



Sultanate of Oman
Ministry of Health

CANCER INCIDENCE IN OMAN 2021



دائرة الأمراض غير المعدية
Department of Non-Communicable Diseases



Department of Non-Communicable Diseases
Directorate General of Health Services & Programs



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The National Cancer Incidence reports are released annually by the National Cancer Registry in Oman.

For queries please contact the National Cancer Registry.

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Preface

Cancer remains a major public health challenge both globally and in Oman, with its growing burden requiring ongoing attention. In 2022, it claimed nearly 10 million lives worldwide, driven by aging populations, lifestyle-related risk factors such as physical inactivity, unhealthy diets, tobacco use, and various environmental exposures.

Since 1996, Oman's National Cancer Registry has played a vital role in monitoring cancer trends through consistent, high-quality data. The 26th edition of this report, covering the year 2021, reflects our continued commitment to cancer surveillance and serves as both a record of progress and a guide for future policies, prevention efforts, and improved care.

We extend our sincere gratitude to all healthcare professionals and institutions whose accurate reporting ensures the quality of this data. Special thanks go to the dedicated team at the National Cancer Registry at the Non-communicable Diseases (NCDs) Surveillance section in the Department of NCDs for their continued efforts in collecting, validating, and analyzing this vital data.

Directorate General of Health Services & Programs

We are pleased to release the 2021 cancer incidence in Oman. All the estimated incidence rates were based on 2021 estimated End-year population and obtained from Ministry of Health's annual health report. The total population was 4,527,446 of which 2,804,117 were Omanis and 1,723,329 were Non-Omanis.

The total number of all tumors registered in 2021 was 2,510. Of these 2,318 (92.35 %), were among Omanis 163 (6.49%) were Non-Omanis, and only 29 (1.15%) cases were carcinoma in Situ. Of the total 2,318 males' accounted for 994 cases 42.9% and females accounted for 1,324 cases (57.1%). In children aged 14 years and below 155 cases were reported.

The median age at diagnosis was 51 years. This was higher in males median age 58 than in females median age 47.

The crude incidence rate for all cancer among Omanis was 82.7 per 100,000 (70.4 per 100,000 for males and 95.1 per 100,000 for females). The age-standardized rate adjusted to the world standard population was 122.2 per 100,000 (117.2 per 100,000 for males and 129.4 per 100,000 for female).

Overall, breast cancer, predominantly female, was the most common cancer, with the median age at diagnosis being 47 years, followed by thyroid cancer and colorectal cancer.

The total updated registered cases for 2020 were 2,109 cases compared to 1994 cases at the time of publication, with an increase of 115 cases.

In 2021, there was an increase of approximately 9.9% in the incidence of cancer in Oman compared to 2020, which could reflect the impact of the post COVID- 19 period.

Acknowledgement

The release of the National Cancer Incidence report would not be possible without the invaluable support of numerous hospital teams who consistently provide essential data and information, aiding the ongoing registration of cancer cases in Oman. The National Cancer Registry expresses its deep appreciation to all healthcare professionals and hospital administrators across the country.

We would like to express our gratitude to the reviewers of the National Cancer Incidence reports for their invaluable assistance and insights, which are essential to the release of these reports each year.

Ministerial Decision No. 222/ 2017 on Registration of Cancer Cases

Based on the Royal Decree No. 36/ 2014 on determining the terms of reference of the Ministry of Health and the approval of its organizational structure, and The Ministerial Decision No.4/2001 on Notification of Cancer Cases, and for the public interest, the following have been decided:

Article (1): The following neoplasms are considered cancerous diseases or carcinoma in-situ numbered as per the 10th revision of the International Statistical Classification of Diseases & Related Health Problems (ICD-10):

- Malignant Neoplasms(C00-C79)
- In Situ Neoplasms (D00-D09)
- Neoplasms of Uncertain or Unknown Behaviour (D37- D48)

Article No. (2): If a person is clinically or surgically or laboratory diagnosed with cancer or suspected of having cancer or carcinoma in-situ, it should be reported to the Oman National Cancer Registry at the Non-communicable Diseases Department in the Directorate General of Primary Health Care on the attached form within (30) days from the date of diagnosis.

Article No. (3): Reporting of cancer cases mentioned in the aforesaid Article shall be the responsibility of the following:-

- The doctor who has examined the patient
- The technician of the laboratory where the sample was confirmed positive
- The Director or Head of the government health institution (Civil or Military) or private health institutions, in which the case was diagnosed.

Article No. (4): Recording of persons with cancer or suspected cases in the Oman National Cancer Registry shall be according to the disease classification and shall include their trinomial name, tribe name, surname, age, sex, nationality and addresses.

Article No. (5): The Oman National Cancer Registry records are confidential, no persons other than the Registry workers are allowed to view or disclose them except on the grounds of the public interest.

Article (6): The Ministerial Decision No. 4/2001 shall be cancelled and all that contravenes with this Decision or contradicts with its provision shall be cancelled.

Article (7): This Decision shall come into effect from the date of its issue, and shall be implemented by the competent each in his respective field of specialization.

Issued on: 21/03/1439H, Corresponding to: 10/12/2017

Dr. Ahmed bin Mohammed bin Obaid Al Saidi Minister of Health

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Background Of The Sultanate Of Oman

Geographical Features

The Sultanate of Oman is located in the southeastern corner of the Arabian Peninsula. It has a coastal line extending almost 1,700 kilometers from the Strait of Hormuz in the north to the borders of the Republic of Yemen, overlooking three seas; the Arabian Gulf, the Sea of Oman and the Arabian Sea. The country borders Saudi Arabia and United Arab Emirates (UAE) in the west, the Republic of Yemen in the south, the Strait of Hormuz in the north and the Arabian Sea in the east. Besides, there are a number of scattered Omani islands in the Arabian Sea; the most important are Masirah and Al-Halaniyat.

The total area of the Sultanate of Oman is approximately 309,500 square kilometers, and it is the third largest country in the Arabian Peninsula. The Sultanate comprises varying topographic areas consisting of plains, wadis (dry river beds) and mountains. The most important area is the plain overlooking the Sea of Oman and the Arabian Sea, with an area of about 3% of the total area. The mountain ranges occupy almost 15% of the total land of Oman and are inhabited by about 5% of the population. The remaining area is mainly sand, wadis and desert (about 82% of the total area).

The climate differs from one area to another; it is hot and humid in the coastal areas in summer and hot and dry in the interior, except for the higher mountains and Dhofar Governorate, which enjoy a moderate climate throughout the year.

The Sultanate of Oman is administratively divided into 11 Governorates with 63 Wilayah. The 11 governorates are Muscat, Dhofar, Musandam, Ad Dakhliyah, Al Buraymi, A'Sharqiyah South and North, Al Batinah, South and North, A'Dhahirah, and Al Wusta.

Population Structure

The estimated mid-year population in 2021 was 4, 527,446 of which 2,804,117 were Omanis and 1,723,329 were Non-Omanis (Table 1). The Omani population shows a sex ratio of 985 females per 1000 males. About 14.0 % of the population are under-5 years and 38.5 % are under-15 years. Only 3.6 % of the total Omani population are above the age of 65 years.

Table 2 gives the population distribution of Omanis by region and gender, which was used to calculate incidence rates for different regions.

Background

Table 1: Age structure of the Omani Population 2021

Age Group	Male	%	Female	%	Total	%
0 - 4	200,547	14.2	193,196	13.9	393,743	14.0
9 - 5	198,948	14.1	191,507	13.8	390,455	13.9
10 - 14	151,164	10.7	146,456	10.5	297,620	10.6
15 - 19	115,743	8.2	112,089	8.1	227,832	8.1
20 - 24	110,010	7.8	106,638	7.7	216,648	7.7
25 - 29	122,117	8.6	118,319	8.5	240,436	8.6
30 - 34	121,672	8.6	119,008	8.6	240,680	8.6
35 - 39	110,982	7.9	108,922	7.8	219,904	7.8
40 - 44	84,653	6.0	84,946	6.1	169,599	6.0
45 - 49	57,853	4.1	56,432	4.1	114,285	4.1
50 - 54	38,105	2.7	38,162	2.7	76,267	2.7
55 - 59	30,373	2.2	31,870	2.3	62,243	2.2
60 - 64	23,865	1.7	28,167	2.0	52,032	1.9
65 - 69	16,225	1.1	20,658	1.5	36,883	1.3
70 - 74	12,016	0.9	14,252	1.0	26,268	0.9
+75	18,235	1.3	20,987	1.5	39,222	1.4
Total	1,412,508	100	1,391,609	100	2,804,117	100

Table 2: Population Distribution of Omanis by Governorates and Gender, 2021

Region	Males	Females	Total
Muscat	277,887	275,649	553,536
North Al - Batinah	284,468	279,232	563,700
Ad - Dakhliyah	189,094	186,081	375,175
South Al - Batinah	181,728	179,714	361,442
Dhofar	111,590	108,933	220,523
South Ash - Sharqiah	117,048	114,842	231,890
North Ash - Sharqiyah	98,724	98,440	197,164
Adh - Dhahirah	83,549	82,786	166,335
Buraymi	37,618	36,344	73,962
Musanadam	17,855	16,979	34,834
Al - Wusta	12,947	12,609	25,556
Total	1,412,508	1,391,609	2,804,117

Population Pyramid of Oman (Omani Nationals),2021

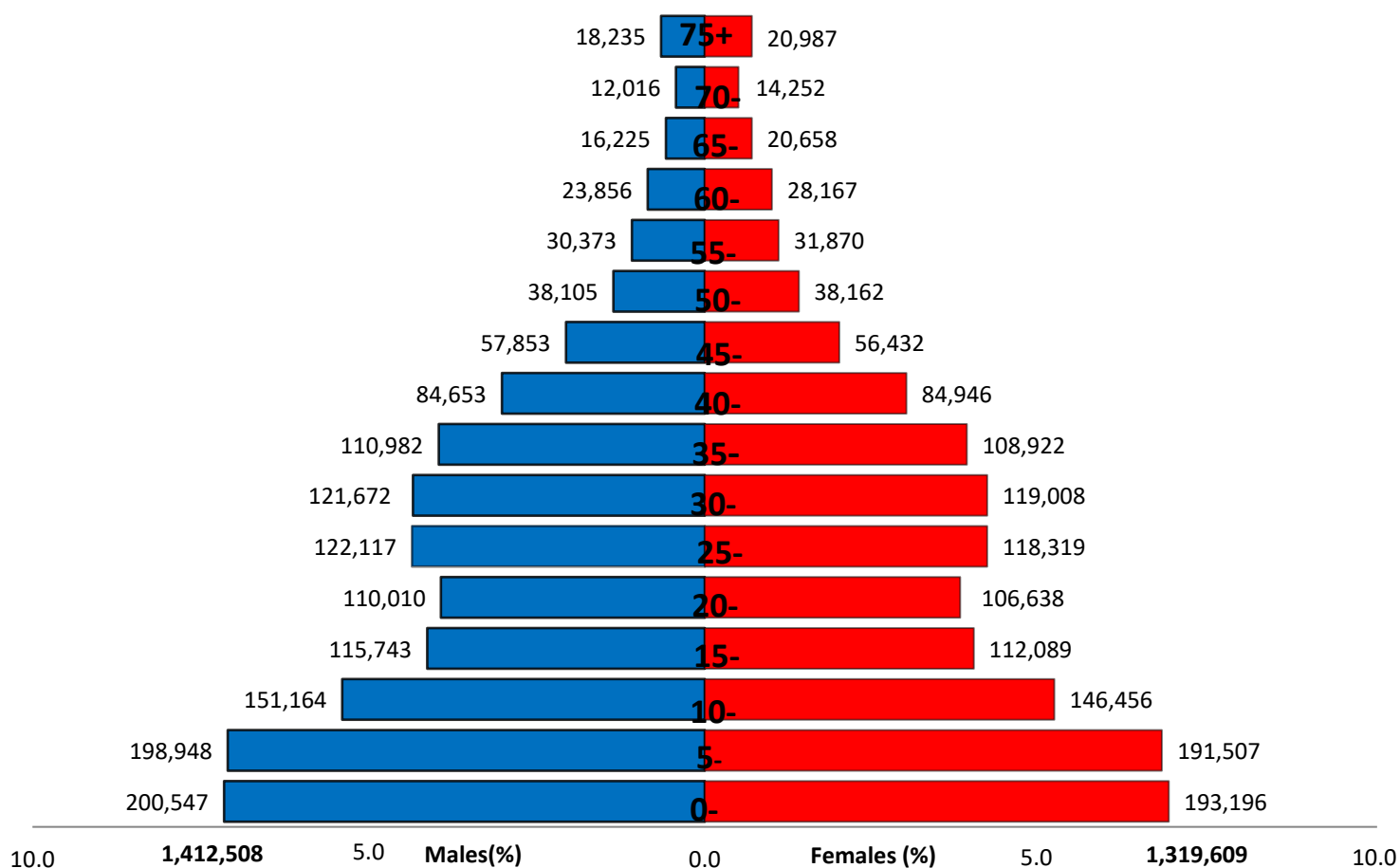


Figure 2: Health Administrative Regions of The Sultanate of Oman



This Map is not an Authority of International and Administrative Boundaries

Oman National Cancer Registry

The Oman National Cancer Registry was established in 1985 as a hospital-based registry. Only cases treated in tertiary hospitals were registered. In 1996, with the establishment of the Department of Non-Communicable Diseases Surveillance and Control, the cancer registry was transferred and started functioning under the Directorate General of Health Affairs. New cancer notification forms were developed and distributed to all regional hospitals and sister institutions. In 2000, the registration form was simplified (see annex 2), printed and distributed to all institutions that could potentially report cancer cases. Two trained cancer registrars are responsible for data collection, coding and entry.

Objective of Cancer Registry

1. To compile an accurate database on cancer incidence in The Sultanate of Oman.
2. To monitor cancer trends, which can guide policymakers in setting priorities for the control and management of cancer.
3. To provide researchers and clinicians with population-based information on the number and types of cancer cases and their geographical distribution within the Sultanate of Oman.

Methods

1. Data Collection

a) Active Collection

The active collection involves the registry personnel visiting different sources and abstracting data on Cancer Registry Forms.

Being the largest tertiary centre for diagnosis and treatment of cancer, registrars visit the Royal Hospital twice a week and abstract data on the notification forms. Similarly, other tertiary hospitals like Khoula Hospital and Al-Nahda Hospital are visited monthly. A new National Oncology Centre was established in the Royal Hospital in November 2004, after which data is also collected from chemotherapy and radiotherapy lists. Patients diagnosed abroad are traced through the Oncology Outpatient Register at the Royal Hospital, and subsequently, data are extracted from their case notes. Details of patients treated abroad are obtained from the Department of Treatment Abroad, Ministry of Health.

b) Passive Reporting

Cancer notification was made mandatory in 2001 through a Ministerial Decision (4/2001). When a case of cancer is diagnosed, the attending physician of the relevant specialty or the medical records department at the regional hospital completes the notification forms and sends them to the registry. Other institutions like the Armed Forces Hospital and Sultan Qaboos University Hospital do similar passive reporting. In 2017, the above Ministerial Decision was updated (222/2017) to include all health (Civil or Military) institutions in Oman, including private hospitals. The cancer registrars frequently visit these institutions for data extraction of patients diagnosed in them.

2. Data-Coding, Entry and Validity Checks

Until 2001 all cancer cases were being coded using International Classification of Diseases for Oncology (ICDO-2) codes, 2nd Edition, with topography 'C' and morphology 'M' codes.

Data was entered in CanReg-3 programme, supplied by the International Agency for Research on Cancer (IARC), Lyon, France. Canreg-4 software programme and International Classification of Diseases for Oncology ICDO-3 began to be used in 2003, since it was introduced in October 2002. This programme has a duplicate entry checking facility, which avoids the same case being registered more than once. In 2016, the registry software was upgraded to CanReg5 (version 5.00.40). For this report, we used CanReg5 (version 5.00.42). Validity checks were performed for consistency between site/histology, gender/site, and age/site/histology combinations using the same version.

3. Completeness of Data Reporting

Data are obtained from all hospitals with histopathology/cytology and hematology laboratories (Royal, al-Nahdha, Khoula, Sultan Qaboos and Sohar Hospitals) from copies of reports of patients diagnosed as cancer to the registry. Since mid-2001, the Sultan Qaboos University and Armed Forces Hospitals histopathology laboratories have also started sending reports.

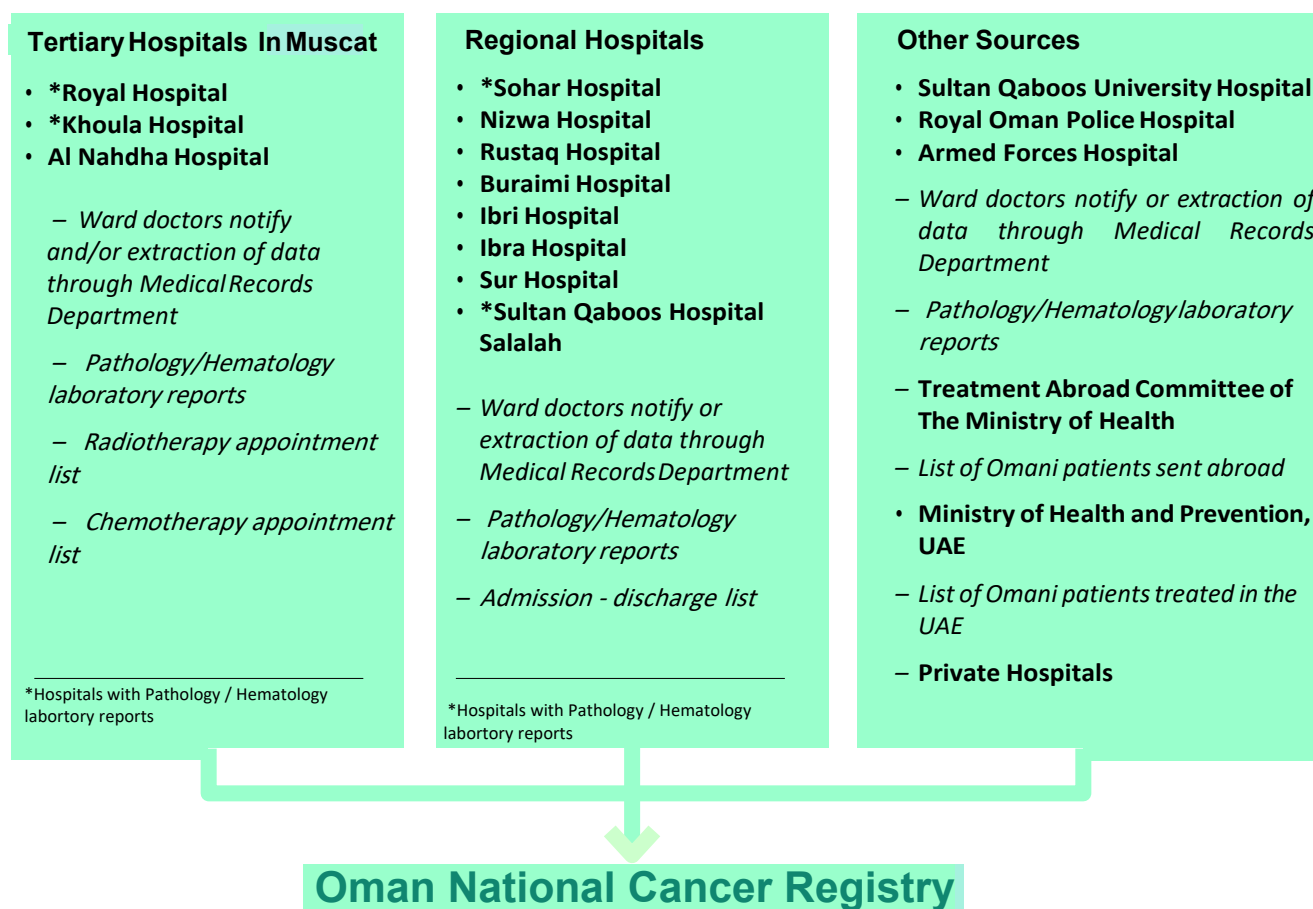
Since the establishment of the National Oncology Center in November 2004, the chemotherapy and radiotherapy lists are also obtained once a week. Monthly hospital "admission–discharge" lists were sent from the tertiary hospitals. From 2003, similar lists were sent by all the regional hospitals. These lists help in updating the registry and in updating the status of the patient (deceased or alive).

The list of patients with cancer on chemotherapy is obtained from tertiary hospitals. Details of missing data are sought from all of the above sources so that the registry can be updated.

4. Data Analysis

Data is first checked for consistency and validity using the International Agency for Research on Cancer (IARC), 2008 software (Canreg-5.00.40 build1566). Frequency distribution and incidence tables are generated for Omanis only, using the Canreg-5 programme. Data for individual cancers are then exported in csv form to Stata software (version 14.2, Stata Corporation, TX, USA) to analyse incidence by region, gender and morphological types. The results for childhood cancers are presented for the whole Sultanate according to the diagnostic groups defined in the "International Classification of Childhood Cancers, third edition, 2005" Steliarova Foucher et al., 2005). Bar diagrams and graphs are made using Microsoft Excel version 2019 (Microsoft Corporation).

Figure 3: Data flow into the national cancer registry



The National Center for Statistics and information provides population denominators (by 5- year age group and gender by region), which are used for calculating incidence rates. Since the 2003 report, we have included four comprehensive tables showing the frequency as well as the incidence of cancers by site, from the year 2004 onwards.

5. Definitions

Incidence

The number of new cancer cases in a defined population within a specific period.

Date of Diagnosis

The date documented on the histopathology report. For clinical cases, the date of diagnosis is the date stated in patient's case notes .

Population at Risk

Individuals who are susceptible to specific cancers.

Crude incidence rate

The number of new cancer cases in the population occurring within a Gregorian calendar (1st January to 31st December) divided by the population at risk in the same period expressed per 100,000.

Age-specific rate

Incidence rate in a specific age group.

Age-standardized rate (ASR)

Age standardization is necessary when comparing several populations that differ with respect to age. Hence the World Standard Population of Segi, Table3. (Segi M.Cancer mortality for selected sites in 24 countries (1950-57). Sendai: Tohoku University, School of Medicine, 1960) was used to adjust the crude incidence rates and to remove the confounding effect of age.

Therefore, the age-adjusted rates (ASR) could be used for comparison purposes with other rates where the same world standard population was used, especially those issued by the World Health Organization's agency, the International Agency for Research on Cancer (IARC), in its periodic publication, Cancer Incidence in Five Continents.

Multiples primaries

Two or more abnormal growths of tissue occurring simultaneously and may be found in the same or different sites.

Metastasis

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

Carcinoma in situ:

A group of abnormal cells that remain in the place where they first formed. They have not spread.

