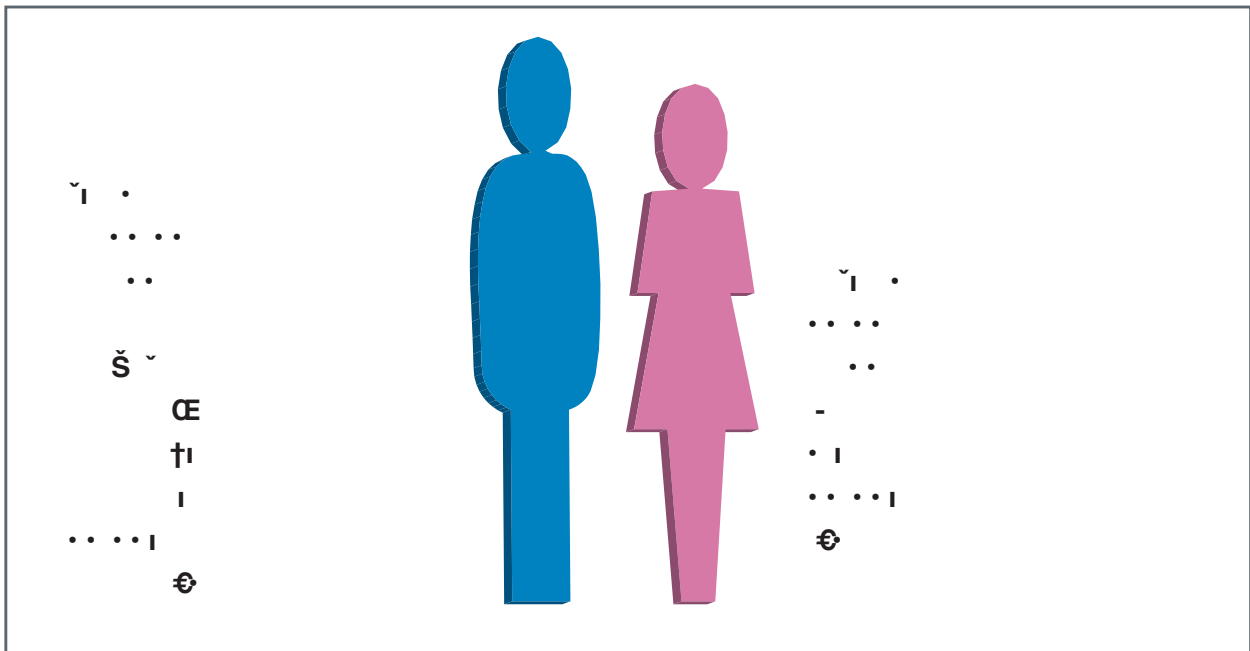
29. Laterality   
0. Not paired (unknown, ill defined) 1. Right 2. Left 3. One side, but unknown 4. Bilateral involvement, laterality origin unknown 9. Paired site, laterally not stated

30. Basis of Diagnosis   
0. DCO (death certificate only) 1. Clinical 2. Medical Imaging (Radiology) 3. Surgery (Visualization without Biopsy) 4. Lab test (tumor marker) 5. Cytology / Hematology 6. Histology of Metastasis 7. Histology of Primary 8. Autopsy 9. Unknown



## السرطانات العشرة الأكثر شيوعاً بين الأطفال السعوديين في كلا الجنسين

يحتل سرطان ابيضاض الدم المرتبة الأولى (٢٢١) حالة بنسبة ٣٥,٢ % يليه سرطان المخ (٧١) حالة بنسبة ١١,٣ % ثم السرطان اللمفاوي هودجكن (٦١ حالة) بنسبة ٩,٧ % يليه سرطان الكلى (٥١) بنسبة ٨,١ % ثم السرطان اللمفاوي لا هودجكن (٤٦) بنسبة ٧,٣ % يليه سرطان العظام (٣٨) بنسبة ٦,١ % ثم سرطان الأنسجة الضامة والرخوة (٢٩) بنسبة ٤,٦ % ثم العين (٢٧) بنسبة ٤,٣ % يليه سرطان الغدة الكظرية (٢٥) بنسبة ٤ % وأخيراً سرطان الكبد (٩) بنسبة ١,٤ %.