Table 3: Age Structure of the World Standard Population of Segi, used for Age-adjustment

Age Group	Population
00-04	12,000
05-09	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
Total	100,000

Table 4: Stability of data overtime

Publ.Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
2009	915												
2010	921	876											
2011	964	956	1187										
2012	987	1008	1293	1212									
2013	987	1009	1302	1242	1242								
2014	995	1039	1316	1271	1371	1394							
2015	1013	1050	1337	1295	1410	1507	1615						
2016	1017	1052	1339	1301	1418	1523	1691	1780					
2017	1020	1059	1345	1309	1425	1537	1725	1880	1892				
2018	1023	1061	1348	1309	1430	1541	1737	1891	1938	1911			
2019	1023	1061	1350	1309	1437	1550	1737	1909	1966	2012	2089		
2020	1026	1065	1348	1313	1438	1556	1740	1921	1977	2041	2171	1994	
2021	1,029	1,070	1,357	1,320	1,445	1,564	1,758	1,947	1,995	2,071	2,271	2,109	2,318
Max	1,029	1,070	1,357	1,320	1,445	1,564	1,758	1,947	1,995	2,071	2,271	2,109	2,318
Min	915	876	1187	1212	1242	1394	1615	1780	1892	1911	2089	1994	
Average	993.8	1025.5	1320.2	1288.1	1401.8	1521.5	1714.7	1888.0	1953.6	2008.8	2177.0	2051.5	2318
Max-Min	114	194	170	108	203	170	143	167	103	160	182	115	
Max % variation	%11.47	%18.92	%12.88	%8.38	%14.48	%11.17	%8.34	%8.85	%5.27	%7.97	%8.36	%5.61	

The table shows the total number of registrations annually and the updated numbers for each year following publication

Table 5: Updated cancer cases over years 2009-2021 (Omani)

Years	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Frequency	1,029	1,070	1,357	1,320	1,445	1,564	1,758	1,947	1,995	2,071	2,271	2,109	2,318

Figure 4: Trends of cancer cases 1996-2021 (Omani)

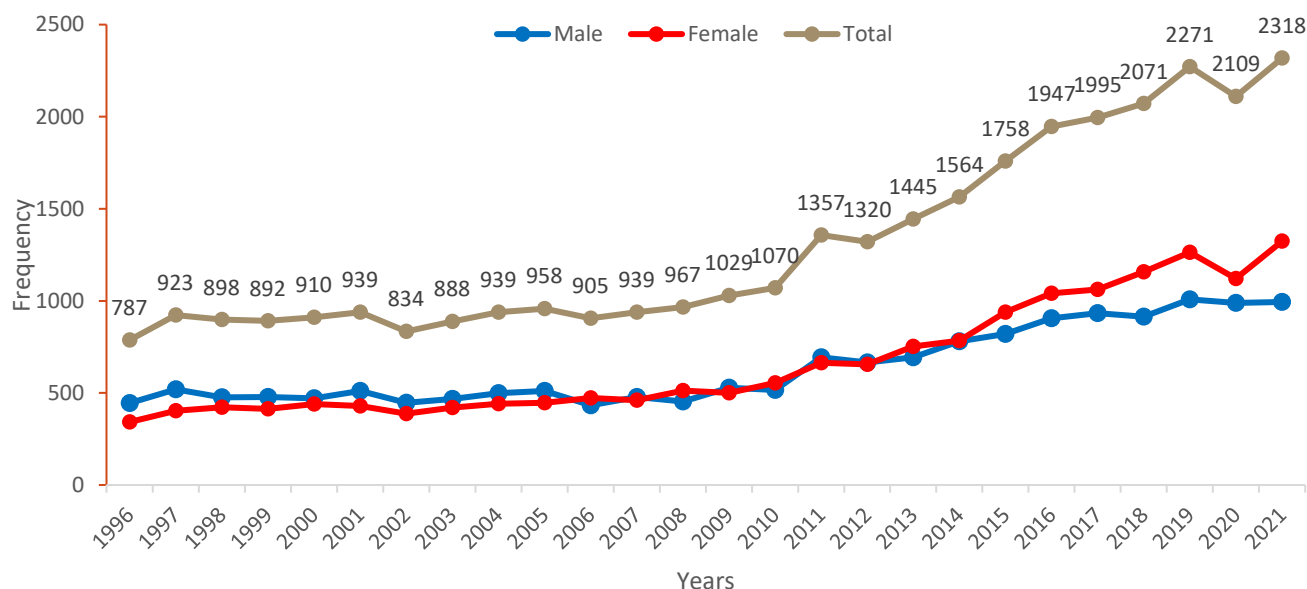
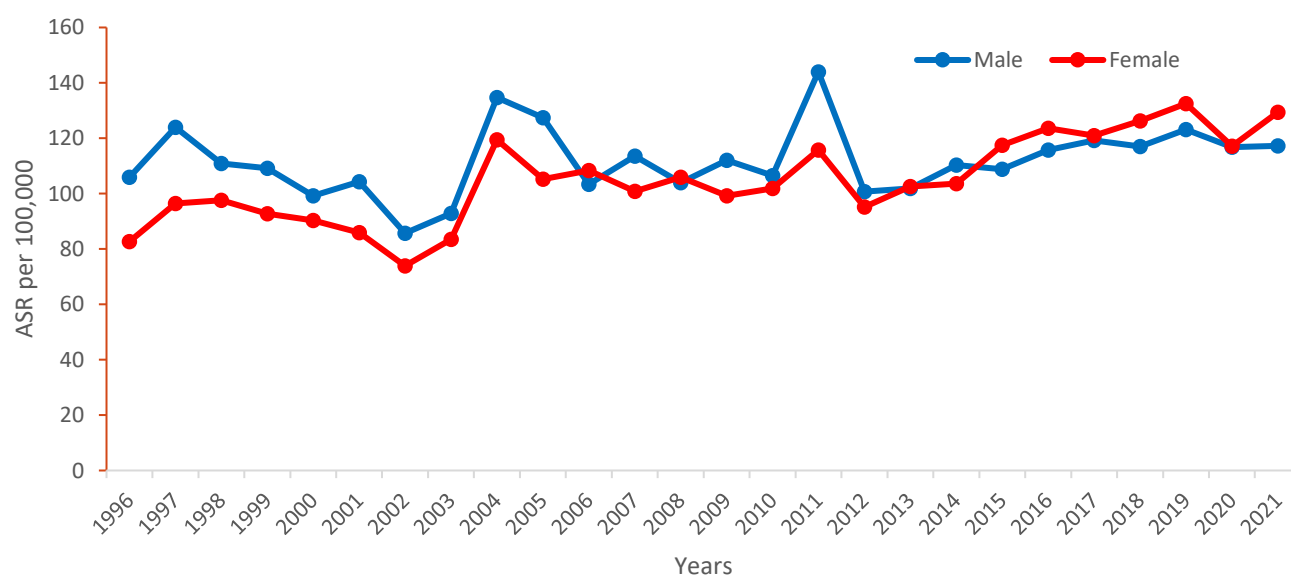


Figure 5: Time Trends of cancer ASR 1996-2021 (Omani)



Data quality indicators

Validity (accuracy): The proportion of cases in a dataset with a given characteristic which truly have the attribute.

It is estimated by :

1. Re-abstracting and recoding by checking on the accuracy of recording and correcting any obvious deficiencies.
2. Internal consistency – check program CanReg 5
3. Morphological verification MV%– the percentage of cases with a morphologically verified diagnosis.
4. Death certificate only (%DCO) - the percentage of cases for which the only information came from a death certificate.
5. Missing information – proportion or percentage of cases with missing data
 - ❖ Primary site uncertain (PSU %) – C26, C39, C48, C76, C80
 - ❖ Age, Sex
 - ❖ Stage

Table 6: Data quality indicators (Validity Table)

(%) Indicators Percentage	2020	2021
Morphologically verified (MV%)	98.5 %	97.6 %
Death certificate only (DCO%)	0.0 %	0.0 %
Primary site uncertain (PSU %)	1.35 %	1.38 %
Age unknown (%)	0.0 %	0.0 %

Trends of Cancer

Table 7: Data Quality indicators exported from Canreg 5
OMAN National Cancer Registry (2021)
Data Quality Indicators

MALE

SITE	Cases	ASR	Var	SE	(%)MV	(%)CLIN	(%)DCO	ICD10
Mouth & pharynx	47	5.99	0.84	0.92	100	0	0	C00-14
Oesophagus	9	1.27	0.19	0.44	100	0	0	C15
Stomach	48	6.04	0.83	0.91	100	0	0	C16
Colon, rectum, anus	125	16.12	2.33	1.53	100	0	0	C18-21
Liver	60	8.74	1.35	1.16	50	50	0	C22
Pancreas	25	3.45	0.51	0.71	88	12	0	C25
Larynx	14	2.15	0.34	0.59	100	0	0	C32
Lung, trachea, bronchus	42	5.74	0.84	0.92	92.86	7.14	0	C33-34
Melanoma of skin	4	0.63	0.1	0.32	100	0	0	C43
Breast	15	1.59	0.19	0.44	93.33	6.67	0	C50
Prostate	77	11.54	1.8	1.34	100	0	0	C61
Testis	27	1.68	0.11	0.33	100	0	0	C62
Kidney & urinary NOS	25	2.64	0.33	0.57	100	0	0	C64-66,68
Bladder	46	6.02	0.85	0.92	100	0	0	C67
Brain & nervous sytem	60	5.59	0.66	0.81	100	0	0	C70-72
Thyroid	66	5.83	0.63	0.79	100	0	0	C73
Ill-defined	13	1.7	0.25	0.5	92.31	7.69	0	C76-80
Lymphoma	130	13.93	1.77	1.33	100	0	0	C81-85,90,88,96
Leukaemia	65	5.77	0.63	0.79	100	0	0	C91-95
All sites but C44	960	112.85	15.37	3.92	95.94	4.06	0	ALLbC44

FEMALE

SITE	Cases	ASR	Var	SE	(%)MV	(%)CLIN	(%) DCO	ICD10
Mouth & pharynx	27	2.75	0.31	0.56	100	0	0	C00-14
Oesophagus	7	0.65	0.07	0.26	100	0	0	C15
Stomach	38	4.36	0.54	0.73	100	0	0	C16
Colon, rectum, anus	95	10.44	1.25	1.12	100	0	0	C18-21
Liver	31	3.71	0.47	0.68	64.52	35.48	0	C22
Pancreas	15	1.64	0.2	0.44	86.67	13.33	0	C25
Larynx	1	0.15	0.02	0.15	100	0	0	C32
Lung, trachea, bronchus	13	1.62	0.21	0.46	92.31	7.69	0	C33-34
Pleura & other thoracic	3	0.2	0.01	0.12	100	0	0	C37-38
Melanoma of skin	3	0.3	0.03	0.19	100	0	0	C43
Breast	393	38.76	4.27	2.07	99.75	0.25	0	C50
Cervix	41	4.34	0.5	0.71	100	0	0	C53
Corpus & Uterus NOS	47	5.12	0.6	0.78	100	0	0	C54-55
Ovary & adnexa	43	4.53	0.53	0.73	97.67	2.33	0	C56
Kidney & urinary NOS	23	2.25	0.25	0.5	100	0	0	C64-66,68
Bladder	14	1.67	0.21	0.46	92.86	7.14	0	C67
Brain & nervous sytem	64	5.72	0.59	0.77	100	0	0	C70-72
Thyroid	196	15.39	1.37	1.17	100	0	0	C73
Ill-defined	21	2.55	0.32	0.57	90.48	9.52	0	C76-80
Lymphoma	98	9.52	1.05	1.02	100	0	0	C81-85,90,88,96
Leukaemia	59	4.79	0.44	0.66	100	0	0	C91-95
All sites but C44	1299	126.8	13.91	3.73	98.54	1.46	0	ALLbC44

Cases of unknown age (0M/0F) were excluded from these analyses

Table 8: Frequency of Cancers among Omani Males, 2009-2020

SITE	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	ICD (10th)
Lip	0	1	2	1	2	0	0	2	2	1	3	0	2	C00
Tongue	3	4	4	4	12	6	14	5	10	10	1	12	7	C01-02
Mouth	8	3	8	8	5	11	6	8	16	8	13	16	20	C03-06
Salivary glands	1	2	0	2	2	3	5	5	3	2	1	2	2	C07-08
Tonsil	0	1	0	0	1	0	1	0	1	0	0	0	3	C09
Other oropharynx	1	1	2	0	1	1	3	1	0	2	2	4	1	C10
Nasopharynx	6	5	4	3	3	10	13	5	6	7	9	5	10	C11
Hypopharynx	3	0	0	0	0	1	3	3	0	0	2	2	1	C12-13
Pharynx unspecified	1	0	1	0	1	1	1	0	1	1	1	0	1	C14
Oesophagus	8	15	10	10	10	15	10	8	11	18	13	17	9	C15
Stomach	50	33	57	65	55	56	47	57	59	57	68	47	48	C16
Small intestine	2	2	5	3	3	4	12	7	3	3	7	7	8	C17
Colon	24	33	39	45	45	48	54	52	87	82	91	96	80	C18
Rectum	19	11	26	26	27	23	36	33	42	33	43	45	41	C19-20
Anus	1	1	3	4	4	2	1	4	7	4	1	4	4	C21
Liver	18	20	29	34	32	58	51	70	48	56	51	49	60	C22
Gallbladder etc	4	5	8	2	4	3	7	5	9	8	7	7	12	C23-24
Pancreas	10	14	17	16	23	13	18	23	28	20	20	18	25	C25
Nose, sinuses etc	1	1	3	0	0	0	1	1	4	3	1	3	1	C30-31
Larynx	4	12	7	7	8	7	8	17	8	8	8	14	14	C32
Trachea, bronchus and lung	30	25	45	33	43	50	44	59	62	53	65	55	42	C33-34
Other thoracic organs	3	0	5	0	2	3	1	3	1	2	3	3	0	C37-38
Bone	11	13	16	9	8	10	10	13	6	9	4	5	11	C40-41
Melanoma of skin	4	2	3	2	4	2	2	1	1	1	4	1	4	C43
Other skin	25	20	22	25	32	22	23	32	25	35	34	32	34	C44
Mesothelioma	0	0	4	1	1	2	1	2	3	2	4	1	1	C45
Kaposi sarcoma	3	2	7	1	4	0	2	2	2	1	1	2	1	C46
Connective and soft tissue	4	10	7	9	8	12	19	9	11	12	16	16	13	C47,C49
Breast	5	8	6	7	5	10	4	8	5	9	10	11	15	C50
Penis	0	1	0	0	0	1	1	0	0	2	0	2	1	C60
Prostate	50	50	72	85	84	84	93	100	108	97	124	79	77	C61
Testis	6	7	10	6	10	12	13	10	13	18	17	21	27	C62
Other male genital organs	1	0	0	0	0	0	1	1	0	0	0	0	0	C63
Kidney	18	23	14	15	16	26	21	16	19	32	36	12	25	C64
Renal pelvis	0	0	0	0	0	0	1	0	0	1	0	0	0	C65
Ureter	0	0	0	1	0	0	1	0	1	0	2	0	0	C66
Bladder	26	36	36	35	46	54	44	52	61	46	65	48	46	C67
Other urinary organs	0	0	0	0	0	0	0	0	0	1	0	0	0	C68
Eye	1	0	3	1	1	0	2	2	3	1	3	2	3	C69
Brain, nervous system	23	18	21	29	18	30	26	31	30	30	32	41	60	C70-72
Thyroid	13	4	12	17	19	32	32	47	31	48	59	60	66	C73
Adrenal gland	3	6	4	6	4	3	6	4	5	5	4	6	5	C74
Other endocrine	1	0	0	0	1	2	0	2	0	0	3	0	3	C75
Hodgkin disease	17	17	24	27	20	26	29	39	41	27	29	39	20	C81
Non-Hodgkin lymphoma	42	41	58	56	56	63	67	66	69	56	51	77	79	C82-85,C96
Immunoproliferative diseases	0	0	1	0	0	0	1	1	0	4	1	5	3	C88
Multiple myeloma	9	9	7	13	15	10	11	8	12	15	21	23	28	C90
Lymphoid leukaemia	32	25	36	15	20	33	28	37	25	32	27	29	34	C91
Myeloid leukaemia	14	15	27	18	17	20	29	26	27	30	26	36	24	C92-94
Leukaemia unspecified	1	3	2	2	4	1	0	4	4	0	6	14	7	C95
Myeloproliferative disorders	1	2	1	0	0	0	1	1	2	0	1	1	0	MPD
Myelodysplastic syndromes	0	2	0	0	0	1	1	0	0	0	0	0	0	MDS
Other and unspecified	21	13	26	22	17	9	15	24	21	22	18	19	16	O&U
All sites	528	516	694	665	693	780	820	906	933	914	1008	988	994	ALL
All sites but C44	503	496	672	640	661	758	797	874	908	879	974	956	960	ALLbC44

Trends of Cancer

Table 9: Frequency of Cancers among Omani Females, 2009-2021

SITE	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	ICD (10th)
Lip	0	0	0	2	0	0	2	1	2	0	1	0	0	C00
Tongue	2	4	4	3	1	6	6	1	4	4	3	10	10	C01-02
Mouth	5	4	3	4	5	8	3	8	7	2	6	5	10	C03-06
Salivary glands	2	2	3	1	1	2	4	1	4	1	0	0	5	C07-08
Tonsil	0	0	0	0	0	0	0	1	2	0	0	0	2	C09
Other oropharynx	0	0	0	0	1	0	0	0	1	0	1	2	0	C10
Nasopharynx	3	5	3	3	1	2	6	3	4	1	2	5	0	C11
Hypopharynx	0	0	0	0	0	2	0	0	0	1	0	1	0	C12-13
Pharynx unspecified	0	0	1	0	1	0	0	0	0	0	1	1	0	C14
Oesophagus	8	5	4	9	3	3	5	3	3	8	7	4	7	C15
Stomach	24	23	25	29	31	35	24	28	37	31	53	29	38	C16
Small intestine	1	1	2	3	4	0	2	3	5	2	6	6	6	C17
Colon	24	16	23	43	28	49	49	50	64	70	66	81	72	C18
Rectum	12	19	16	17	24	25	24	30	27	36	25	29	21	C19-20
Anus	1	2	3	0	0	2	2	1	4	2	3	0	2	C21
Liver	16	15	11	14	17	33	30	35	22	27	26	23	31	C22
Gallbladder etc	6	2	6	8	4	7	5	11	13	8	7	6	14	C23-24
Pancreas	4	5	8	9	15	11	11	12	15	22	21	16	15	C25
Nose, sinuses etc	4	1	1	0	0	1	2	2	0	3	0	1	1	C30-31
Larynx	3	1	0	1	2	1	4	0	2	0	4	0	1	C32
Trachea, bronchus and lung	15	8	14	20	17	16	20	18	34	27	22	20	13	C33-34
Other thoracic organs	0	1	1	3	0	1	3	2	2	1	1	2	3	C37-38
Bone	1	3	8	9	12	6	1	12	4	11	11	19	12	C40-41
Melanoma of skin	2	2	4	1	1	0	3	1	2	5	1	0	3	C43
Other skin	19	24	20	20	24	20	33	28	30	29	32	28	25	C44
Mesothelioma	0	0	0	0	0	1	1	1	1	1	1	3	2	C45
Kaposi sarcoma	1	1	0	0	1	0	0	1	1	0	0	0	0	C46
Connective and soft tissue	3	4	3	10	8	4	12	15	11	8	15	8	12	C47,C49
Breast	127	143	165	160	189	176	227	283	283	304	367	279	393	C50
Vulva	0	1	0	2	2	0	0	1	2	2	1	2	3	C51
Vagina	0	0	2	4	1	3	1	2	4	0	1	1	1	C52
Cervix uteri	13	36	31	26	26	32	35	34	33	30	35	35	41	C53
Corpus uteri	13	16	24	15	17	19	25	32	29	40	42	30	41	C54
Uterus unspecified	2	3	6	5	5	7	7	7	8	12	10	12	6	C55
Ovary	16	22	23	23	32	40	42	32	24	44	50	37	43	C56
Other female genital organs	0	0	0	0	2	0	1	1	2	1	0	1	0	C57
Placenta	1	0	3	1	0	1	1	3	0	5	0	2	2	C58
Kidney	8	9	21	10	16	17	18	13	20	22	25	16	23	C64
Renal pelvis	0	0	0	0	0	0	0	0	0	0	0	0	0	C65
Ureter	0	1	0	1	0	0	0	0	1	0	0	0	0	C66
Bladder	10	9	8	11	10	15	12	17	16	14	15	9	14	C67
Other urinary organs	0	0	0	1	0	0	0	1	1	0	0	0	0	C68
Eye	1	2	3	2	2	1	0	2	2	3	2	2	2	C69
Brain, nervous system	12	20	14	8	13	18	20	30	25	30	24	49	64	C70-72
Thyroid	52	40	74	77	111	101	147	168	162	169	220	201	196	C73
Adrenal gland	1	1	4	3	3	2	4	6	6	7	11	2	8	C74
Other endocrine	0	0	0	1	0	1	0	0	0	0	0	1	1	C75
Hodgkin disease	11	14	23	10	21	15	17	17	14	21	25	26	16	C81
Non-Hodgkin lymphoma	31	41	41	30	35	34	59	46	48	52	46	44	66	C82-85,C96
Immunoproliferate diseases	0	0	0	1	1	1	2	3	1	3	1	0	3	C88
Multiple myeloma	6	6	5	11	9	6	13	11	7	12	19	12	13	C90
Lymphoid leukaemia	10	15	13	19	19	22	21	18	29	21	15	21	18	C91
Myeloid leukaemia	13	18	16	15	17	19	20	20	18	28	22	15	35	C92-94
Leukaemia unspecified	3	0	3	0	2	5	0	2	3	2	1	7	6	C95
Myeloproliferative disorders	0	0	0	0	0	0	0	0	0	0	0	0	0	MPD
Myelodysplastic syndromes	0	0	0	0	0	0	0	0	0	0	0	0	1	MDS
Other and unspecified	15	9	20	10	18	14	14	24	23	35	16	18	23	O&U
All sites	501	554	663	655	752	784	938	1041	1062	1157	1263	1121	1324	ALL
All sites but C44	482	530	643	635	728	764	905	1013	1032	1128	1231	1093	1299	ALLbC44

Trends of Cancer

Table 10: Age-adjusted Incidence Rates in Omani Males, 2009-2021

SITE	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	ICD (10th)
Lip	0	0.3	0.4	0.1	0.2	0	0	0.2	0.2	0.1	0.3	0	0.3	C00
Tongue	0.7	0.8	0.9	0.7	2.1	0.8	2.2	0.5	1.3	1.1	0.2	1.2	0.8	C01-02
Mouth	1.7	0.7	1.7	1.3	0.6	1.5	0.7	1	2.4	1.2	1.7	1.8	2.4	C03-06
Salivary glands	0.2	0.5	0	0.3	0.4	0.3	0.5	0.5	0.3	0.3	0.1	0.2	0.2	C07-08
Tonsil	0	0.2	0	0	0.1	0	0.2	0	0.2	0	0	0	0.4	C09
Other oropharynx	0.2	0.2	0.4	0	0.2	0.2	0.5	0.1	0	0.3	0.4	0.5	0.1	C10
Nasopharynx	1.1	0.8	0.8	0.4	0.3	1.5	1.9	0.6	0.8	1	0.9	0.5	1.5	C11
Hypopharynx	0.7	0	0	0	0	0.1	0.5	0.4	0	0	0.4	0.2	0.2	C12-13
Pharynx unspecified	0.2	0	0.2	0	0.1	0.1	0.2	0	0.1	0.2	0.1	0	0.1	C14
Oesophagus	2.1	4	2.3	1.8	1.5	2.2	1.5	1.2	1.7	2.7	2	2.1	1.3	C15
Stomach	13.1	7.8	13.6	11.5	8.1	9.3	6.2	7.8	8.4	8	8.4	6.1	6	C16
Small intestine	0.5	0.4	1.1	0.4	0.6	0.7	1.9	1.1	0.2	0.5	0.8	1.1	1.1	C17
Colon	5.2	6.6	7.5	7.3	6.7	7.2	7.5	7.2	12	10.8	12	12.8	10.1	C18
Rectum	4.8	2.4	5.5	4.1	4.6	3	5.5	4.4	5.5	4.6	5.9	5.6	5.4	C19-20
Anus	0.2	0.3	0.7	0.6	0.6	0.3	0.2	0.7	1.1	0.4	0.2	0.4	0.6	C21
Liver	4.3	4.3	6.4	5.5	5	9.1	7.7	10.5	7.2	8	7.2	6.8	8.7	C22
Gallbladder etc	1	1.3	2.2	0.3	0.6	0.5	1.1	0.9	1.2	1.2	1.1	1	1.7	C23-24
Pancreas	2.4	3.4	3.9	2.7	3.8	2.3	2.7	3.5	3.7	2.8	2.6	2.5	3.4	C25
Nose, sinuses etc	0.2	0.2	0.7	0	0	0	0.2	0.2	0.3	0.5	0.2	0.4	0.1	C30-31
Larynx	0.8	2.7	1.6	1.1	1.2	1.2	1.2	2.6	1.3	1.2	0.9	2.2	2.1	C32
Trachea, bronchus and lung	7.8	6.3	11.5	5.3	7.4	8.5	7.2	9.2	9.5	8.3	9.1	8	5.7	C33-34
Other thoracic organs	0.7	0	1.2	0	0.2	0.4	0.1	0.2	0.1	0.1	0.2	0.4	0	C37-38
Bone	1	1.4	1.8	0.7	0.7	0.8	0.7	1.1	0.4	0.8	0.3	0.4	1	C40-41
Melanoma of skin	0.8	0.6	0.7	0.4	0.7	0.2	0.3	0.1	0.1	0.1	0.5	0.2	0.6	C43
Other skin	6.2	5.2	4.8	3.7	4.5	3.2	3.2	4	2.9	4.4	4.3	4.1	4.4	C44
Mesothelioma	0	0	0.9	0.1	0.2	0.3	0.2	0.3	0.4	0.3	0.7	0.2	0.1	C45
Kaposi sarcoma	0.7	0.3	1.4	0.1	0.6	0	0.1	0.1	0.3	0.2	0.1	0.2	0.1	C46
Connective and soft tissue	0.5	1.4	1.2	0.7	0.9	1.1	2	1.1	1	1.4	1.3	1.5	0.9	C47,C49
Breast	1.4	2	1.3	1.2	0.8	1.8	0.7	1	0.6	1.3	1.4	1.6	1.6	C50
Penis	0	0.3	0	0	0	0.1	0.1	0	0	0.2	0	0.2	0.2	C60
Prostate	13.6	13.3	18.7	14.1	14.2	13.3	14.7	14.6	16	14.2	18.3	11.2	11.5	C61
Testis	0.5	0.5	0.7	0.4	0.9	1	0.9	0.7	1	1.6	1.4	1.5	1.7	C62
Other male genital organs	0.1	0	0	0	0	0	0.1	0.2	0	0	0	0	0	C63
Kidney	3.9	4.6	2.6	2.2	2.2	3.6	2.8	1.5	2.3	4.2	4.1	1.6	2.6	C64
Renal pelvis	0	0	0	0	0	0	0.2	0	0	0.2	0	0	0	C65
Ureter	0	0	0	0.2	0	0	0.2	0	0.1	0	0.2	0	0	C66
Bladder	6.7	9.1	9	6	7.5	8.4	6.9	7.9	9.1	6.6	8.5	6.2	6	C67
Other urinary organs	0	0	0	0	0	0	0	0	0	0.2	0	0	0	C68
Eye	0.1	0	0.2	0.1	0.2	0	0.2	0.1	0.2	0.1	0.2	0.1	0.3	C69
Brain, nervous system	3.4	2.6	2.9	3.5	2.3	3.5	2.6	3.1	2.7	2.7	3.3	3.8	5.6	C70-72
Thyroid	1.7	0.8	2.4	2	2.4	3.3	3	4.3	3	4.9	5	5.2	5.8	C73
Adrenal gland	0.3	0.7	0.3	0.7	0.3	0.4	0.4	0.3	0.3	0.3	0.2	0.4	0.3	C74
Other endocrine	0.1	0	0	0	0.1	0.2	0	0.2	0	0	0.2	0	0.3	C75
Hodgkin disease	1.7	1.8	3.7	3	2.1	2.7	2.4	3.8	3.8	2.5	2.6	3.2	1.5	C81
Non-Hodgkin lymphoma	7.6	7.6	11.1	7.9	7.4	8.5	8.8	7.8	7.3	6.3	5.5	9	8.1	C82-85,C96
Immunoproliferative diseases	0	0	0.3	0	0	0	0.1	0.1	0	0.5	0.1	0.6	0.5	C88
Multiple myeloma	2.4	1.8	1.8	2.2	2.5	1.5	1.4	1.3	1.9	2.3	3.1	3	3.8	C90
Lymphoid leukaemia	3.8	2.8	5	1.7	1.9	3.2	2.4	3	2.2	2.8	2.1	2.1	2.8	C91
Myeloid leukaemia	1.9	2.3	4.3	2.4	2	2.5	2.7	2.6	2.8	3.3	2.8	3.5	2.4	C92-94
Leukaemia unspecified	0.3	0.2	0.3	0.2	0.6	0.1	0	0.4	0.3	0	0.4	0.9	0.6	C95
Myeloproliferative disorders	0.3	0.5	0.1	0	0	0	0.1	0.1	0.1	0	0.1	0.1	0	MPD
Myelodysplastic syndromes	0	0.6	0	0	0	0.1	0.1	0	0	0	0	0	0	MDS
Other and unspecified	5	3.1	5.9	3.9	2.7	1.2	2.2	3.2	2.8	2.6	2.2	2.3	2	O&U
All sites	112.1	106.5	144	100.7	101.9	110.3	108.8	115.8	119.2	117	123.2	116.8	117.2	ALL
All sites but C44	105.9	101.3	139.2	97	97.4	107.1	105.7	111.8	116.4	112.6	118.8	112.7	112.9	ALLbc44

Trends of Cancer

Table 11: Age-adjusted Incidence Rates in Omani Females, 2009-2021

SITE	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	ICD (10th)
Lip	0	0	0	0.3	0	0	0.2	0.1	0.3	0	0.1	0	0	C00
Tongue	0.3	0.8	1	0.5	0.2	1	0.7	0.2	0.5	0.4	0.3	1.3	1	C01-02
Mouth	1.5	0.9	0.7	0.7	0.9	1.2	0.4	1	1	0.2	0.7	0.5	1.1	C03-06
Salivary glands	0.3	0.2	0.6	0.1	0.2	0.2	0.4	0.1	0.3	0.1	0	0	0.4	C07-08
Tonsil	0	0	0	0	0	0	0	0.1	0.2	0	0	0	0.2	C09
Other oropharynx	0	0	0	0	0.1	0	0	0	0.1	0	0.1	0.3	0	C10
Nasopharynx	0.6	0.4	0.6	0.4	0.1	0.3	0.7	0.4	0.4	0.2	0.2	0.5	0	C11
Hypopharynx	0	0	0	0	0	0.3	0	0	0	0.2	0	0.1	0	C12-13
Pharynx unspecified	0	0	0.2	0	0.1	0	0	0	0	0	0.1	0.2	0	C14
Oesophagus	2.4	1.1	1.2	1.6	0.5	0.5	0.6	0.5	0.3	1	0.9	0.5	0.6	C15
Stomach	6	5.5	5.1	4.8	4.5	5.6	3.2	3.7	4.8	3.7	6.3	3.2	4.4	C16
Small intestine	0.3	0.2	0.5	0.5	0.5	0	0.2	0.5	0.6	0.2	0.6	0.7	0.7	C17
Colon	4.9	2.8	4.6	7.4	4.1	7.1	7	6.9	8.3	8.3	8.1	10	8	C18
Rectum	2.6	4.1	3.2	2.6	3.7	3.8	3.2	4.3	3.4	4.5	3.1	3.7	2.2	C19-20
Anus	0.3	0.6	0.6	0	0	0.3	0.2	0.1	0.5	0.2	0.3	0	0.2	C21
Liver	3.8	3.6	2.3	2.2	2.7	5	4.5	4.8	3.1	3.6	3	3	3.7	C22
Gallbladder etc	1.4	0.6	1.1	1.3	0.7	1.1	0.7	1.4	1.6	1.1	1	0.7	1.7	C23-24
Pancreas	1	1.3	1.9	1.5	2.6	1.8	1.7	1.5	2	2.9	2.8	2	1.6	C25
Nose, sinuses etc	1.1	0.3	0.2	0	0	0.1	0.3	0.3	0	0.2	0	0.1	0.1	C30-31
Larynx	0.8	0.1	0	0.2	0.4	0.2	0.5	0	0.2	0	0.5	0	0.1	C32
Trachea, bronchus and lung	3.7	2	3.6	3.6	2.7	2.5	2.9	2.6	4.6	3.7	2.8	2.5	1.6	C33-34
Other thoracic organs	0	0.1	0.1	0.4	0	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.2	C37-38
Bone	0.1	0.3	0.9	0.8	1.3	0.5	0.1	1.3	0.3	0.9	0.8	1.7	1	C40-41
Melanoma of skin	0.4	0.4	0.6	0.2	0.2	0	0.4	0.2	0.2	0.5	0.1	0	0.3	C43
Other skin	4.8	5.2	3.9	3.4	3.9	3	4.5	3.6	3.6	3.6	3.8	3.2	2.6	C44
Mesothelioma	0	0	0	0	0	0.1	0.2	0.2	0.1	0.1	0.1	0.4	0.2	C45
Kaposi sarcoma	0.4	0.3	0	0	0.2	0	0	0.2	0.1	0	0	0	0	C46
Connective and soft tissue	0.3	0.3	0.2	1.2	1	0.5	1.2	1.3	0.8	0.7	1.5	0.8	1.2	C47,C49
Breast	24.3	25.9	28.6	24.8	26.6	22.7	29.2	33.4	32.3	34.3	38.2	28.6	38.8	C50
Vulva	0	0.2	0	0.3	0.3	0	0	0.1	0.2	0.2	0.1	0.3	0.2	C51
Vagina	0	0	0.1	0.7	0.1	0.5	0.2	0.3	0.6	0	0.2	0.1	0.1	C52
Cervix uteri	2.8	7.4	6.1	4.2	4	4.8	4.9	4.9	4.4	3.6	4.2	4.2	4.3	C53
Corpus uteri	3.5	3.5	6	2.4	2.8	2.9	3.8	4.2	3.7	4.8	5.3	3.5	4.5	C54
Uterus unspecified	0.4	0.7	1.2	0.7	0.7	1.2	1.1	1	0.9	1.4	1.3	1.6	0.6	C55
Ovary	2.6	3.7	3.7	3.2	4	4.8	5.2	3.6	2.6	4.7	5.6	4.2	4.5	C56
Other female genital organs	0	0	0	0	0.3	0	0.2	0.1	0.2	0.1	0	0.1	0	C57
Placenta	0.2	0	0.4	0.1	0	0.1	0.2	0.4	0	0.3	0	0.1	0.1	C58
Kidney	1.7	1.5	3.1	1.2	2.4	2.4	2.5	1.5	2	2.2	2.6	1.6	2.3	C64
Renal pelvis	0	0	0	0	0	0	0	0	0	0	0	0	0	C65
Ureter	0	0.2	0	0.2	0	0	0	0	0.2	0	0	0	0	C66
Bladder	2	1.8	2	1.5	1.5	2	1.6	2.4	2	1.6	1.7	1.1	1.7	C67
Other urinary organs	0	0	0	0.2	0	0	0	0.2	0.1	0	0	0	0	C68
Eye	0.3	0.4	0.4	0.2	0.2	0.1	0	0.1	0.1	0.3	0.2	0.2	0.1	C69
Brain, nervous system	1.4	3	2.2	1	1.2	2	1.8	2.7	2.6	2.8	2.3	5	5.7	C70-72
Thyroid	6.7	5.2	9.2	8.1	12.4	10.9	15.5	16.5	15.6	14.2	18.5	17	15.4	C73
Adrenal gland	0.1	0.1	0.4	0.3	0.2	0.1	0.4	0.5	0.4	0.5	0.8	0.2	0.5	C74
Other endocrine	0	0	0	0.1	0	0.1	0	0	0	0	0	0.1	0.1	C75
Hodgkin disease	1.8	1.4	3.3	1	2.2	1.5	1.6	1.9	1.2	1.9	2.1	1.9	1.3	C81
Non-Hodgkin lymphoma	5.9	7.9	7.3	4.4	5.4	4.2	7.4	5.2	5.4	5.8	4.7	4.6	6.2	C82-85,C96
Immunoproliferative diseases	0	0	0	0.2	0.2	0.2	0.2	0.5	0.2	0.5	0.2	0	0.3	C88
Multiple myeloma	1.6	1.5	1	1.8	1.4	1	1.8	1.6	1.1	1.6	2.4	1.5	1.6	C90
Lymphoid leukaemia	1.1	1.7	1.5	1.9	1.6	2.1	1.8	1.7	2.3	1.6	1.4	1.7	1.4	C91
Myeloid leukaemia	2.1	2.9	2	1.7	1.7	2.3	2.2	2.2	2.1	3	1.9	1.3	3	C92-94
Leukaemia unspecified	0.5	0	0.3	0	0.2	0.5	0	0.2	0.2	0.1	0.1	0.5	0.4	C95
Myeloproliferative disorders	0	0	0	0	0	0	0	0	0	0	0	0	0	MPD
Myelodysplastic syndromes	0	0	0	0	0	0	0	0	0	0	0	0	0.1	MDS
Other and unspecified	3	2	3.8	1.5	2.8	2.2	1.8	2.9	2.7	4.2	1.6	2.1	2.7	O&U
All sites	99.2	101.9	115.8	95.2	102.6	103.6	117.5	123.6	120.9	126.3	132.5	117.1	129.4	ALL
All sites but C44	94.4	96.6	111.9	91.8	98.8	100.6	113	120	117.3	122.7	128.7	113.9	126.8	ALLbC44

Overall Results

Table 12: Distribution of Cancer Cases in Oman by Nationality

Nationality	Frequency	Percentage (%)
Total malignancies (Omanis)	2,318	92.35
Adult Omanis	2,163	93.31
Pediatric Omanis	155	6.69
Total malignancies (Non-Omani)	163	6.49
Adult Non-Omanis	152	93.25
Pediatric Non-Omanis	11	6.75
Carcinoma in Situ (Omani)	28	1.12
Carcinoma in Situ (Non-Omani)	1	0.04
Total	2,510	

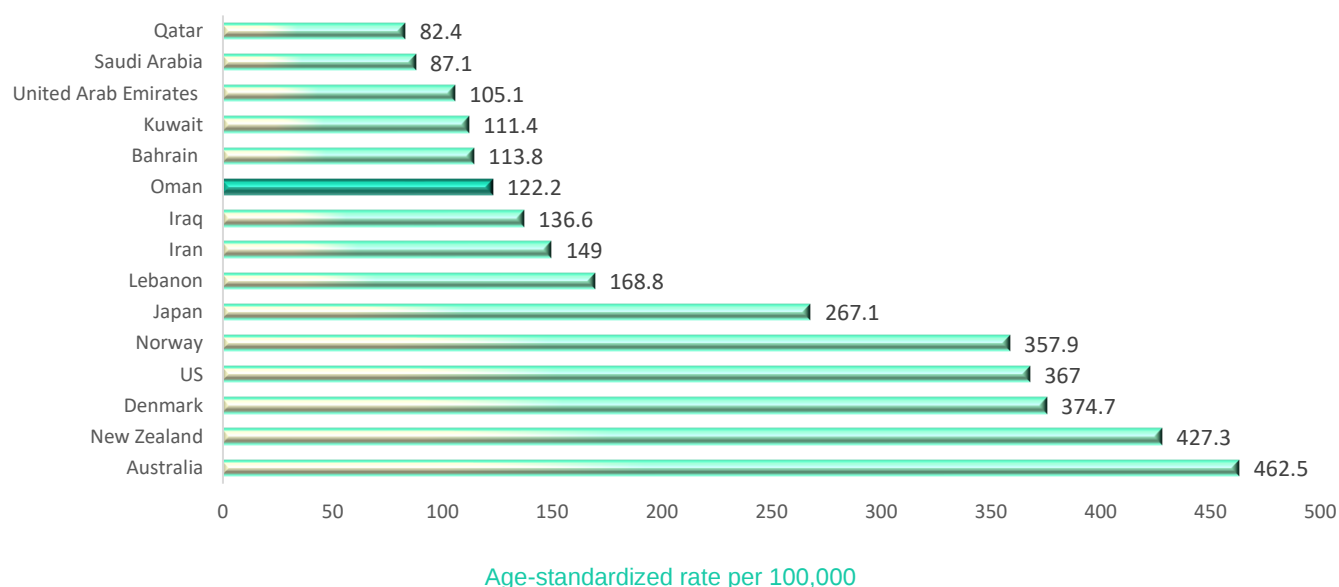
The total number of all tumors registered in 2021 was 2,510 (Table 12). Of these 2,318 (92.35%) were among Omanis, 163 (6.49%) were Non-Omanis, and only 29 (1.15%) cases were carcinoma in Situ. Of the total 2,318 males' accounted for 994 cases (42.9%) and females accounted for 1,324 cases (57.1%). The male: female ratio was 1:1.33. In children aged 14 years and below, 155 (6.69%) cases were reported. The median age at diagnosis was 51 years. This was higher in males median age 58 than in females median age 47. The most common cancer was breast cancer, and the median age at diagnosis was 47 years.

Table 13: Distribution of Cancer Cases Among Omanis by Gender

Gender	Frequency	(%) Percentage	CR	ASR
Male	994	42.9	70.4	117.2
Female	1,324	57.1	95.1	129.4
Total	2,318	100	82.7	122.2

In 2021 the crude incidence rate for all cancer among Omanis was 70.4 per 100,000 for males and 95.1 per 100,000 for females. The age-standardized rate, adjusted to the world standard population was 117.2 per 100,000 for males and 129.4 per 100,000 for female.

Figure 6: Age –Standardized Global Cancer Incidence Rates in Oman and Selected Countries



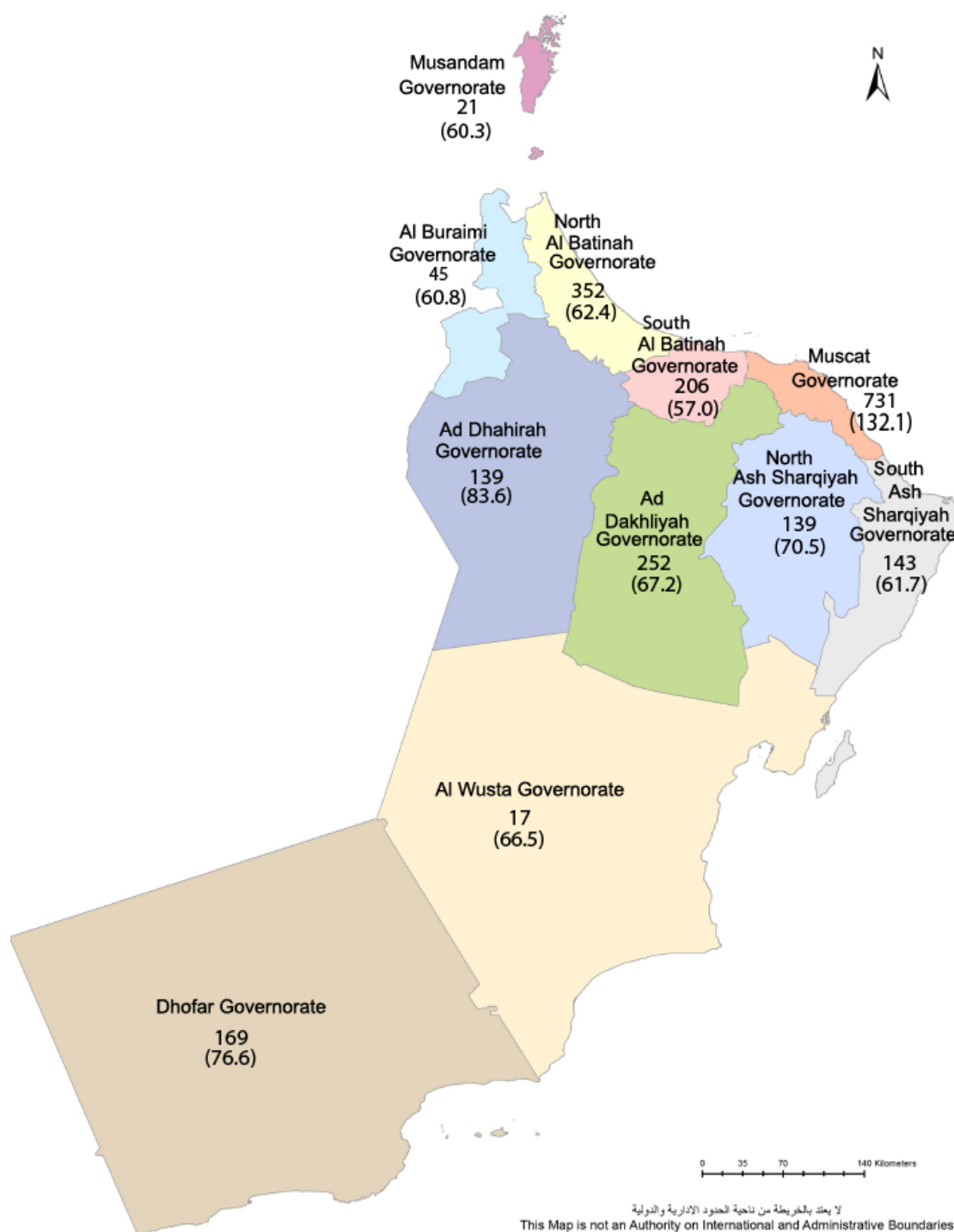
Source: World Cancer Research foundation

Overall Results

Regional Distribution

The high frequency of cancer reported from Muscat 731 cases, could be biased since the majority of cancer cases are referred to the National Oncology Center in Muscat, and people sometimes give a local address in Muscat rather than their original place of residence.

Figure 7: Regional Distribution of incident cases (Frequency & Crude Rate)



Region	Frequency	Incidence
Muscat	731	132.1
North Al Batinah -	352	62.4
- Ad Dakhliyah	252	67.2
South Al Batinah -	206	57
Dhofar	169	76.6
South Ash Sharqiyah -	143	61.7
- North Ash Sharqiyah	139	70.5
Adh Dhahirah-	139	83.6
Buraymi	45	60.8
Musanadam	21	60.3
Al - Wusta	17	66.5
unknown	104	
Total		2,318

*Unknown 104

Overall Results

Table 14: Frequency of Incident Cases among Omani Males, 2021

SITE	ALL AGES	AGE UNK	-0	-5	-10	-15	-20	-25	-30	-35	-40	-45	-50	-55	-60	-65	-70	+75	(%)	ICD (10th)
Lip	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0.2	C00
Tongue	7	0	0	0	0	0	0	0	0	2	0	2	1	1	0	1	0	0	0.7	C01-02
Mouth	20	0	0	0	0	0	0	1	0	1	2	3	5	2	2	1	1	2	2.1	C03-06
Salivary glands	2	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0.2	C07-08
Tonsil	3	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	0	0.3	C09
Other oropharynx	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0.1	C10
Nasopharynx	10	0	0	0	0	0	1	0	0	0	1	0	1	0	2	3	2	0	1	C11
Hypopharynx	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.1	C12-13
Pharynx unspecified	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0.1	C14
Oesophagus	9	0	0	0	0	0	0	0	0	0	1	0	0	0	2	2	1	3	0.9	C15
Stomach	48	0	0	0	0	0	0	0	2	2	3	4	4	5	5	5	5	13	5	C16
Small intestine	8	0	0	0	0	0	0	0	0	1	0	0	0	1	2	1	2	1	0.8	C17
Colon	80	0	0	0	0	0	1	2	4	8	5	3	4	8	16	8	10	11	8.3	C18
Rectum	41	0	0	0	0	0	0	3	1	2	3	2	7	3	6	7	4	3	4.3	C19-20
Anus	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	0.4	C21
Liver	60	0	2	0	0	0	0	0	2	0	0	1	4	4	15	8	13	11	6.2	C22
Gallbladder etc	12	0	0	0	0	0	0	0	1	1	0	0	0	0	5	1	2	2	1.2	C23-24
Pancreas	25	0	0	0	0	0	0	0	1	1	0	2	5	1	5	4	2	4	2.6	C25
Nose, sinuses etc	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.1	C30-31
Larynx	14	0	0	0	0	0	0	1	0	0	0	0	1	3	2	3	4	0	1.5	C32
Trachea, bronchus and lung	42	0	0	0	0	0	1	0	1	1	1	2	1	8	3	9	5	10	4.4	C33-34
Other thoracic organs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C37-38
Bone	11	0	2	2	0	1	1	0	0	1	0	0	1	1	0	1	1	0	1.1	C40-41
Melanoma of skin	4	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0.4	C43
Other skin	34	0	0	0	0	0	0	0	1	0	4	3	0	1	2	6	5	12	3.5	C44
Mesothelioma	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0.1	C45
Kaposi sarcoma	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0.1	C46
Connective and soft tissue	13	0	4	0	0	0	1	1	3	1	0	1	1	0	0	0	0	1	1.4	C47,C49
Breast	15	0	0	0	0	0	0	0	0	3	3	2	1	2	2	0	1	1	1.6	C50
Penis	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0.1	C60
Prostate	77	0	0	0	0	0	0	0	0	0	0	0	1	9	9	17	19	22	8	C61
Testis	27	0	0	0	0	0	6	9	7	3	2	0	0	0	0	0	0	0	2.8	C62
Other male genital organs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C63
Kidney	25	0	4	0	1	0	0	0	1	1	3	5	1	1	5	1	0	2	2.6	C64
Renal pelvis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C65
Ureter	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C66
Bladder	46	0	0	0	0	0	1	0	0	1	2	2	2	4	8	6	2	18	4.8	C67
Other urinary organs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C68
Eye	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.3	C69
Brain, nervous system	60	0	8	4	6	1	1	5	5	4	4	2	5	3	4	7	0	1	6.2	C70-72
Thyroid	66	0	0	0	0	0	1	9	13	9	10	4	6	5	6	1	1	1	6.9	C73
Adrenal gland	5	0	4	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	C74
Other endocrine	3	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0.3	C75
Hodgkin disease	20	0	0	2	1	4	1	4	0	2	4	1	0	0	1	0	0	0	2.1	C81
Non-Hodgkin lymphoma	79	0	8	2	4	2	3	6	5	3	4	6	9	6	5	5	5	6	8.2	C82-85,C96
Immunoproliferative diseases	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0.3	C88
Multiple myeloma	28	0	0	0	0	0	0	1	0	3	0	1	6	0	6	5	2	4	2.9	C90
Lymphoid leukaemia	34	0	9	2	2	5	0	1	1	2	3	0	1	1	1	0	2	4	3.5	C91
Myeloid leukaemia	24	0	5	0	1	2	2	0	2	2	0	1	0	1	3	3	1	1	2.5	C92-94
Leukaemia unspecified	7	0	1	0	0	0	2	2	1	0	0	0	0	0	0	0	1	0	0.7	C95
Myeloproliferative disorders	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	MPD
Myelodysplastic syndromes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	MDS
Other and unspecified	16	0	1	2	0	1	0	0	0	1	0	0	1	1	3	3	1	2	1.7	O&U
All sites	994	0	49	14	16	16	22	46	51	57	56	49	74	71	124	113	97	139	103.5	ALL
All sites but C44	960	0	49	14	16	16	22	46	50	57	52	46	74	70	122	107	92	127	100	ALLbC44

Overall Results

Table 15: Frequency of Incident Cases among Omani Females, 2021

SITE	ALL AGES	AGE UNK	-0	-5	-10	-15	-20	-25	-30	-35	-40	-45	-50	-55	-60	-65	-70	+75	(%)	ICD (10th)
Lip	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C00
Tongue	10	0	0	0	0	0	0	1	1	0	1	1	1	1	1	0	0	3	0.8	C01-02
Mouth	10	0	0	0	0	0	0	0	2	0	0	1	0	1	1	2	2	1	0.8	C03-06
Salivary glands	5	0	0	0	0	1	0	1	0	1	0	0	1	0	0	0	0	1	0.4	C07-08
Tonsil	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0.2	C09
Other oropharynx	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C10
Nasopharynx	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C11
Hypopharynx	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C12-13
Pharynx unspecified	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C14
Oesophagus	7	0	0	0	0	0	0	0	1	1	1	0	0	0	1	0	1	2	0.5	C15
Stomach	38	0	0	0	0	0	0	0	1	4	2	4	1	5	4	7	5	5	2.9	C16
Small intestine	6	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	2	0.5	C17
Colon	72	0	0	0	1	1	0	0	2	8	5	8	13	8	5	6	8	7	5.5	C18
Rectum	21	0	0	0	0	0	0	0	4	2	0	1	2	6	1	1	3	1	1.6	C19-20
Anus	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0.2	C21
Liver	31	0	0	0	0	1	0	0	0	1	2	3	6	2	4	2	6	4	2.4	C22
Gallbladder etc	14	0	0	0	0	0	0	0	0	1	1	0	1	0	1	3	5	2	1.1	C23-24
Pancreas	15	0	0	0	0	0	1	0	0	3	0	1	1	2	1	4	0	2	1.2	C25
Nose, sinuses etc	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.1	C30-31
Larynx	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.1	C32
Trachea, bronchus and lung	13	0	0	0	0	0	0	0	1	0	0	1	1	0	5	3	0	2	1	C33-34
Other thoracic organs	3	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0.2	C37-38
Bone	12	0	0	0	3	2	0	0	1	1	1	1	0	1	1	1	0	0	0.9	C40-41
Melanoma of skin	3	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	0	0.2	C43
Other skin	25	0	0	0	1	0	0	1	0	3	1	0	1	3	4	1	1	9	1.9	C44
Mesothelioma	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.2	C45
Kaposi sarcoma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C46
Connective and soft tissue	12	0	0	1	0	1	1	0	1	2	0	1	0	2	1	1	1	0	0.9	C47,C49
Breast	393	0	0	0	0	0	0	8	27	57	69	54	54	31	28	25	16	24	30.3	C50
Vulva	3	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0.2	C51
Vagina	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	C52
Cervix uteri	41	0	0	0	0	0	1	1	1	4	5	6	5	3	5	3	2	5	3.2	C53
Corpus uteri	41	0	0	0	0	0	0	0	1	5	3	6	3	8	4	4	3	4	3.2	C54
Uterus unspecified	6	0	0	0	0	0	0	1	0	1	0	2	1	1	0	0	0	0	0.5	C55
Ovary	43	0	1	0	1	2	4	0	2	4	3	1	4	4	3	5	6	3	3.3	C56
Other female genital organs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C57
Placenta	2	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0.2	C58
Kidney	23	0	2	1	0	0	0	0	1	4	2	1	2	2	5	1	0	2	1.8	C64
Renal pelvis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C65
Ureter	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C66
Bladder	14	0	0	0	0	0	0	1	0	1	0	0	0	2	1	5	1	3	1.1	C67
Other urinary organs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C68
Eye	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	C69
Brain, nervous system	64	0	10	5	5	0	1	3	4	3	6	6	5	7	4	5	0	0	4.9	C70-72
Thyroid	196	0	0	0	3	7	10	27	31	37	26	19	12	8	8	1	2	5	15.1	C73
Adrenal gland	8	0	7	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.6	C74
Other endocrine	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.1	C75
Hodgkin disease	16	0	1	0	1	0	3	2	1	3	0	2	1	1	0	0	1	0	1.2	C81
Non-Hodgkin lymphoma	66	0	9	2	1	3	3	1	4	7	3	5	3	2	4	8	5	6	5.1	C82-85,C96
Immunoproliferative diseases	3	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0.2	C88
Multiple myeloma	13	0	0	0	0	0	0	0	0	1	0	1	3	1	4	0	2	1	1	C90
Lymphoid leukaemia	18	0	2	1	2	3	0	1	3	1	1	1	0	2	0	0	1	0	1.4	C91
Myeloid leukaemia	35	0	5	2	3	4	2	2	2	2	1	3	0	1	2	2	2	2	2.7	C92-94
Leukaemia unspecified	6	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0.5	C95
Myeloproliferative disorders	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	MPD
Myelodysplastic syndromes	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	MDS
Other and unspecified	23	0	0	0	0	0	0	1	1	1	0	5	0	4	1	3	6	1	1.8	O&U
All sites	1324	0	41	13	22	26	27	54	95	160	136	137	121	108	101	96	83	104	101.9	ALL
All sites but C44	1299	0	41	13	21	26	27	53	95	157	135	137	120	105	97	95	82	95	100	ALLbC44