## APPENDIX D: Summary of Cancer Statistics in Saudi Arabia for the Year 2009

### ملخص

### إحصائيات السرطان في المملكة العربية السعودية لعام ٢٠٠٩ م

أنشئ السجل السعودي للأورام في عام ١٤١٢ هـ (١٩٩٢ م) بمستشفى الملك فيصل التخصصي ومركز الأبحاث تحت إشراف وزارة الصحة وبمشاركة من القطاعات الصحية الحكومية. يضم السجل خمسة فروع في مناطق المملكة بالإضافة إلى وجود مكاتب في كل من مستشفيات الملك فيصل التخصصي ومركز الأبحاث والقوات المسلحة بالرياض ومدينة الملك عبد العزيز الطبية بجدة وقوى الأمن بالرياض ومستشفى الملك خالد الجامعي بالرياض وجامعة الملك عبد العزيز بجدة.

بدأ السجل نشاطه في جمع المعلومات من شهر يناير في عام ١٩٩٤م. تدون المعلومات عن كل حالة سرطان وفق نموذج خاص بالسجل وتُرجم البيانات وتدخل حسب النظام المعتمد من منظمة الصحة العالمية وتحلل بشكل دوري. كما أن السجل يقوم بتزويد الجهات المختصة والباحثين بمعلومات إحصائية مفصلة بناءً على طلبهم وفق نموذج خاص على الموقع الرسمي الإلكتروني للسجل (<http://www.scr.org.sa>)

بلغ إجمالي عدد حالات السرطان المسجلة في عام ٢٠٠٩ ما مجموعه ١٢,٦٨٣\* حالة. من بين هذه الحالات ٩,٨٢٣ سعوديين بنسبة ٧٧,٥% و ٢,٨٦٠ غير سعوديين بنسبة ٢٢,٥%. من بين السعوديين ٤,٦١٨ حالة رجال بنسبة ٤٨,٥% والنساء ٥,٢٠٥ حالة بنسبة ٥١,٥%.

سعوديين			غير سعوديين			جنسيات غير محددة			الكل
ذكر	انثى	المجموع	ذكر	انثى	المجموع	ذكر	انثى	المجموع	المجموع
٤٦١٨	٥٢٠٥	٩٨٢٣	١٥٤٠	١٣٢٠	٢٨٦٠	٩٢	١١٥	٢٠٧	١٢٦٨٣

بلغ المعدل العمري المعياري للإصابة بالسرطان ٨٥,٥ في كل ١٠٠,٠٠٠ من السكان (٨٠,٩ بين الرجال و ٩٠,١ بين النساء).

### السرطانات العشرة الأكثر شيوعاً بين السعوديين في كلا الجنسين

يحتل سرطان الثدي المرتبة الأولى (١٣٣١ حالة بنسبة ١٣,٥% ثم سرطان القولون والمستقيم (١١٠٩ حالة) بنسبة ١١,٣% يليه السرطان اللمفاوي لا هودجكن (٧٠٩) بنسبة ٧,٢% ثم سرطان الغدة الدرقية (٦٧٩) بنسبة ٦,٩% ثم سرطان ابيضاض الدم (٦١٩) بنسبة ٦,٣% يليه سرطان الكبد (٤٣١) بنسبة ٤,٤% ثم سرطان الرئة (٣٧٩) بنسبة ٣,٩% يليه سرطان لا دودجكن (٣٤٤) بنسبة ٣,٥% ثم سرطان الجلد (٣٢٢) بنسبة ٣,٣% وأخيراً سرطان المعدة (٣١٣) بنسبة ٣,٢%.

\* العدد يمثل حالات السرطان بعد استثناء ٦٤ حالة سرطان اجتياحي (Invasive) لم يتم تصنيفها بعد في ICD-١٠ و ٢٩١ حالة سرطان موضعي (In Situ). انظر (جدول ٦,١ و ٦,٢) صفحة ٩٠.

\* العدد يمثل حالات السرطان بعد استثناء ٦٤ حالة سرطان اجتياحي (Invasive) لم يتم تصنيفها بعد في ICD-١٠ و ٢٩١ حالة سرطان موضعي (In Situ). انظر (جدول ٦,١ و ٦,٢) صفحة ٩٠.







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