Overall Results

Table 16: Age-specific Incidence Rates among Omani Males, 2021

SITE	ALL AGES	AGE UNK	-0	-5	-10	-15	-20	-25	-30	-35	-40	-45	-50	-55	-60	-65	-70	+75	CRUDE RATE	(%)	CUM -0 64	CUM -0 74	ASR	ICD (10th)
Lip	2	0	0	0	0	0	0	0	0	0	1.2	0	0	0	0	6.2	0	0	0.14	0.2	0.01	0.04	0.3	C00
Tongue	7	0	0	0	0	0	0	0	0	1.8	0	3.5	2.6	3.3	0	6.2	0	0	0.5	0.7	0.06	0.09	0.8	C01-02
Mouth	20	0	0	0	0	0	0	0.8	0	0.9	2.4	5.2	13.1	6.6	8.4	6.2	8.3	11	1.42	2.1	0.19	0.26	2.4	C03-06
Salivary glands	2	0	0	0	0	0	0	0.8	0	0	0	0	2.6	0	0	0	0	0	0.14	0.2	0.02	0.02	0.2	C07-08
Tonsil	3	0	0	0	0	0	0	0	0	0	0	0	5.2	0	0	6.2	0	0	0.21	0.3	0.03	0.06	0.4	C09
Other oropharynx	1	0	0	0	0	0	0	0	0	0	0	0	2.6	0	0	0	0	0	0.07	0.1	0.01	0.01	0.1	C10
Nasopharynx	10	0	0	0	0	0	0.9	0	0	0	1.2	0	2.6	0	8.4	18.5	16.6	0	0.71	1	0.07	0.24	1.5	C11
Hypopharynx	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8.3	0	0.07	0.1	0	0.04	0.2	C12-13
Pharynx unspecified	1	0	0	0	0	0	0	0	0	0	0	0	2.6	0	0	0	0	0	0.07	0.1	0.01	0.01	0.1	C14
Oesophagus	9	0	0	0	0	0	0	0	0	0	1.2	0	0	0	8.4	12.3	8.3	16.5	0.64	0.9	0.05	0.15	1.3	C15
Stomach	48	0	0	0	0	0	0	0	1.6	1.8	3.5	6.9	10.5	16.5	21	30.8	41.6	71.3	3.4	5	0.31	0.67	6	C16
Small intestine	8	0	0	0	0	0	0	0	0	0.9	0	0	0	3.3	8.4	6.2	16.6	5.5	0.57	0.8	0.06	0.18	1.1	C17
Colon	80	0	0	0	0	0	0.9	1.6	3.3	7.2	5.9	5.2	10.5	26.3	67	49.3	83.2	60.3	5.66	8.3	0.64	1.3	10.1	C18
Rectum	41	0	0	0	0	0	0	2.5	0.8	1.8	3.5	3.5	18.4	9.9	25.1	43.1	33.3	16.5	2.9	4.3	0.33	0.71	5.4	C19-20
Anus	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6.2	16.6	5.5	0.28	0.4	0	0.11	0.6	C21
Liver	60	0	1	0	0	0	0	0	1.6	0	0	1.7	10.5	13.2	62.9	49.3	108.2	60.3	4.25	6.2	0.45	1.24	8.7	C22
Gallbladder etc	12	0	0	0	0	0	0	0	0.8	0.9	0	0	0	0	21	6.2	16.6	11	0.85	1.2	0.11	0.23	1.7	C23-24
Pancreas	25	0	0	0	0	0	0	0	0.8	0.9	0	3.5	13.1	3.3	21	24.7	16.6	21.9	1.77	2.6	0.21	0.42	3.4	C25
Nose, sinuses etc	1	0	0	0	0	0	0	0	0	0	0	1.7	0	0	0	0	0	0	0.07	0.1	0.01	0.01	0.1	C30-31
Larynx	14	0	0	0	0	0	0	0.8	0	0	0	0	2.6	9.9	8.4	18.5	33.3	0	0.99	1.5	0.11	0.37	2.1	C32
Trachea, bronchus and lung	42	0	0	0	0	0	0.9	0	0.8	0.9	1.2	3.5	2.6	26.3	12.6	55.5	41.6	54.8	2.97	4.4	0.24	0.73	5.7	C33-34
Other thoracic organs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C37-38
Bone	11	0	1	1	0	0.9	0.9	0	0	0.9	0	0	2.6	3.3	0	6.2	8.3	0	0.78	1.1	0.05	0.13	1	C40-41
Melanoma of skin	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4.2	6.2	8.3	5.5	0.28	0.4	0.02	0.09	0.6	C43
Other skin	34	0	0	0	0	0	0	0	0.8	0	4.7	5.2	0	3.3	8.4	37	41.6	65.8	2.41	3.5	0.11	0.5	4.4	C44
Mesothelioma	1	0	0	0	0	0	0	0	0	0	0	0	2.6	0	0	0	0	0	0.07	0.1	0.01	0.01	0.1	C45
Kaposi sarcoma	1	0	0	0	0	0	0	0	0	0.9	0	0	0	0	0	0	0	0	0.07	0.1	0	0	0.1	C46
Connective and soft tissue	13	0	2	0	0	0	0.9	0.8	2.5	0.9	0	1.7	2.6	0	0	0	0	5.5	0.92	1.4	0.06	0.06	0.9	C47,C49
Breast	15	0	0	0	0	0	0	0	0	2.7	3.5	3.5	2.6	6.6	8.4	0	8.3	5.5	1.06	1.6	0.14	0.18	1.6	C50
Penis	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4.2	0	0	0	0.07	0.1	0.02	0.02	0.2	C60
Prostate	77	0	0	0	0	0	0	0	0	0	0	0	2.6	29.6	37.7	104.8	158.1	120.6	5.45	8	0.35	1.66	11.5	C61
Testis	27	0	0	0	0	0	5.5	7.4	5.8	2.7	2.4	0	0	0	0	0	0	0	1.91	2.8	0.12	0.12	1.7	C62
Other male genital organs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C63
Kidney	25	0	2	0	0.7	0	0	0	0.8	0.9	3.5	8.6	2.6	3.3	21	6.2	0	11	1.77	2.6	0.22	0.25	2.6	C64
Renal pelvis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C65
Ureter	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C66
Bladder	46	0	0	0	0	0	0.9	0	0	0.9	2.4	3.5	5.2	13.2	33.5	37	16.6	98.7	3.26	4.8	0.3	0.57	6	C67
Other urinary organs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C68
Eye	3	0	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0.21	0.3	0	0	0.3	C69
Brain, nervous system	60	0	4	2	4	0.9	0.9	4.1	4.1	3.6	4.7	3.5	13.1	9.9	16.8	43.1	0	5.5	4.25	6.2	0.36	0.57	5.6	C70-72
Thyroid	66	0	0	0	0	0	0.9	7.4	10.7	8.1	11.8	6.9	15.7	16.5	25.1	6.2	8.3	5.5	4.67	6.9	0.52	0.59	5.8	C73
Adrenal gland	5	0	2	0	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0.35	0.5	0.01	0.01	0.3	C74
Other endocrine	3	0	0	0	0	0	0	0	0	0.9	0	1.7	0	0	4.2	0	0	0	0.21	0.3	0.03	0.03	0.3	C75
Hodgkin disease	20	0	0	1	0.7	3.5	0.9	3.3	0	1.8	4.7	1.7	0	0	4.2	0	0	0	1.42	2.1	0.11	0.11	1.5	C81
Non-Hodgkin lymphoma	79	0	4	1	2.6	1.7	2.7	4.9	4.1	2.7	4.7	10.4	23.6	19.8	21	30.8	41.6	32.9	5.59	8.2	0.52	0.88	8.1	-C82 C96.85
Immunoproliferative diseases	3	0	0	0	0	0	0	0	0	0	0	0	0	0	4.2	6.2	8.3	0	0.21	0.3	0.02	0.09	0.5	C88
Multiple myeloma	28	0	0	0	0	0	0	0.8	0	2.7	0	1.7	15.7	0	25.1	30.8	16.6	21.9	1.98	2.9	0.23	0.47	3.8	C90
Lymphoid leukaemia	34	0	4.5	1	1.3	4.3	0	0.8	0.8	1.8	3.5	0	2.6	3.3	4.2	0	16.6	21.9	2.41	3.5	0.14	0.22	2.8	C91
Myeloid leukaemia	24	0	2.5	0	0.7	1.7	1.8	0	1.6	1.8	0	1.7	0	3.3	12.6	18.5	8.3	5.5	1.7	2.5	0.14	0.27	2.4	C92-94
Leukaemia unspecified	7	0	0.5	0	0	0	1.8	1.6	0.8	0	0	0	0	0	0	0	8.3	0	0.5	0.7	0.02	0.07	0.6	C95
Myeloproliferative disorders	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	MPD
Myelodysplastic syndromes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	MDS
Other and unspecified	16	0	0.5	1	0	0.9	0	0	0	0.9	0	0	2.6	3.3	12.6	18.5	8.3	11	1.13	1.7	0.11	0.24	2	O&U
All sites	994	0	24.4	7	10.6	13.8	20	37.7	41.9	51.4	66.2	84.7	194.2	233.8	519.6	696.5	807.3	762.3	70.37	103.5	6.53	14.04	117.2	ALL
All sites but C44	960	0	24.4	7	10.6	13.8	20	37.7	41.1	51.4	61.4	79.5	194.2	230.5	511.2	659.5	765.6	696.5	67.96	100	6.41	13.54	112.9	ALLbC44

Overall Results

Table 17: Age-specific Incidence Rates among Omani Females, 2021

SITE	ALL AGES	AGE UNK	-0	-5	-10	-15	-20	-25	-30	-35	-40	-45	-50	-55	-60	-65	-70	+75	CRUDE RATE	(%)	CUM 64-0	CUM 0-74	ASR	ICD (10th)
Lip	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C00
Tongue	10	0	0	0	0	0	0	0.8	0.8	0	1.2	1.8	2.6	3.1	3.6	0	0	14.3	0.72	0.8	0.07	0.07	1	C01-02
Mouth	10	0	0	0	0	0	0	0	1.7	0	0	1.8	0	3.1	3.6	9.7	14	4.8	0.72	0.8	0.05	0.17	1.1	C03-06
Salivary glands	5	0	0	0	0	0.9	0	0.8	0	0.9	0	0	2.6	0	0	0	0	4.8	0.36	0.4	0.03	0.03	0.4	C07-08
Tonsil	2	0	0	0	0	0	0	0	0	0.9	0	0	0	0	0	0	7	0	0.14	0.2	0	0.04	0.2	C09
Other oropharynx	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C10
Nasopharynx	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C11
Hypopharynx	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C12-13
Pharynx unspecified	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C14
Oesophagus	7	0	0	0	0	0	0	0	0.8	0.9	1.2	0	0	0	3.6	0	7	9.5	0.5	0.5	0.03	0.07	0.6	C15
Stomach	38	0	0	0	0	0	0	0	0.8	3.7	2.4	7.1	2.6	15.7	14.2	33.9	35.1	23.8	2.73	2.9	0.23	0.58	4.4	C16
Small intestine	6	0	0	0	0	0	0	0	0	0	1.2	0	0	0	3.6	0	14	9.5	0.43	0.5	0.02	0.09	0.7	C17
Colon	72	0	0	0	0.7	0.9	0	0	1.7	7.3	5.9	14.2	34.1	25.1	17.8	29	56.1	33.4	5.17	5.5	0.54	0.96	8	C18
Rectum	21	0	0	0	0	0	0	0	3.4	1.8	0	1.8	5.2	18.8	3.6	4.8	21	4.8	1.51	1.6	0.17	0.3	2.2	C19-20
Anus	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3.6	0	0	4.8	0.14	0.2	0.02	0.02	0.2	C21
Liver	31	0	0	0	0	0.9	0	0	0	0.9	2.4	5.3	15.7	6.3	14.2	9.7	42.1	19.1	2.23	2.4	0.23	0.49	3.7	C22
Gallbladder etc	14	0	0	0	0	0	0	0	0	0.9	1.2	0	2.6	0	3.6	14.5	35.1	9.5	1.01	1.1	0.04	0.29	1.7	C23-24
Pancreas	15	0	0	0	0	0	0.9	0	0	2.8	0	1.8	2.6	6.3	3.6	19.4	0	9.5	1.08	1.2	0.09	0.19	1.6	C25
Nose, sinuses etc	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0.07	0.1	0	0.04	0.1	C30-31
Larynx	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4.8	0	0	0.07	0.1	0	0.02	0.1	C32
Trachea, bronchus and lung	13	0	0	0	0	0	0	0	0.8	0	0	1.8	2.6	0	17.8	14.5	0	9.5	0.93	1	0.11	0.19	1.6	C33-34
Other thoracic organs	3	0	0	0	0	0.9	0	0.8	0	0.9	0	0	0	0	0	0	0	0	0.22	0.2	0.01	0.01	0.2	C37-38
Bone	12	0	0	0	2	1.8	0	0	0.8	0.9	1.2	1.8	0	3.1	3.6	4.8	0	0	0.86	0.9	0.08	0.1	1	C40-41
Melanoma of skin	3	0	0	0	0	0	0	0	0.8	0	0	1.8	0	0	0	4.8	0	0	0.22	0.2	0.01	0.04	0.3	C43
Other skin	25	0	0	0	0.7	0	0	0.8	0	2.8	1.2	0	2.6	9.4	14.2	4.8	7	42.9	1.8	1.9	0.16	0.22	2.6	C44
Mesothelioma	2	0	0	0	0	0	0	0	0	1.2	0	0	0	0	0	0	0	4.8	0.14	0.2	0.01	0.01	0.2	C45
Kaposi sarcoma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C46
Connective and soft tissue	12	0	0	0.5	0	0.9	0.9	0	0.8	1.8	0	1.8	0	6.3	3.6	4.8	7	0	0.86	0.9	0.08	0.14	1.2	C47,C49
Breast	393	0	0	0	0	0	0	6.8	22.7	52.3	81.2	95.7	141.5	97.3	99.4	121	112.3	114.4	28.24	30.3	2.98	4.15	38.8	C50
Vulva	3	0	0	0	0	0	0	0.8	0	0	1.2	1.8	0	0	0	0	0	0	0.22	0.2	0.02	0.02	0.2	C51
Vagina	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4.8	0.07	0.1	0	0	0.1	C52
Cervix uteri	41	0	0	0	0	0	0.9	0.8	0.8	3.7	5.9	10.6	13.1	9.4	17.8	14.5	14	23.8	2.95	3.2	0.32	0.46	4.3	C53
Corpus uteri	41	0	0	0	0	0	0	0	0.8	4.6	3.5	10.6	7.9	25.1	14.2	19.4	21	19.1	2.95	3.2	0.33	0.54	4.5	C54
Uterus unspecified	6	0	0	0	0	0	0	0.8	0	0.9	0	3.5	2.6	3.1	0	0	0	0	0.43	0.5	0.06	0.06	0.6	C55
Ovary	43	0	0.5	0	0.7	1.8	3.8	0	1.7	3.7	3.5	1.8	10.5	12.6	10.7	24.2	42.1	14.3	3.09	3.3	0.26	0.59	4.5	C56
Other female genital organs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C57
Placenta	2	0	0	0	0	0	0	0.8	0.8	0	0	0	0	0	0	0	0	0	0.14	0.2	0.01	0.01	0.1	C58
Kidney	23	0	1	0.5	0	0	0	0	0.8	3.7	2.4	1.8	5.2	6.3	17.8	4.8	0	9.5	1.65	1.8	0.2	0.22	2.3	C64
Renal pelvis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C65
Ureter	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C66
Bladder	14	0	0	0	0	0	0	0.8	0	0.9	0	0	0	6.3	3.6	24.2	7	14.3	1.01	1.1	0.06	0.21	1.7	C67
Other urinary organs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C68
Eye	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.14	0.2	0.01	0.01	0.1	C69
Brain, nervous system	64	0	5.2	2.6	3.4	0	0.9	2.5	3.4	2.8	7.1	10.6	13.1	22	14.2	24.2	0	0	4.6	4.9	0.44	0.56	5.7	C70-72
Thyroid	196	0	0	0	2	6.2	9.4	22.8	26	34	30.6	33.7	31.4	25.1	28.4	4.8	14	23.8	14.08	15.1	1.25	1.34	15.4	C73
Adrenal gland	8	0	3.6	0	0	0	0	0	0.8	0	0	0	0	0	0	0	0	0	0.57	0.6	0.02	0.02	0.5	C74
Other endocrine	1	0	0	0	0	0	0.9	0	0	0	0	0	0	0	0	0	0	0	0.07	0.1	0	0	0.1	C75
Hodgkin disease	16	0	0.5	0	0.7	0	2.8	1.7	0.8	2.8	0	3.5	2.6	3.1	0	0	7	0	1.15	1.2	0.09	0.13	1.3	C81
Non-Hodgkin lymphoma	66	0	4.7	1	0.7	2.7	2.8	0.8	3.4	6.4	3.5	8.9	7.9	6.3	14.2	38.7	35.1	28.6	4.74	5.1	0.32	0.69	6.2	C82- 85,C96
Immunoproliferative diseases	3	0	0	0	0	0	0	0	0	0	0	1.8	0	0	0	4.8	0	4.8	0.22	0.2	0.01	0.03	0.3	C88
Multiple myeloma	13	0	0	0	0	0	0	0	0	0.9	0	1.8	7.9	3.1	14.2	0	14	4.8	0.93	1	0.14	0.21	1.6	C90
Lymphoid leukaemia	18	0	1	0.5	1.4	2.7	0	0.8	2.5	0.9	1.2	1.8	0	6.3	0	0	7	0	1.29	1.4	0.1	0.13	1.4	C91
Myeloid leukaemia	35	0	2.6	1	2	3.6	1.9	1.7	1.7	1.8	1.2	5.3	0	3.1	7.1	9.7	14	9.5	2.52	2.7	0.17	0.28	3	C92-94
Leukaemia unspecified	6	0	1	0.5	0.7	0	0	0	0	0	0	0	0	0	0	0	0	9.5	0.43	0.5	0.01	0.01	0.4	C95
Myeloproliferative disorders	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	MPD
Myelodysplastic syndromes	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4.8	0.07	0.1	0	0	0.1	MDS
Other and unspecified	23	0	0	0	0	0	0	0.8	0.8	0.9	0	8.9	0	12.6	3.6	14.5	42.1	4.8	1.65	1.8	0.14	0.42	2.7	O&U
All sites	1324	0	21.2	6.8	15	23.2	25.3	45.6	79.8	146.9	160.1	242.8	317.1	338.9	358.6	464.7	582.4	495.5	95.14	101.9	8.91	14.14	29.4	ALL
All sites but C44	1299	0	21.2	6.8	14.3	23.2	25.3	44.8	79.8	144.1	158.9	242.8	314.4	329.5	344.4	459.9	575.4	452.7	93.35	100	8.75	13.92	26.8	ALLbC44

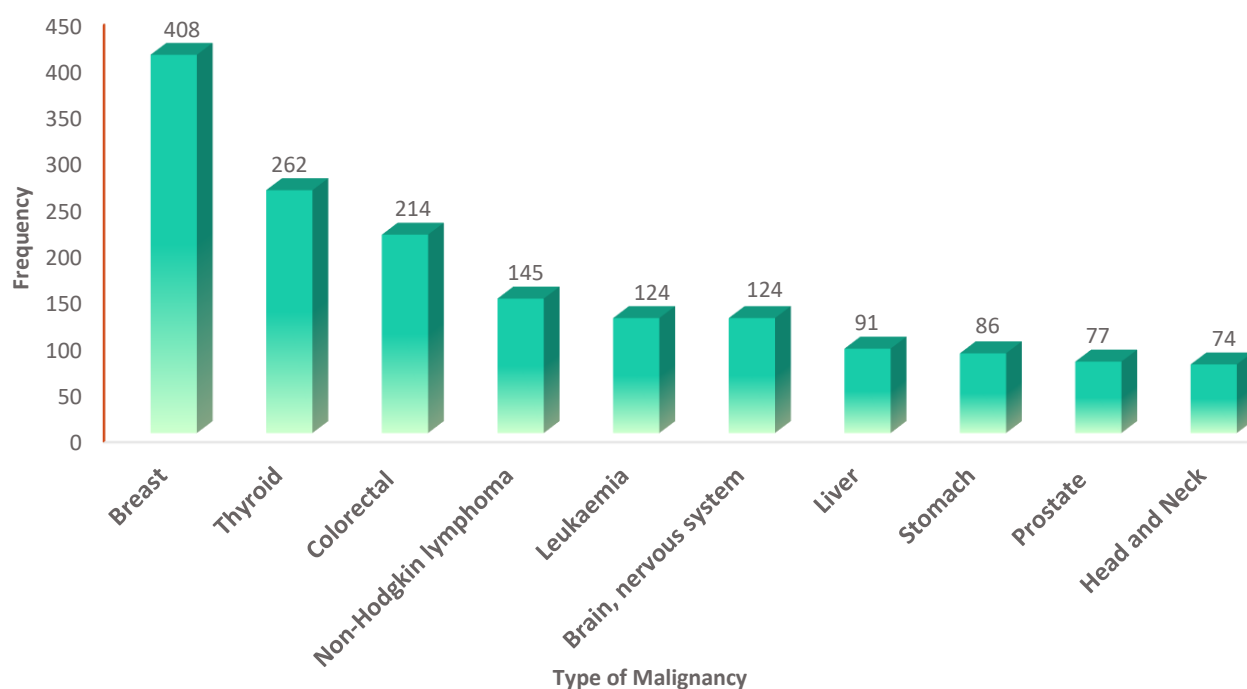
Overall Results

Common Cancers in Omanis

Table 18: Ten Most Common Cancers among Omanis (Males & Females) 2020 & 2021

2020		2021	
Topography	Frequency	Topography	Frequency
Breast	277	Breast	408
Thyroid	243	Thyroid	262
Colorectal	234	Colorectal	214
Non-Hodgkin lymphoma	118	Non-Hodgkin lymphoma	145
Leukaemia	118	Leukaemia	124
Brain	88	Brain, nervous system	124
Stomach	73	Liver	91
Prostate	71	Stomach	86
Trachea, bronchus and lung	71	Prostate	77
Skin	61	Head and Neck	74

Figure 8: Frequency distribution of the common cancers among Omani males and females, 2021



Overall Results

Age specific incidence rate of five common cancer among Omanis

Figure 9: Age-Specific incidence rates of breast cancer by gender, 2021

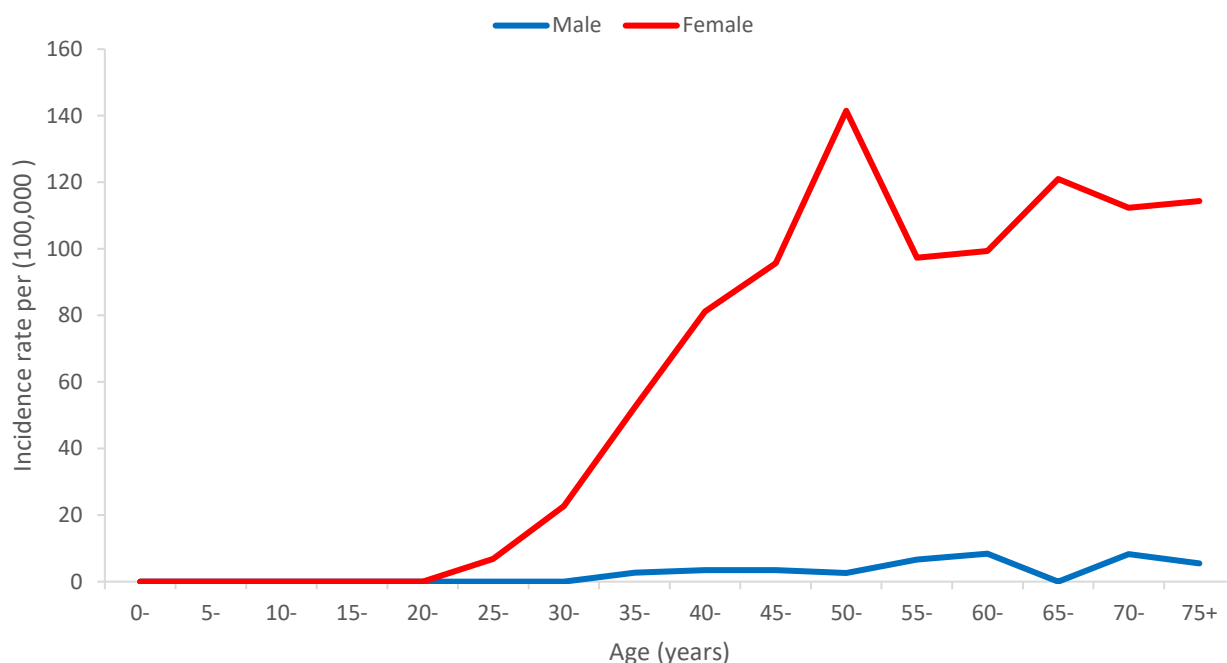
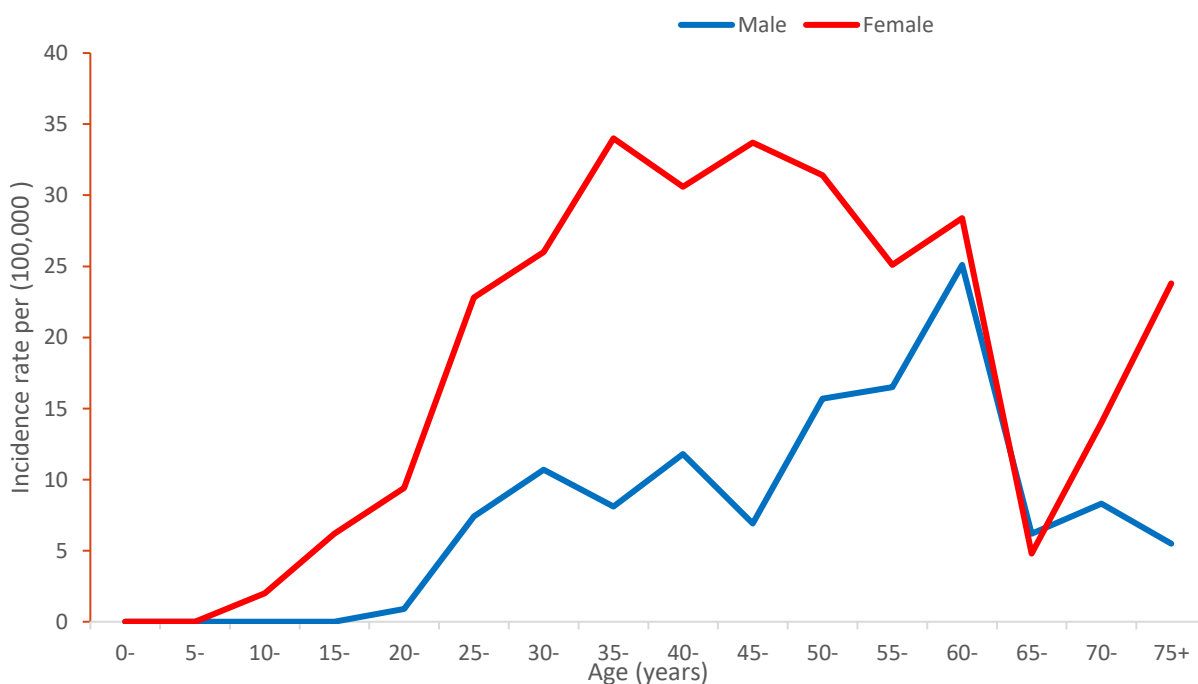


Figure 10: Age-Specific incidence rates of thyroid cancer by gender , 2021



Overall Results

Figure 11: Age-Specific incidence rates of colorectal cancer by gender, 2021

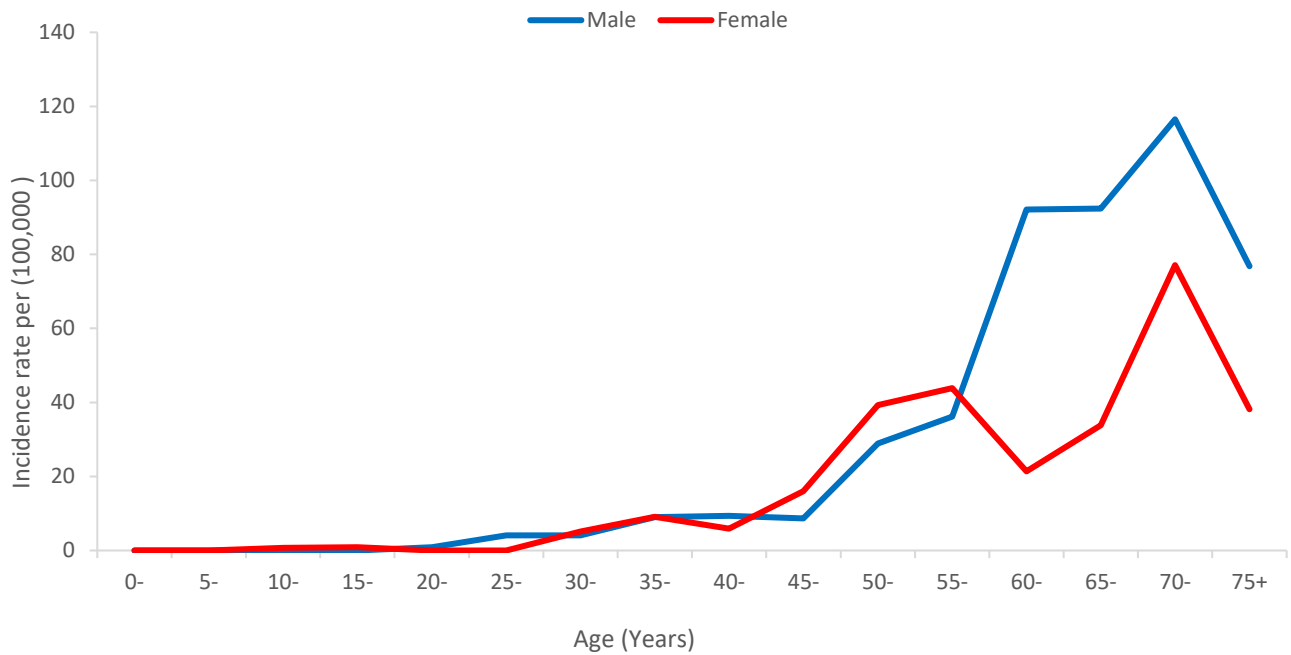
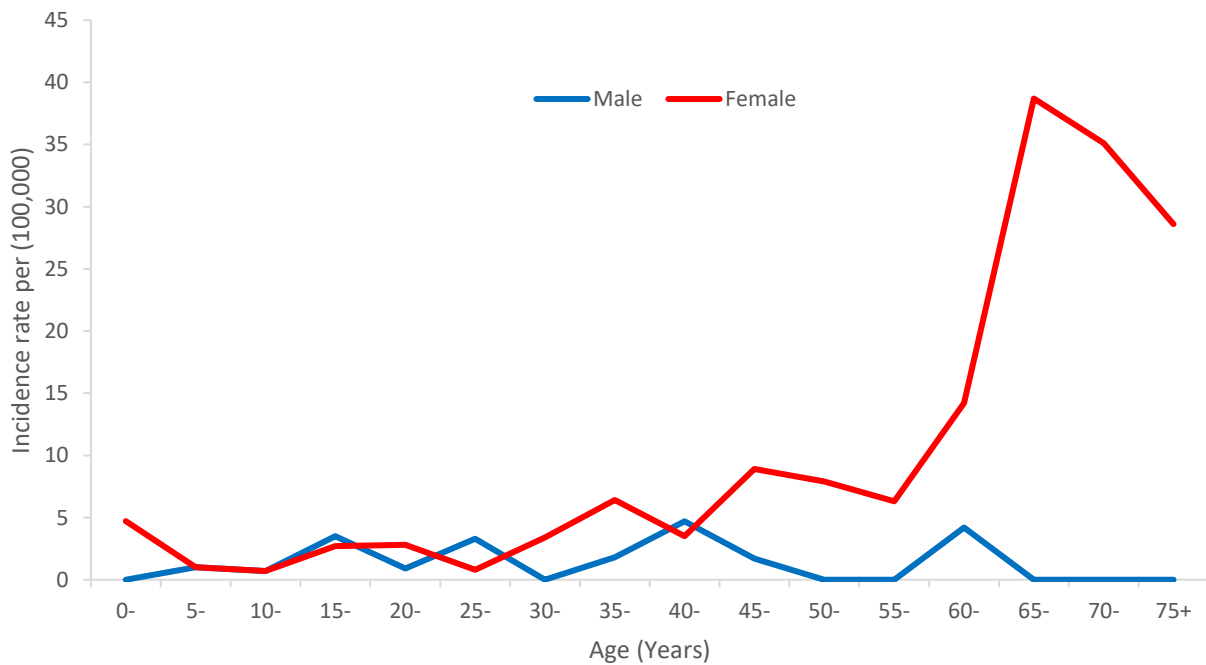
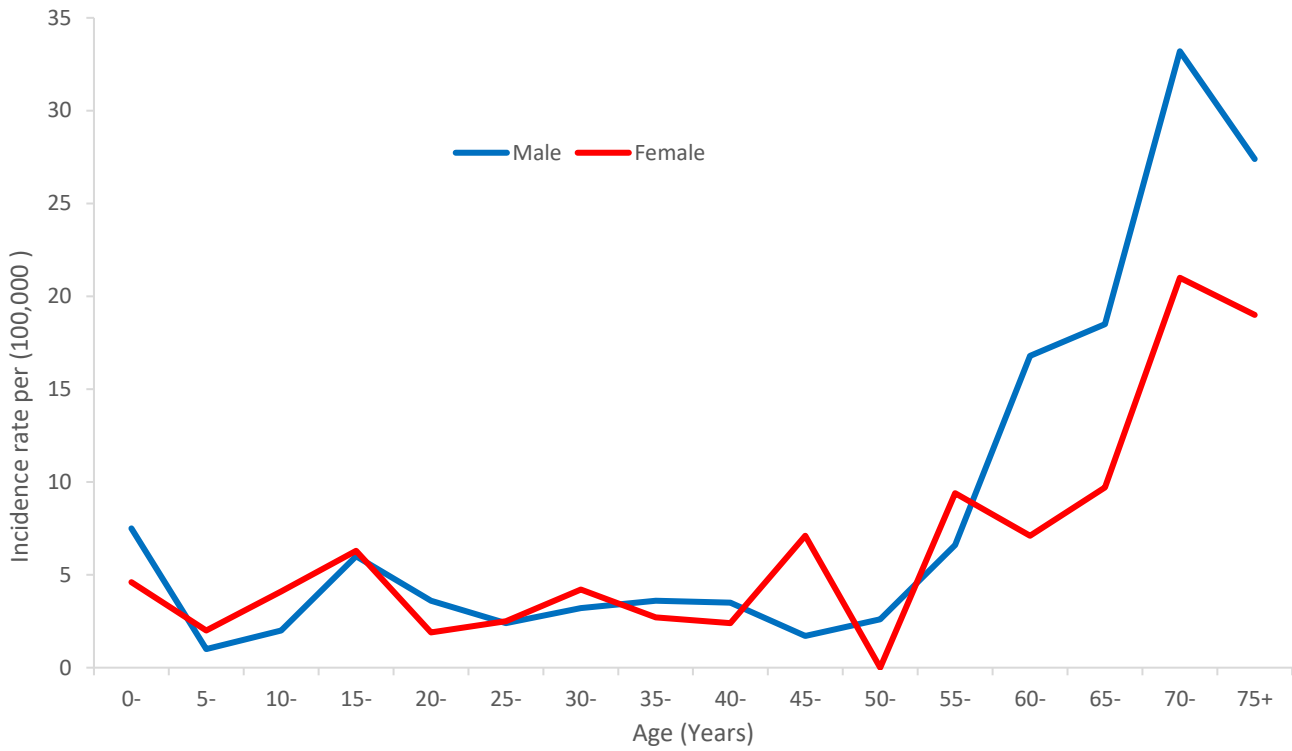


Figure 12: Age-Specific incidence rates of Non Hodgkins Lymphoma by gender, 2021



Overall Results

Figure 13: Age-Specific incidence rates of Leukemia, 2021



Overall Results

Table 19: Ten Most Common Cancers among Omanis

Male			Female		
Topography	Frequency	Percentage	Topography	Frequency	Percentage
Colorectal	121	12.1	Breast	393	29.6
Non-Hodgkin lymphoma	79	7.9	Thyroid	196	14.8
Prostate	77	7.7	Colorectal	93	7.0
Thyroid	66	6.6	Non-Hodgkin lymphoma	66	4.9
Leukemia	65	6.5	Brain, nervous system	64	4.8
Liver	60	6.0	Leukemia	59	4.4
Brain, nervous system	60	6.0	Uterus	47	3.5
Stomach	48	4.8	Ovary	43	3.2
Head and neck	47	4.7	Cervix uteri	41	3.1
Bladder	46	4.6	Stomach	38	2.8

Figure 14: Most Common Cancers in Oman 2021

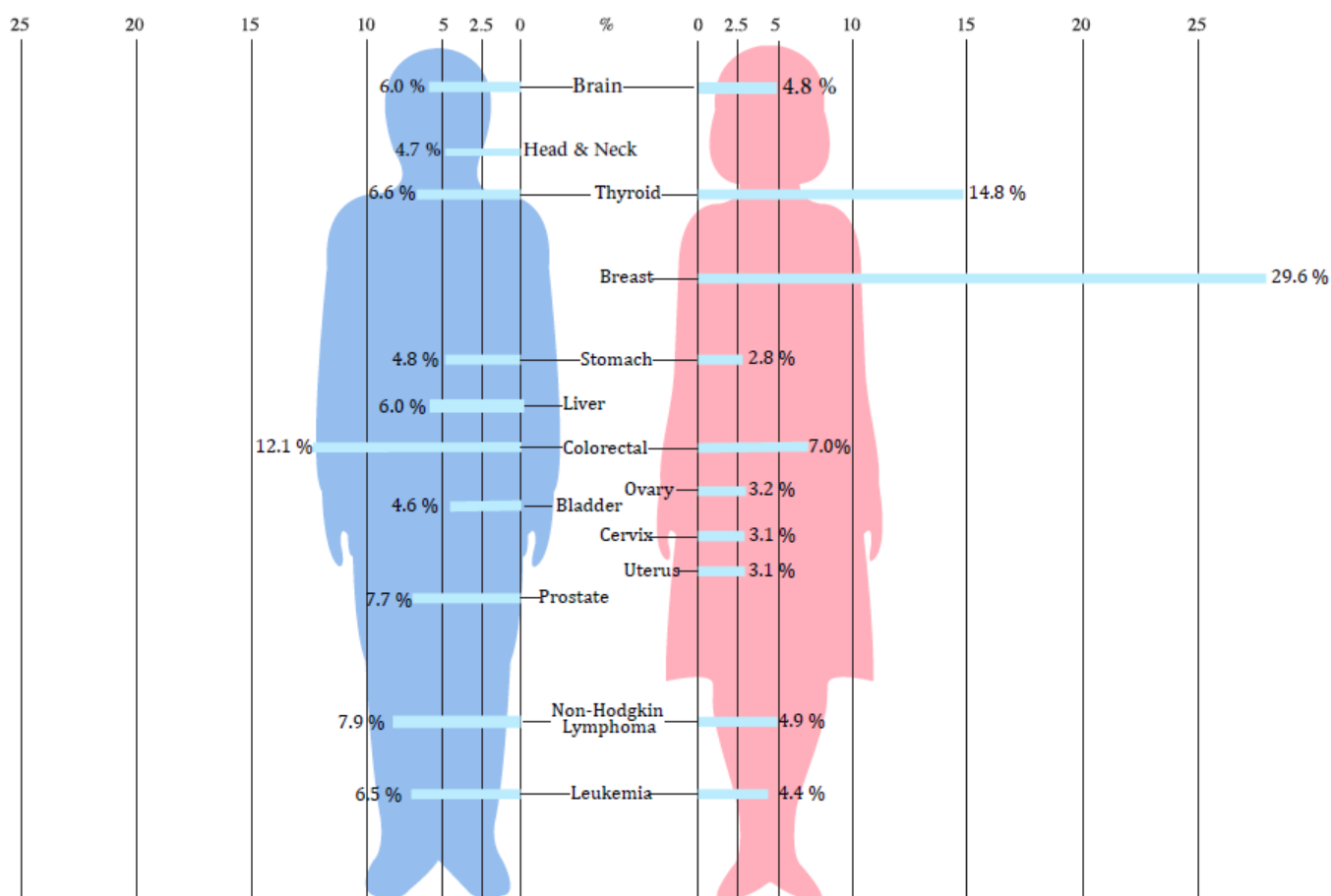
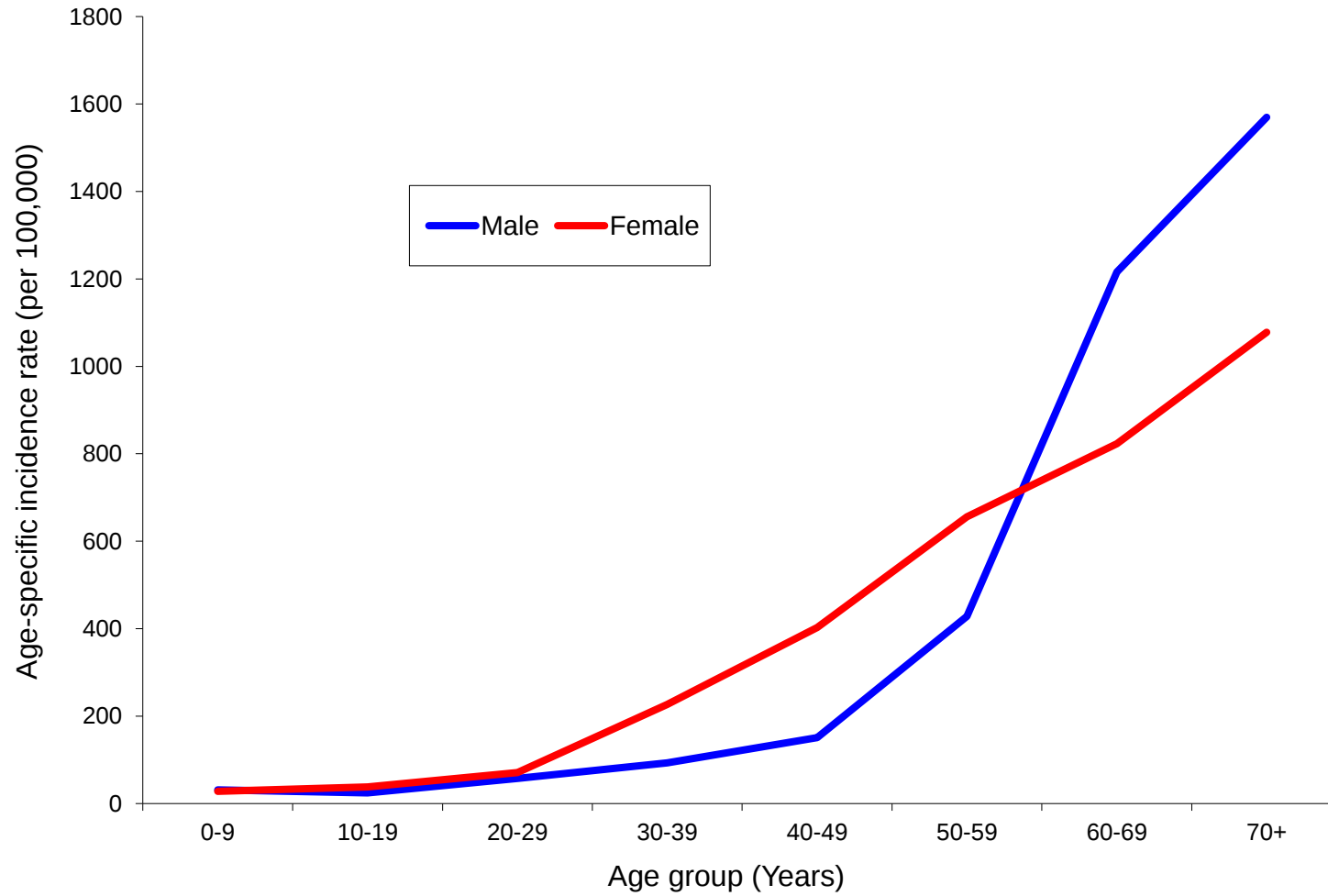


Figure 15: Age-specific incidence rates by gender, 2021



Overall Results

Table 20: Incident cases by most valid basis of diagnosis among Omanis, 2021

Site	*A	*B	*C	*D	Total
Lip	0	0	2	0	2
Tongue	0	0	17	0	17
Mouth	0	0	30	0	30
Salivary Glands	0	0	7	0	7
Oropharynx	0	0	1	0	1
Nasopharynx	0	0	10	0	10
Oesophagus	0	0	16	0	16
Stomach	0	0	86	0	86
Colorectum	0	0	214	0	214
Small Intestine	0	0	14	0	14
Liver	0	41	50	0	91
Gall Bladder	0	1	25	0	26
Pancreas	0	5	35	0	40
Nose, Sinuses	0	0	2	0	2
Larynx	0	0	15	0	15
Trachea, Bronchus, Lung	0	4	51	0	51
Bone	0	0	23	0	23
Connective Tissue	0	0	25	0	25
Melanoma	0	0	7	0	7
Skin	0	0	59	0	59
Kaposi's Sarcoma	0	0	1	0	1
Breast	0	2	406	0	408
Cervix uteri	0	0	41	0	41
Uterus	0	0	47	0	47
Ovary	0	1	42	0	43
Vagina	0	0	1	0	1
Prostate	0	0	77	0	77
Testis	0	0	27	0	27
Kidney	0	0	48	0	48
Bladder	0	1	59	0	60
Eye	0	0	5	0	5
Brain, Nervous System	0	0	124	0	124
Thyroid	0	0	262	0	262
Hodgkin's Disease	0	0	36	0	36
Non Hodgkin's Disease	0	0	145	0	145
Plasmacytoma	0	0	41	0	41
Leukemia	0	0	124	0	124
Other and Unspecified	0	0	88	0	88
Total	0	55	2263	0	2318
Percentage of total	0	2.4	97.6	0	100

Key to basis of diagnosis*

A = Death certificate only

B = Non-microscopic: clinical, clinical investigation, and specific tumour markers, exploratory surgery without histology

C = Microscopic: cytology, histology of primary, and histology of metastasis

D = Unknown

Overall Results

Figure 16: The most frequent types of cancer by gender (0-14)

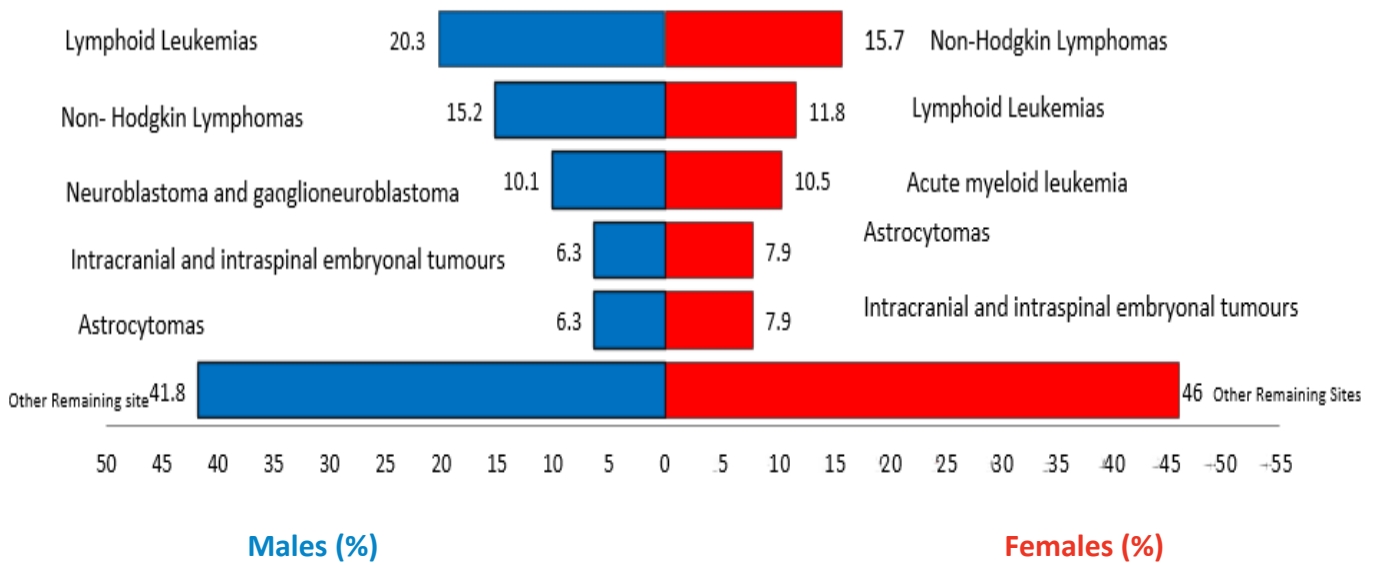
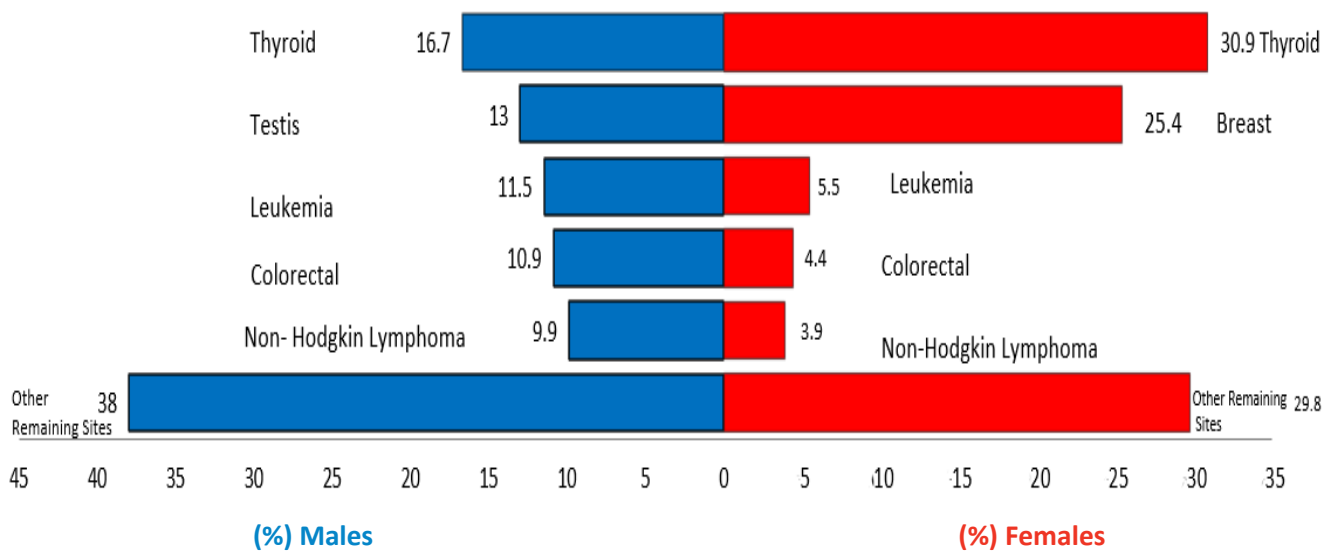


Figure 17: The most frequent types of cancer by gender (15-39)



Overall Results

Figure 18: The most frequent types of cancer by gender (40-64)

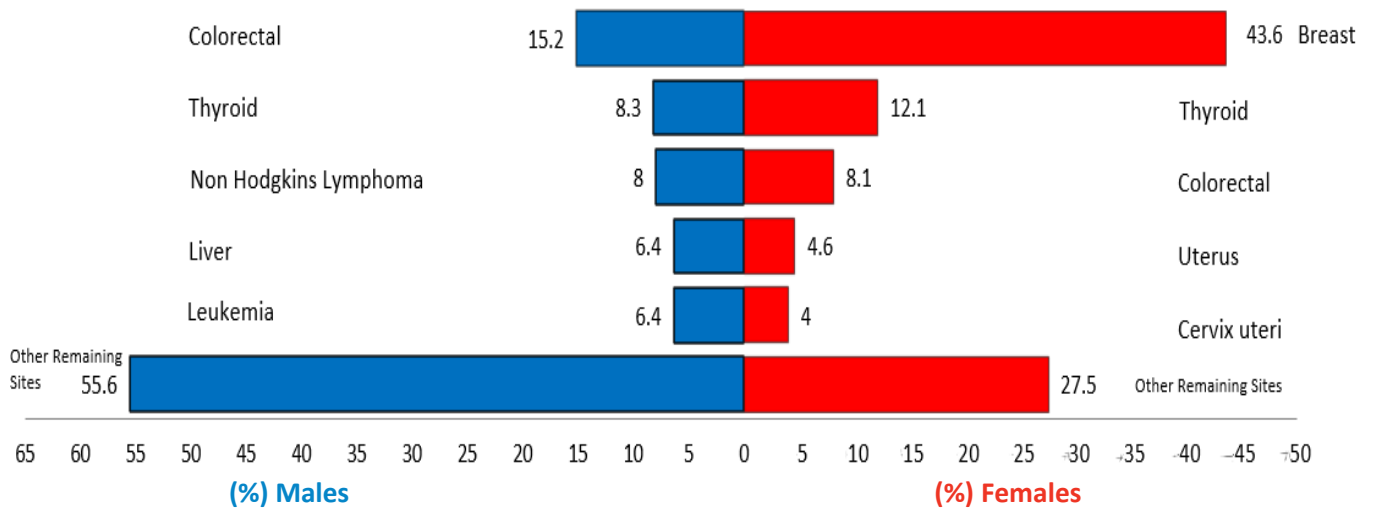
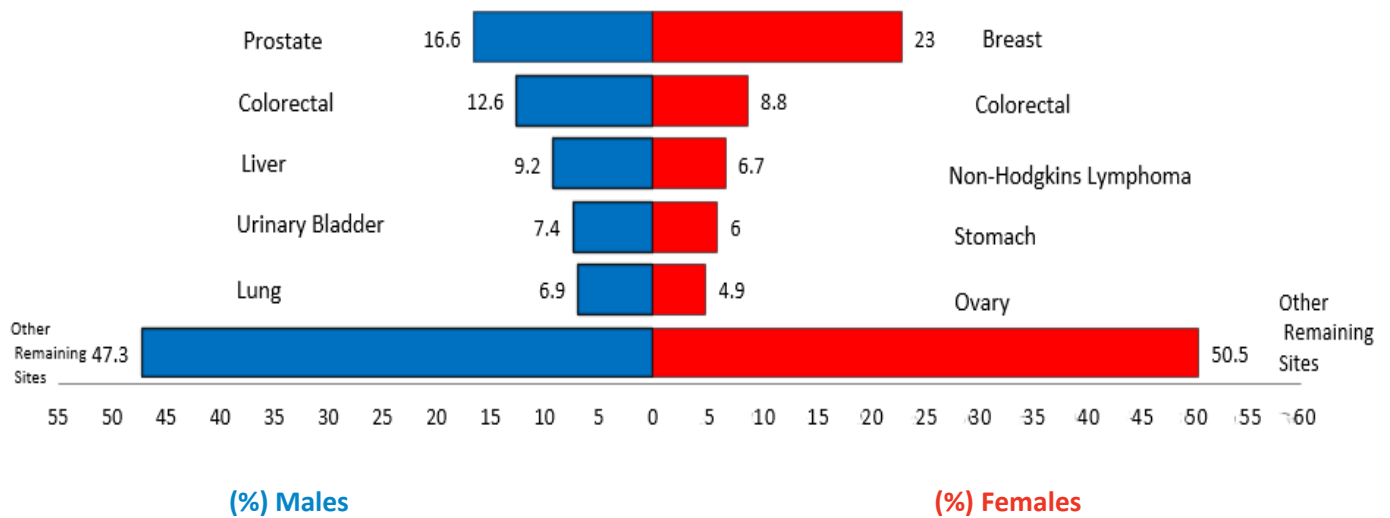


Figure 19: The most frequent types of cancer by gender (65+)



Overall Results

Table 21: Top five cancers by Governorate 2020

Muscat	Breast	Colorectal	Thyroid	Luekemias	Non-Hodgkin lymphoma
	85	73	70	37	26
North Al - Batinah	Breast	Thyroid	Colorectal	Non-Hodgkin lymphoma	Luekemias
	50	40	38	20	19
Ad - Dakhliyah	Thyroid	Breast	Colorectal	Brain	Luekemias
	30	29	26	16	12
South Al - Batinah	Thyroid	Breast	Colorectal	Non-Hodgkin lymphoma	Skin
	29	26	20	14	12
Dhofar	Colorectal	Breast	Luekemias	Non-Hodgkin lymphoma	Stomach
	21	19	19	16	14
South Ash - Sharqiah	Colorectal	Breast	Non-Hodgkin lymphoma	Lung	Thyroid
	18	12	12	9	8
North Ash - Sharqiyah	Breast	Thyroid	Colorectal	Pancreas	Lung
	18	14	12	8	8
Adh - Dhahirah	Breast	Thyroid	Colorectal	Luekemias	Prostate
	32	21	16	7	5
Buraymi	Thyroid	Breast	Tongue	Non-Hodgkin lymphoma	Colorectal
	13	11	3	2	2
Musnadam	Non-Hodgkin lymphoma	Thyroid	Stomach	Breast	Hodgkin lymphoma
	6	3	3	2	2
Al - Wusta	Thyroid	Colorectal	Liver	Lung	Cervix
	2	1	1	1	1

Table 22: Top five cancers by Governorate 2021

Muscat	Breast	Thyroid	Colorectal	Leukemia	Non-Hodgkin lymphoma
	154	86	60	37	39
North Al - Batinah	Breast	Colorectal	Thyroid	Brain	Luekemias
	72	40	35	21	16
Ad - Dakhliyah	Breast	Thyroid	Non-Hodgkin lymphoma	Brain	Luekemias
	40	29	25	18	18
South Al - Batinah	Breast	Colorectal	Thyroid	Luekemias	Brain
	35	25	19	18	13
Dhofar	Breast	Non-Hodgkin lymphoma	Colorectal	Head and neck	Luekemias
	20	19	17	14	10
- South Ash Sharqiah	Breast	Thyroid	Colorectal	Liver	Brain
	20	18	15	11	10
- North Ash Sharqiyah	Breast	Thyroid	Colorectal	Non-Hodgkin lymphoma	Leukemia
	22	20	11	11	9
Adh - Dhahirah	Breast	Thyroid	skin	Colorectal	liver
	24	20	14	10	7
Buraymi	Breast	Thyroid	Non-Hodgkin lymphoma	Colorectal	Kidney
	10	9	5	4	3
Musnadam	Colorectal	Liver	Thyroid	Bone	Prostate
	4	4	2	2	1
Al - Wusta	Liver	Colorectal	Stomach	Thyroid	Cervix uteri
	3	2	2	1	1

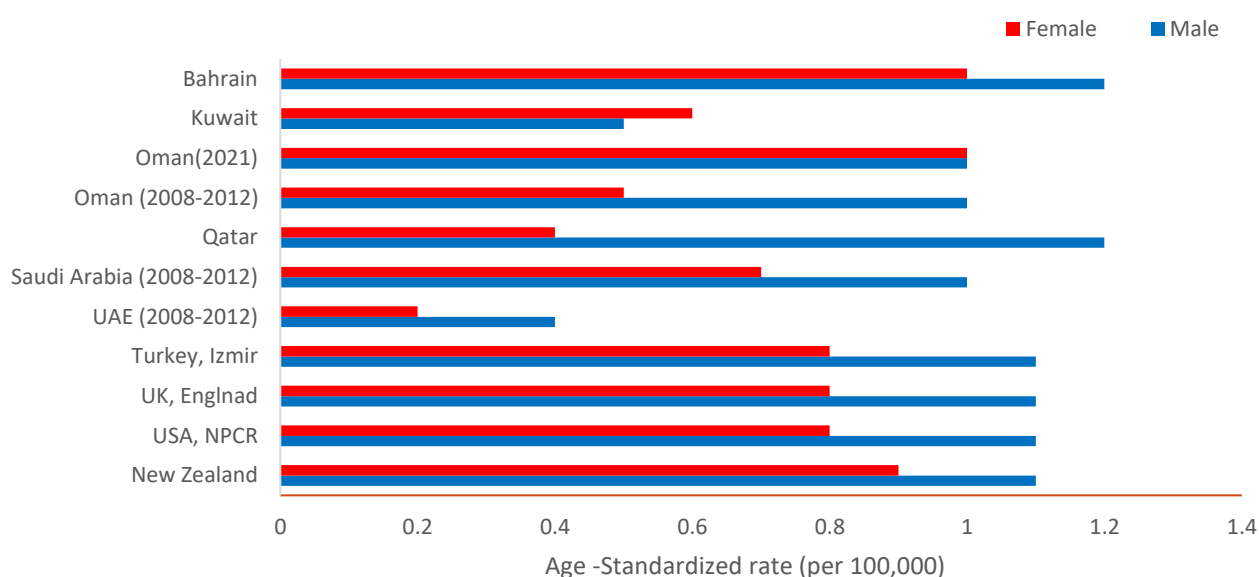
Cancers by Sites



Table 23: Gender Distribution of Bone Malignancies

Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Male	11	0.8	1
Female	12	0.9	1
Total	23		
Malignant Lymphoma	2		

Figure 20: Age-standardized incidence rates of cancer of bone in Oman and some selected countries



Note: Data of GCC countries are from 2013-2017; data of New Zealand, UK (England), Turkey (Izmir) are from 2008-2012, For USA –NPCR (National Program of Cancer Registries) from 2008-2012 was used.

Figure 21: Morphology of Bone Cancer

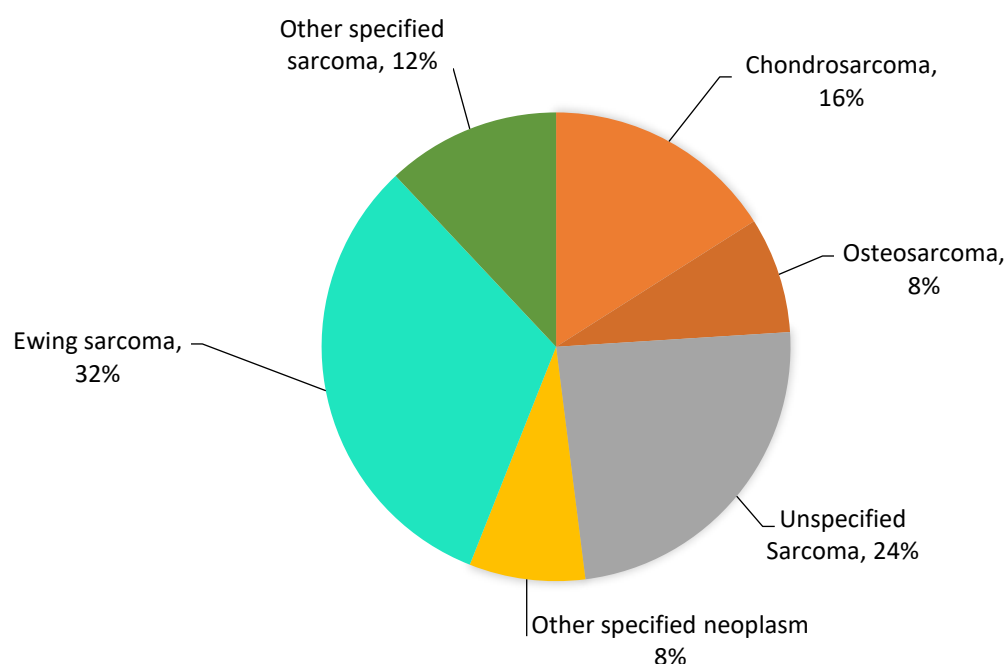




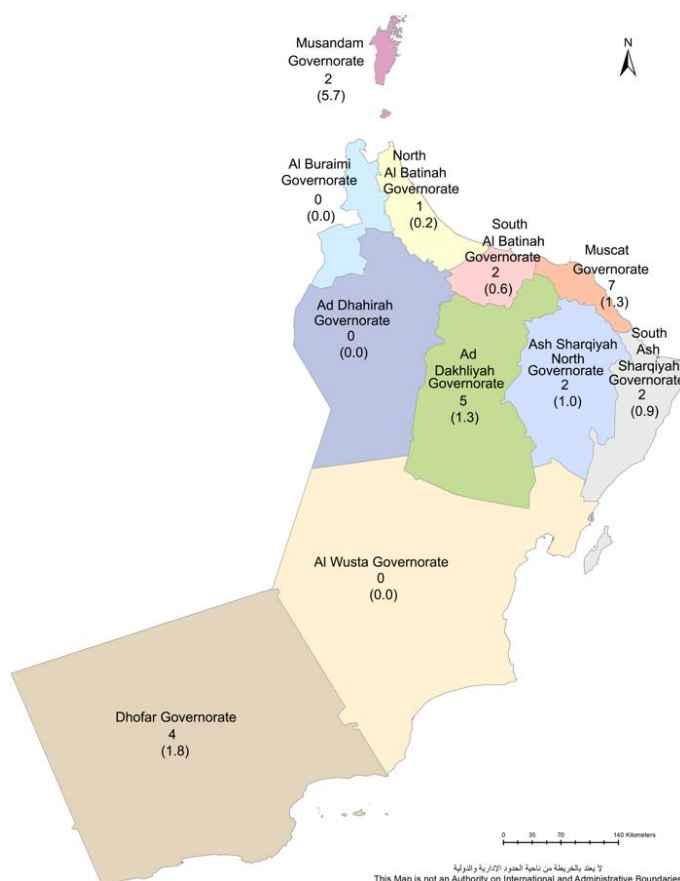
Figure 22: *Incidence of Bone Cancer by Governorates

(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	7	1.3
Al - Batinah North	1	0.2
Ad - Dakhliyah	5	1.3
Al - Batinah South	2	0.6
Dhofar	4	1.8
Ash - Sharqiyah South	2	0.9
Ash - Sharqiyah North	2	1.0
Adh - Dhahirah	0	0.0
Al Buraymi	0	0.0
Musanadam	2	5.7
Al - Wusta	0	0.0
Unknown	0	
Total	25	

* Total with Lymphoma

Unknown 0



Time Trend of Oman ASR of Bone Cancer 1996-2021

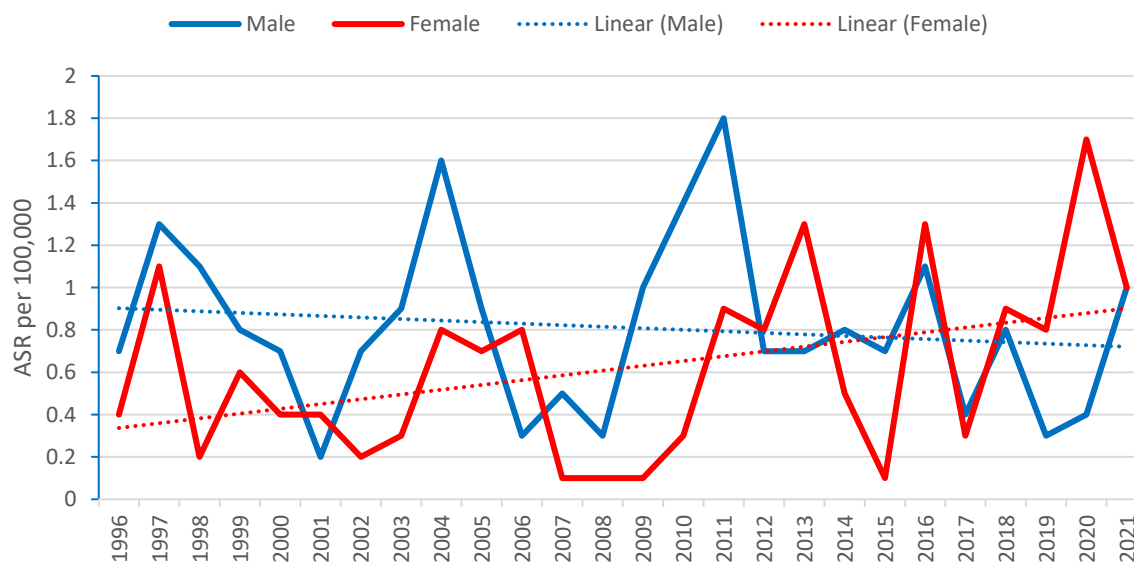
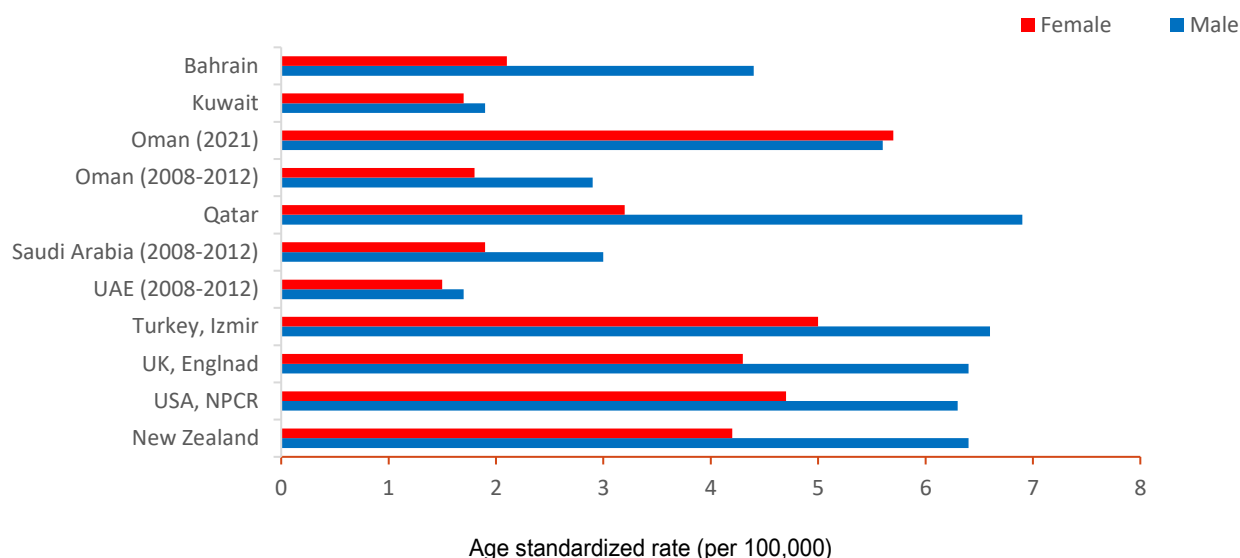




Table 24: Gender Distribution of Cancer of the Brain & Nervous System

Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Male	60	4.2	5.6
Female	64	4.6	5.7
Total	124		

Figure 23: Age-standardized incidence rates of cancer of the Brain and Nervous System in Oman and some selected countries



Note: Data of GCC countries are from 2013-2017; data of New Zealand, UK (England), Turkey (Izmir) are from 2008-2012, For USA –NPCR (National Program of Cancer Registries) from 2008-2012 was used

Figure 24: Morphology of Brain and Nervous System Cancer

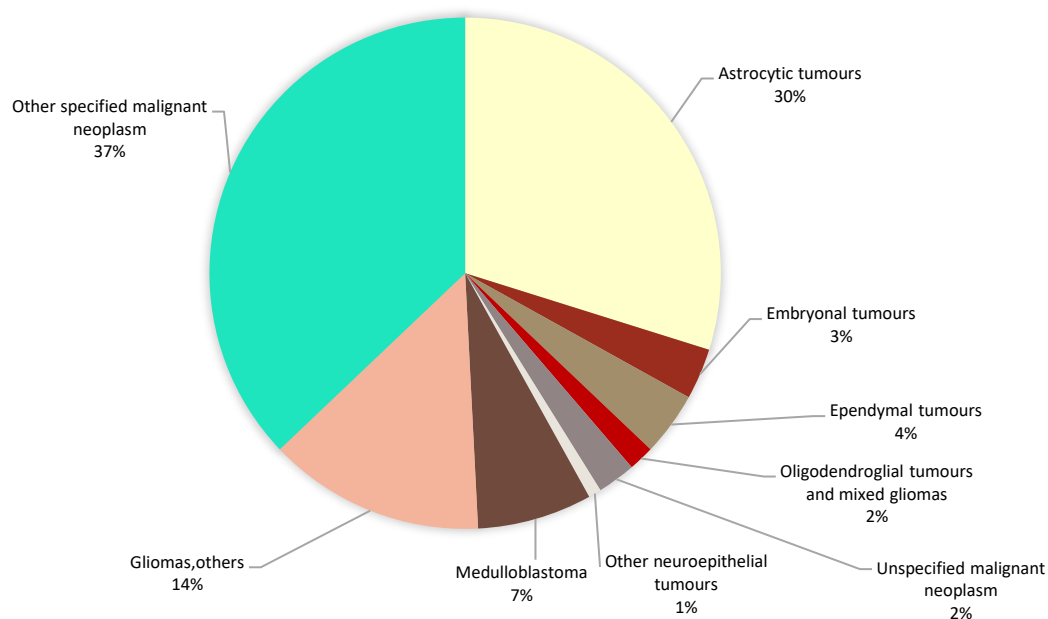




Figure 25: Incidence of Brain and Nervous System Cancer by Governorates

(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	37	6.7
North Al - Batinah	22	3.9
Ad - Dakhliyah	18	4.8
South Al - Batinah	13	3.6
Dhofar	9	4.1
South Ash - Sharqiah	10	4.3
North Ash - Sharqiah	5	2.5
Adh -Dhahirah	3	1.8
Buraymi	1	1.4
Musandam	1	2.9
Al - Wusta	2	7.8
Unknown	3	
Total	124	



Time Trend of Oman ASR of Brain Cancer 1996-2021

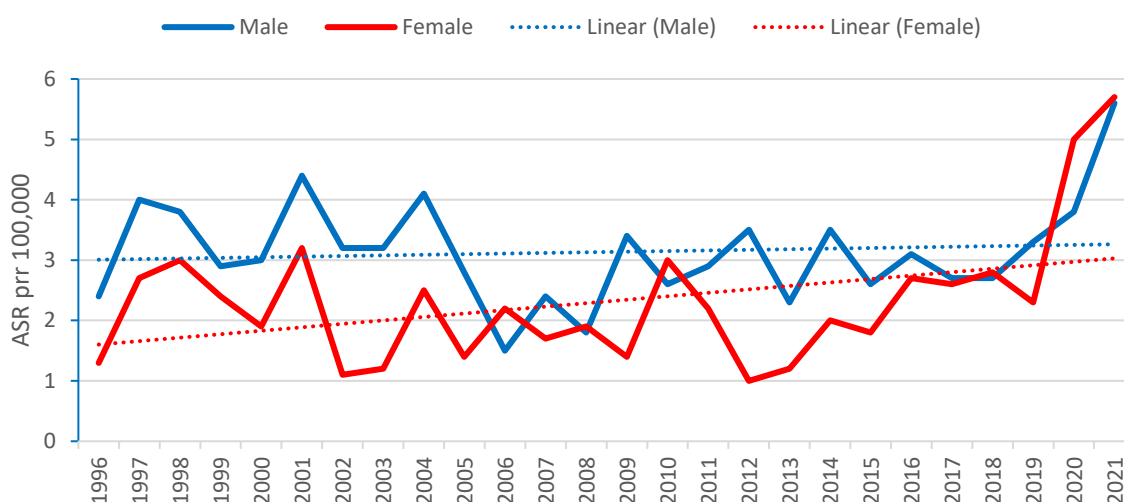
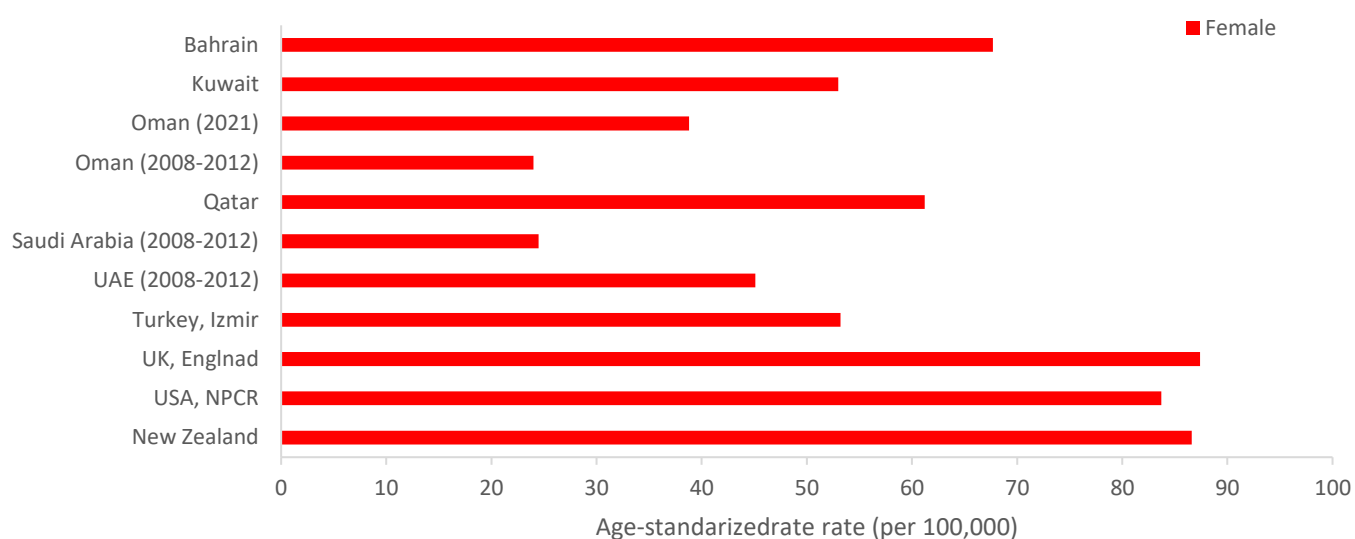




Table 25: Gender Distribution of Breast Cancer

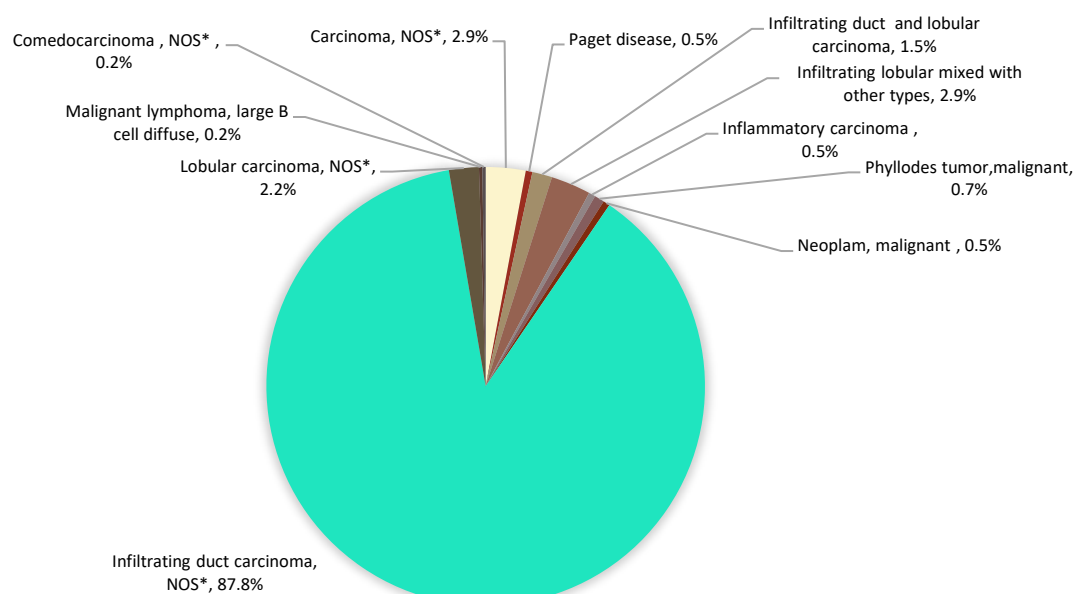
Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Male	15	1.1	1.6
Female	393	28.2	38.8
Total	408		
Carcinoma in situ	23		
Malignant lymphoma	1		

Figure 26: Age-standardized incidence rates of Female Breast Cancer in Oman and some selected countries



Note: Data of GCC countries are from 2013-2017; data of New Zealand, UK (England), Turkey (Izmir) are from 2008-2012, For USA –NPCR (National Program of Cancer Registries) from 2008-2012 was used.

Figure 27: Morphology of Breast Cancer



*Not otherwise specified

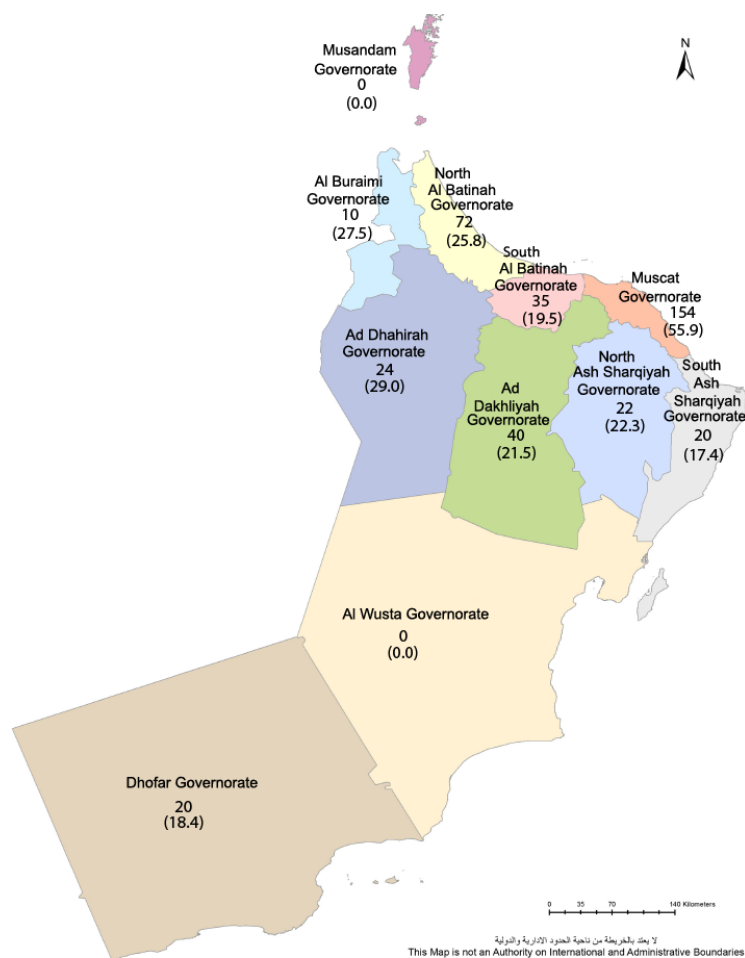


Figure 28: Incidence of Breast Cancer by Governorates
(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	154	55.9
North Al - Batinah	72	25.8
Ad - Dakhliyah	40	21.5
South Al - Batinah	35	19.5
Dhofar	20	18.4
South -Ash Sharqiah	20	17.4
North -Ash Sharqiah	22	22.3
Adh -Dhahirah	24	29.0
Buraymi	10	27.5
Musandam	0	0.0
Al - Wusta	0	0.0
Unknown	12	
Total	409	

*Total include Lymphoma

Unknown 12



Time Trend of Oman ASR of Breast Cancer 1996-2021

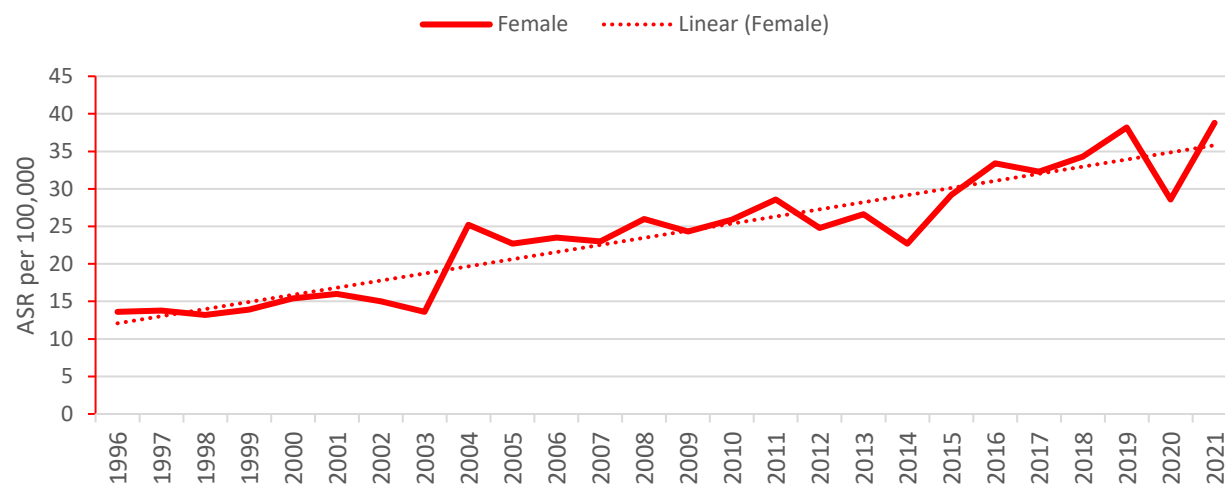




Figure 29: Stages of Breast Cancer in Oman, 2020

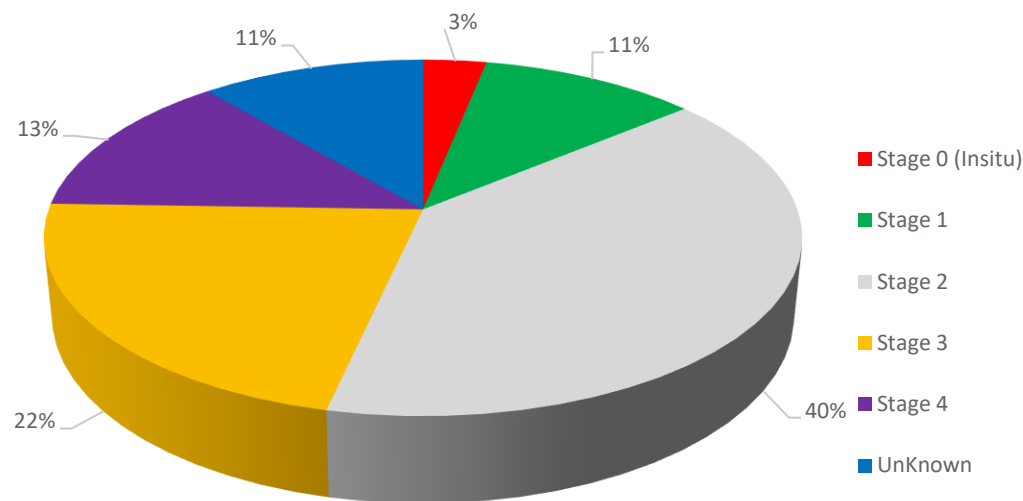


Figure 30: Stages of Breast Cancer in Oman, 2021

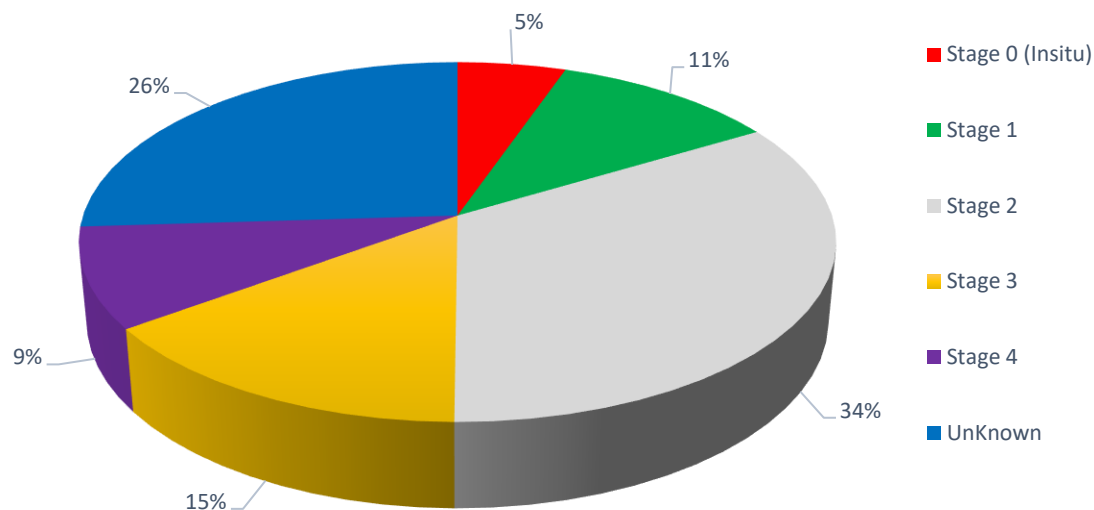
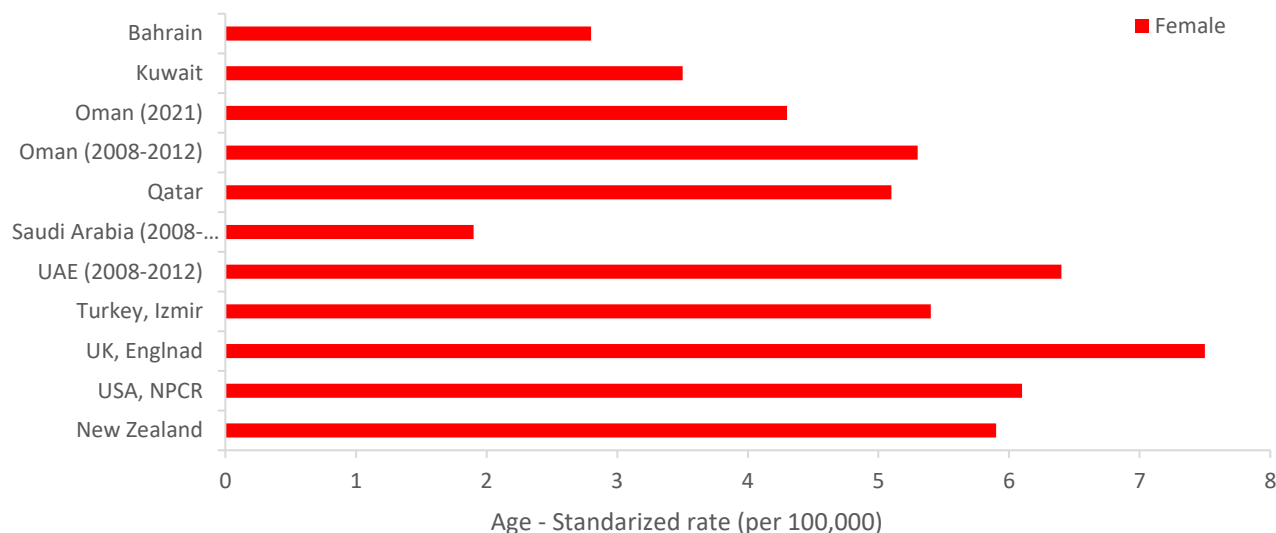




Table 26: Distribution of Cervical Cancer

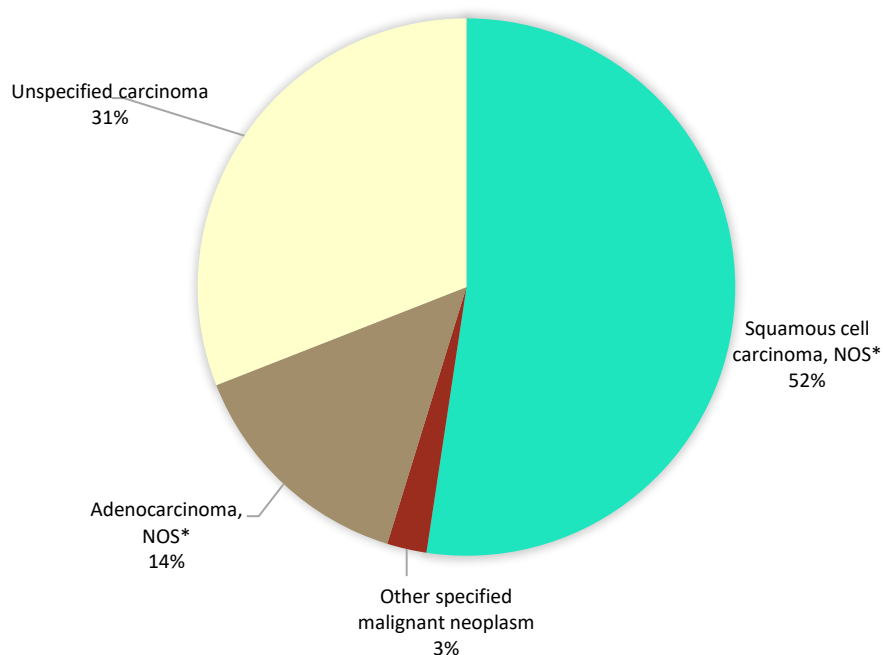
Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Female	41	2.9	4.3
Total	41		
Malignant lymphoma	1		

Figure 31: Age-standardized incidence rates of Cervical Cancer in Oman and some selected countries



Note: Data of GCC countries are from 2013-2017; data of New Zealand, UK (England), Turkey (Izmir) are from 2008-2012, For USA –NPCR (National Program of Cancer Registries) from 2008-2012 was used.

Figure 32: Morphology of Cervical Cancer



*Not otherwise specified



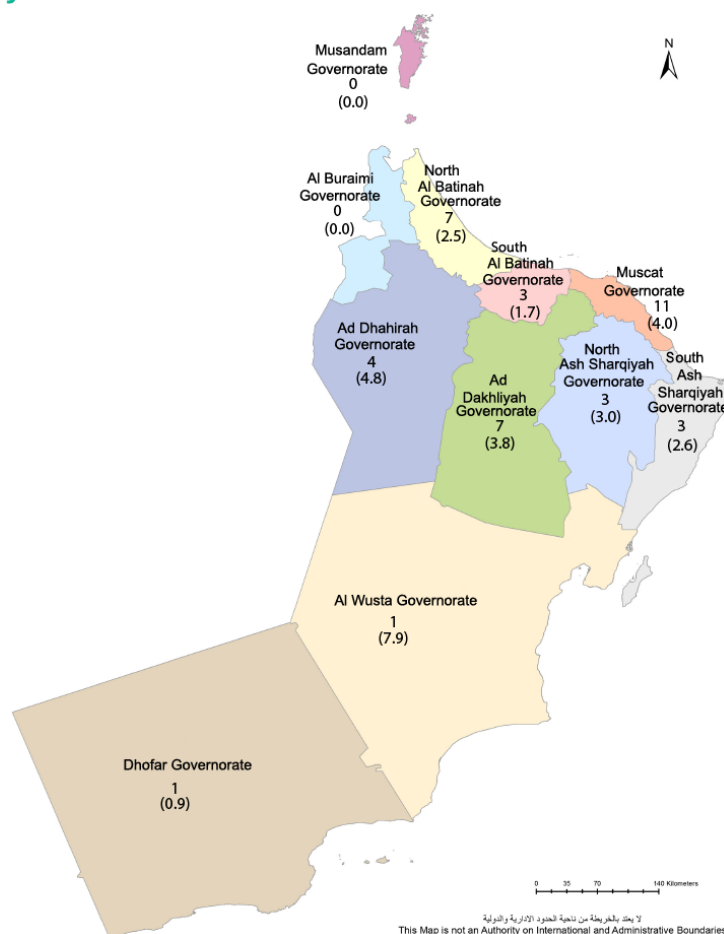
Figure 33: *Incidence of Cervical Cancer by Governorates

(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	11	4.0
North Al - Batinah	7	2.5
Ad - Dakhliyah	7	3.8
South Al - Batinah	3	1.7
Dhofar	1	0.9
South Ash - Sharqiah	3	2.6
North Ash - Sharqiah	3	3.0
Adh -Dhahirah	4	4.8
Buraymi	0	0.0
Musandam	0	0.0
Al - Wusta	1	7.9
Unknown	2	
Total	42	

Total include Lymphoma

Unknown 2



Time Trend of Oman ASR of Cervical Cancer 1996-2021

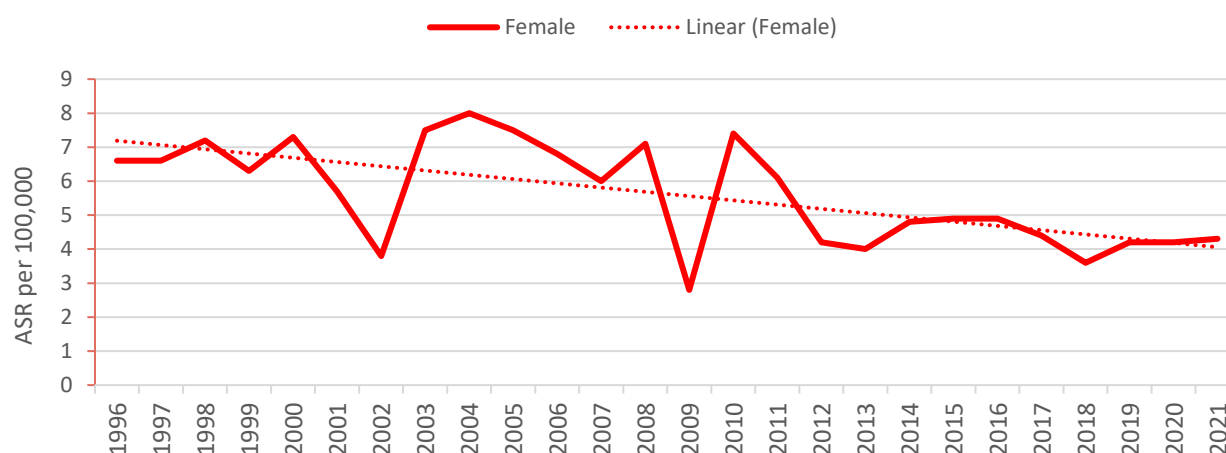
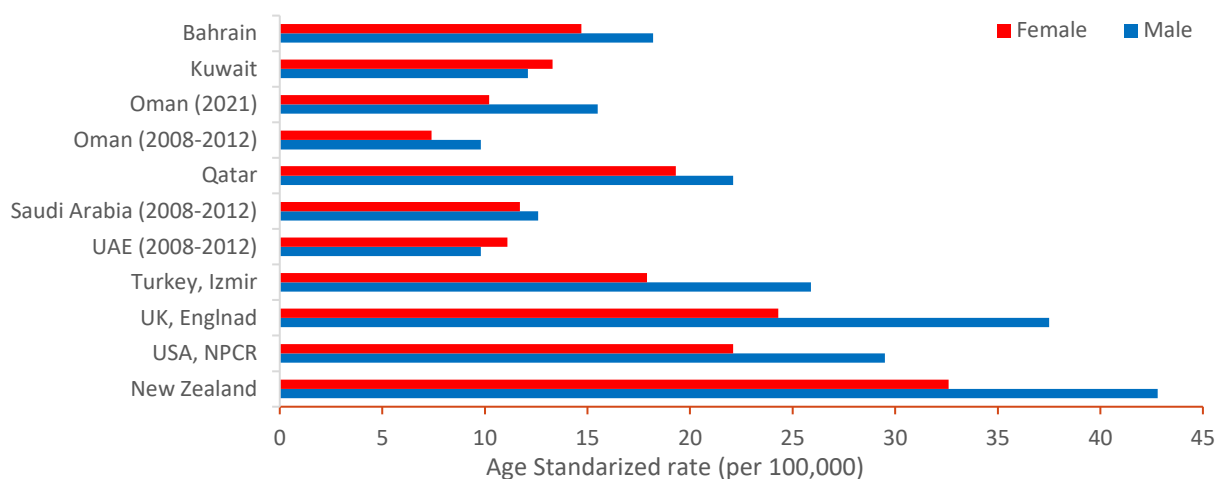




Table 27: Gender Distribution of Colorectal Cancer

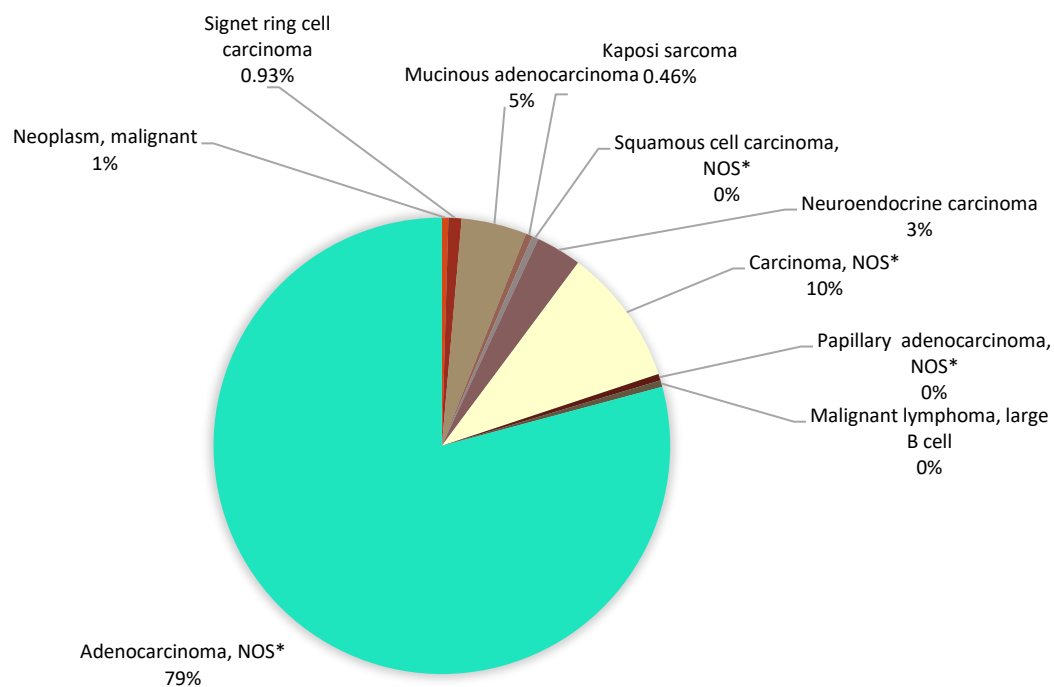
Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Male	121	8.6	15.5
Female	93	6.7	10.2
Total	214		
Malignant lymphoma	1		
Kaposi sarcoma	1		

Figure 34: Age-standardized incidence rates of of Colorectal Cancer in Oman and some selected countries



Note: Data of GCC countries are from 2013-2017; data of New Zealand, UK (England), Turkey (Izmir) are from 2013-2017, For USA –NPCR (National Program of Cancer Registries) from 2008-2012 was used.

Figure 35: Morphology of Colorectal Cancer



*Not otherwise specified

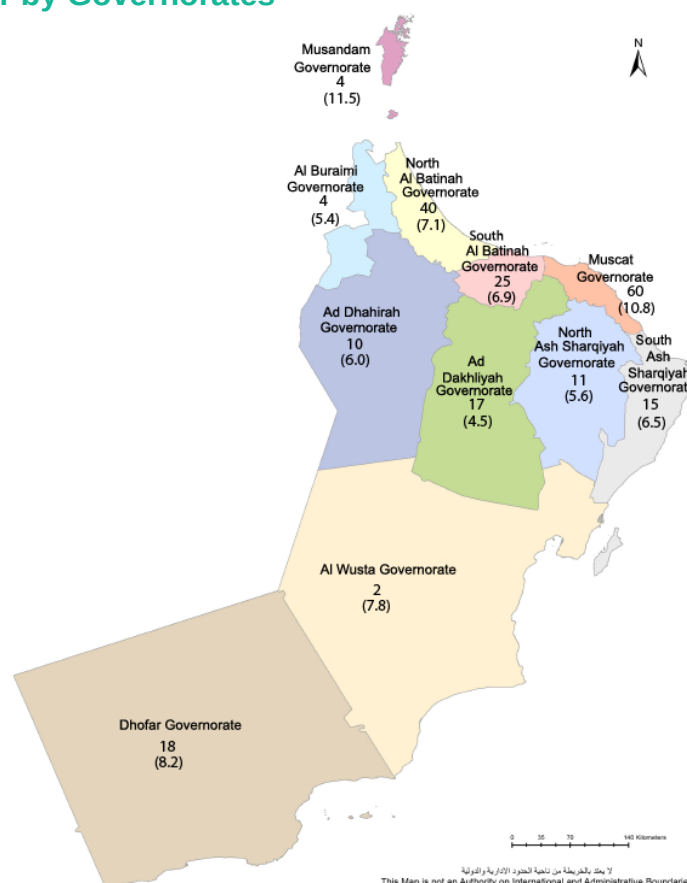


Figure 36: Incidence of Colorectal Cancer by Governorates
(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	60	10.8
North Al - Batinah	40	7.1
Ad - Dakhliyah	17	4.5
South Al - Batinah	25	6.9
Dhofar	18	8.2
South Ash - Sharqiah	15	6.5
North Ash - Sharqiah	11	5.6
Adh -Dhahirah	10	6.0
Buraymi	4	5.4
Musandam	4	11.5
Al - Wusta	2	7.8
Unknown	10	
Total	216	

*Total include Lyphoma

Unknown 10



Time Trend of Oman ASR of Colorectal Cancer 1996-2021

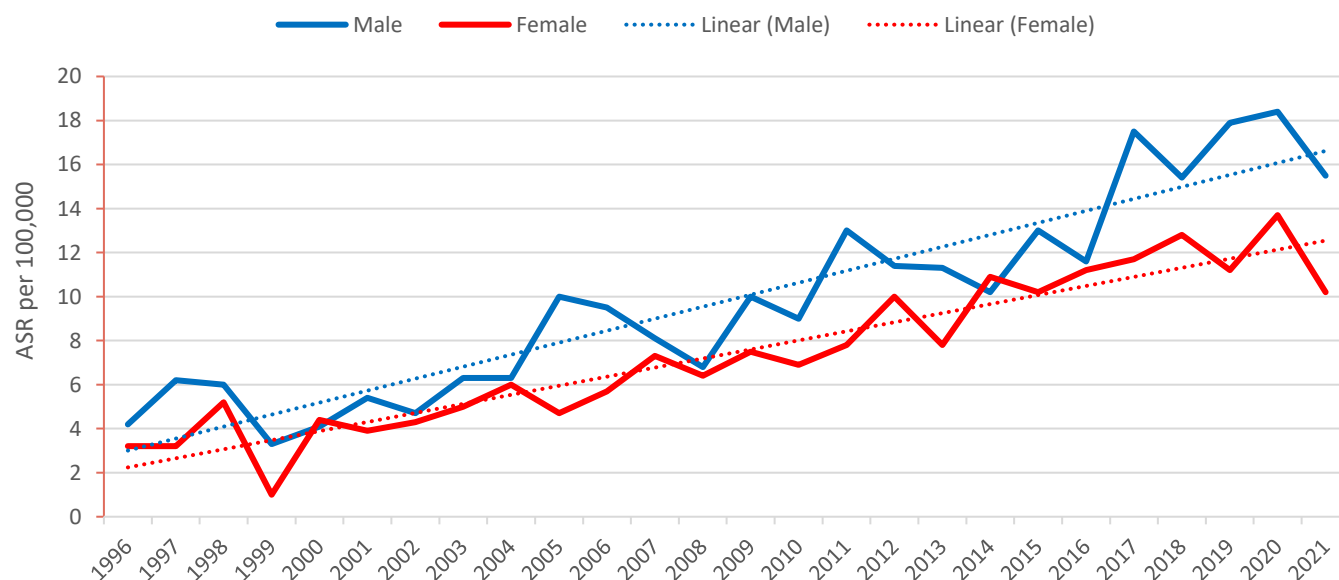




Figure 37: Stages of Colorectal Cancer in Oman, 2020

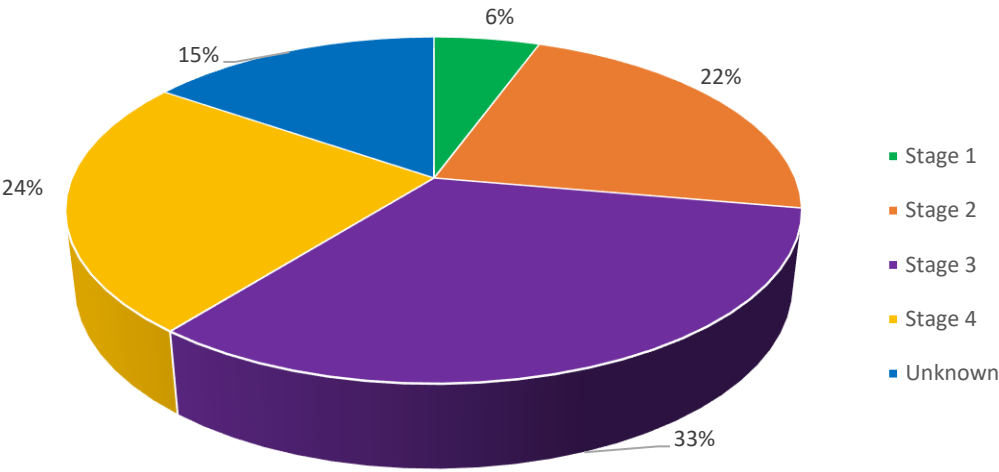


Figure 38: Stages of Colorectal Cancer In Oman 2021

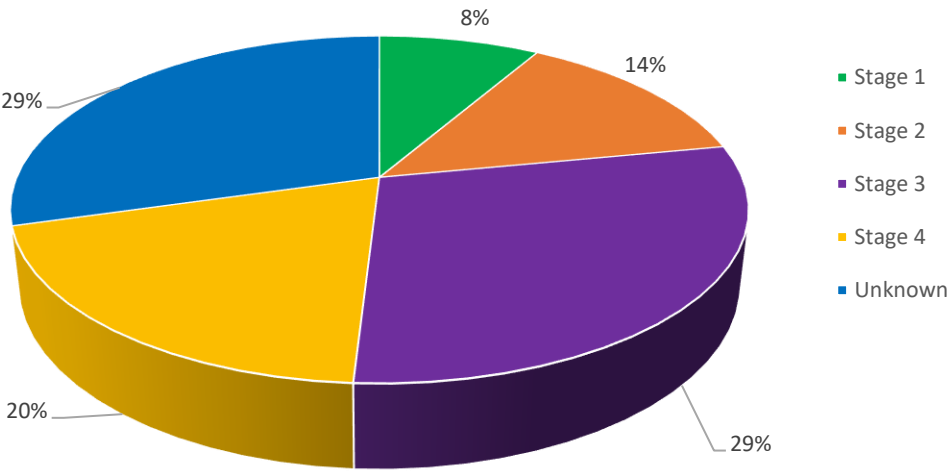
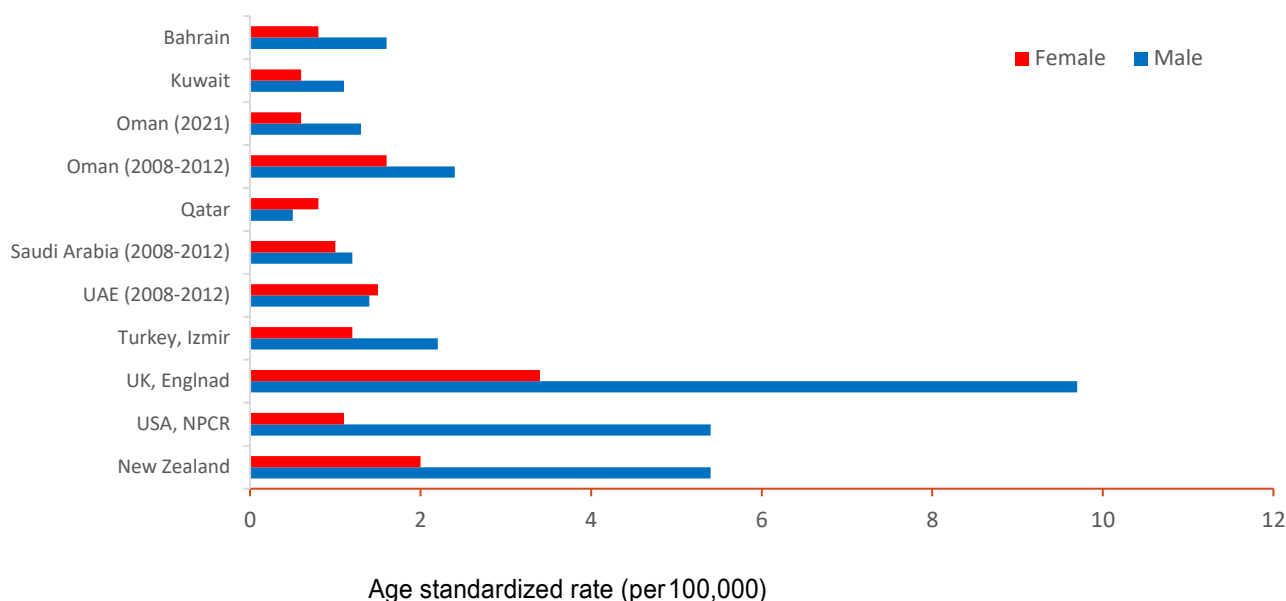




Table 28: Gender Distribution of Esophageal Cancer

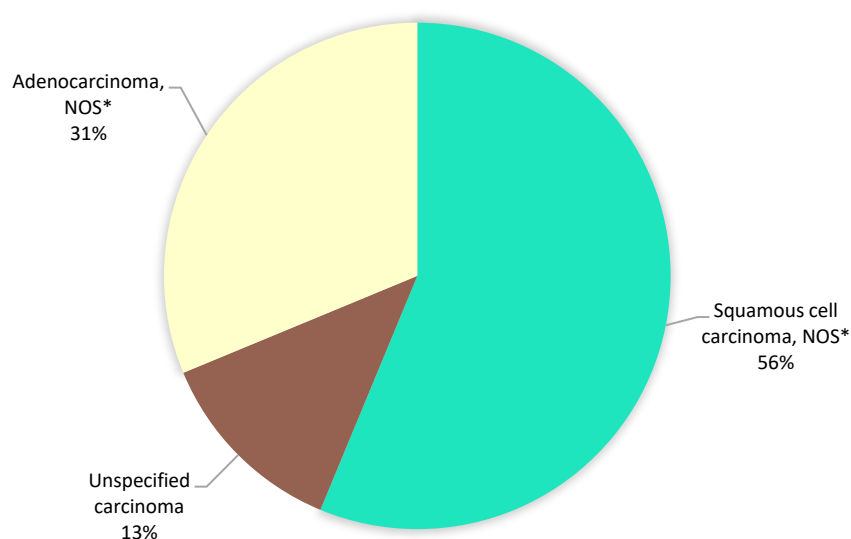
Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Male	9	0.6	1.3
Female	7	0.5	0.6
Total	16		

Figure 39: Age-standardized incidence rates of Esophageal Cancer in Oman and some selected countries



Note: Data of GCC countries are from 2013-2017; data of New Zealand, UK (England), Turkey (Izmir) are from 2008-2012, For USA –NPCR (National Program of Cancer Registries) from 2008-2012 was used.

Figure 40: Morphology of Esophageal Cancer



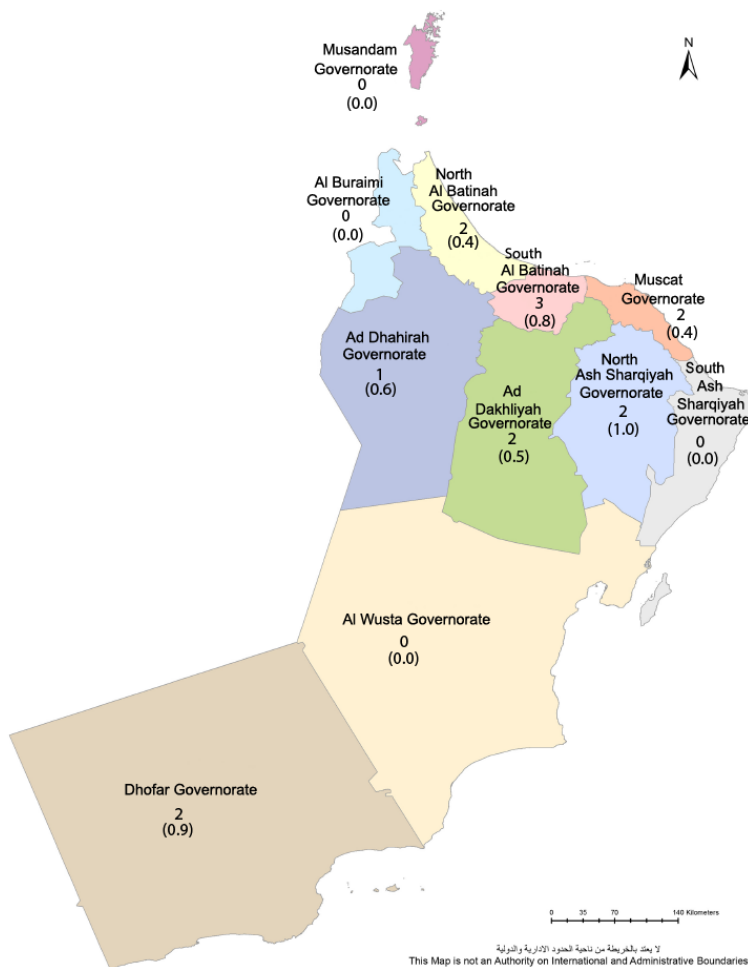
*Not otherwise specified



Figure 41: Incidence of Esophageal Cancer by Governorates
(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	2	0.4
North Al - Batinah	2	0.4
Ad - Dakhliyah	2	0.5
South Al - Batinah	3	0.8
Dhofar	2	0.9
South Ash - Sharqiyah	0	0.0
North Ash - Sharqiyah	2	1.0
Adh -Dhahirah	1	0.6
Buraymi	0	0.0
Musandam	0	0.0
Al - Wusta	0	0.0
Unknown	2	
Total	16	

Unknown 2



Time Trend of Oman ASR of Esophageal Cancer 1996-2021

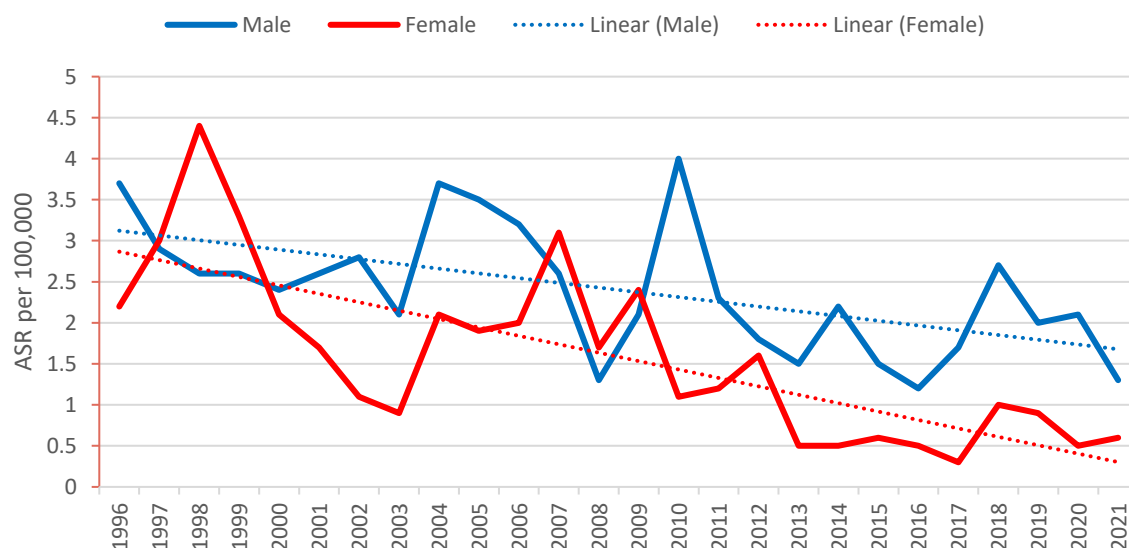
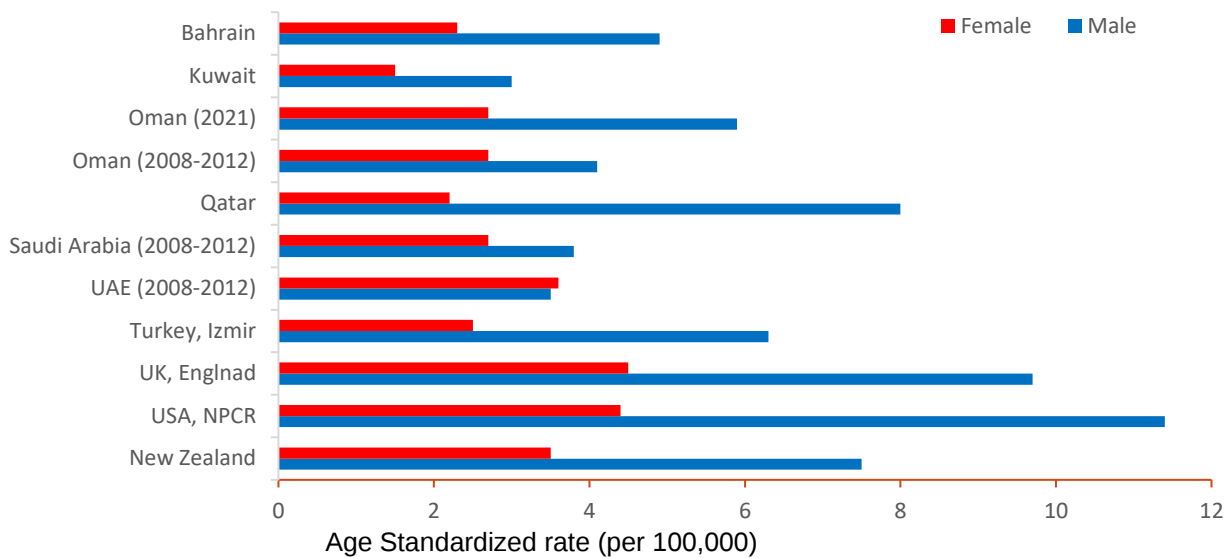




Table 29: Gender Distribution of Head and Neck

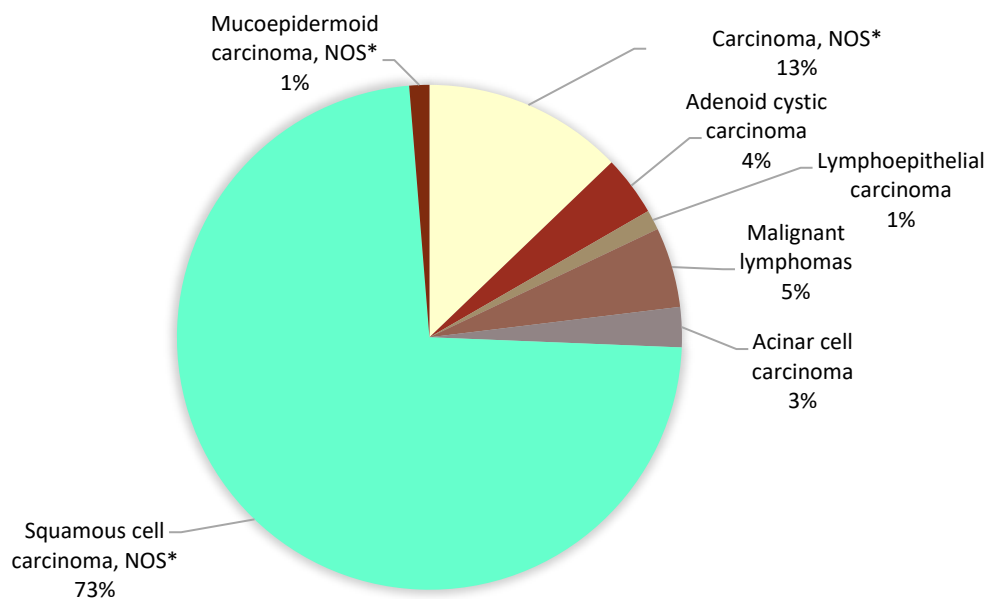
Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Male	47	3.3	2.7
Female	27	1.9	6
Total	74		
Malignant lymphoma	4		

Figure 42: Age-standardized incidence rates of Head and Neck Cancer in Oman and some selected countries



Note: Data of GCC countries are from 2013-2017; data of New Zealand, UK (England), Turkey (Izmir) are from 2008-2012, For USA –NPCR (National Program of Cancer Registries) from 2008-2012 was used.

Figure 43: Morphology of Head and Neck Cancer



*Not otherwise specified



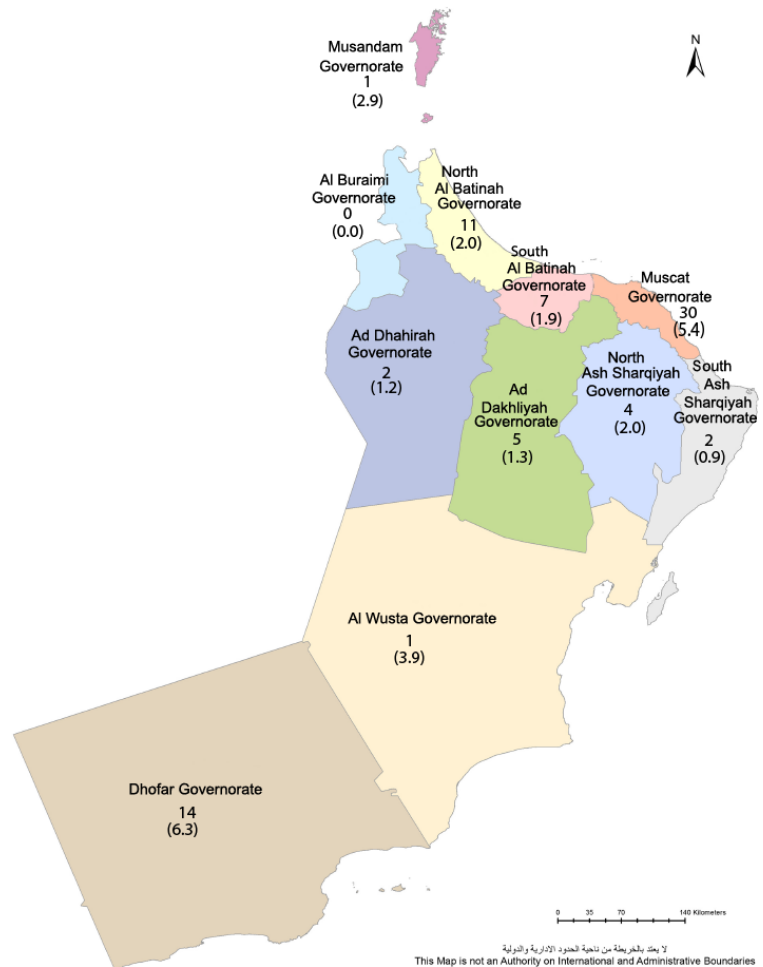
Figure 44: *Incidence of Head and Neck Cancer by Governorates

(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	30	5.4
North Al - Batinah	11	2.0
Ad - Dakhliyah	5	1.3
South Al - Batinah	7	1.9
Dhofar	14	6.3
South Ash - Sharqiyah	2	0.9
North Ash - Sharqiyah	4	2.0
Adh - Dhahirah	2	1.2
Buraymi	0	0.0
Musandam	1	2.9
Al - Wusta	1	3.9
Unknown	1	
Total	78	

Total include Lymphoma

Unknown 1



Time Trend of Oman ASR of Head and Neck Cancer 1996-2021

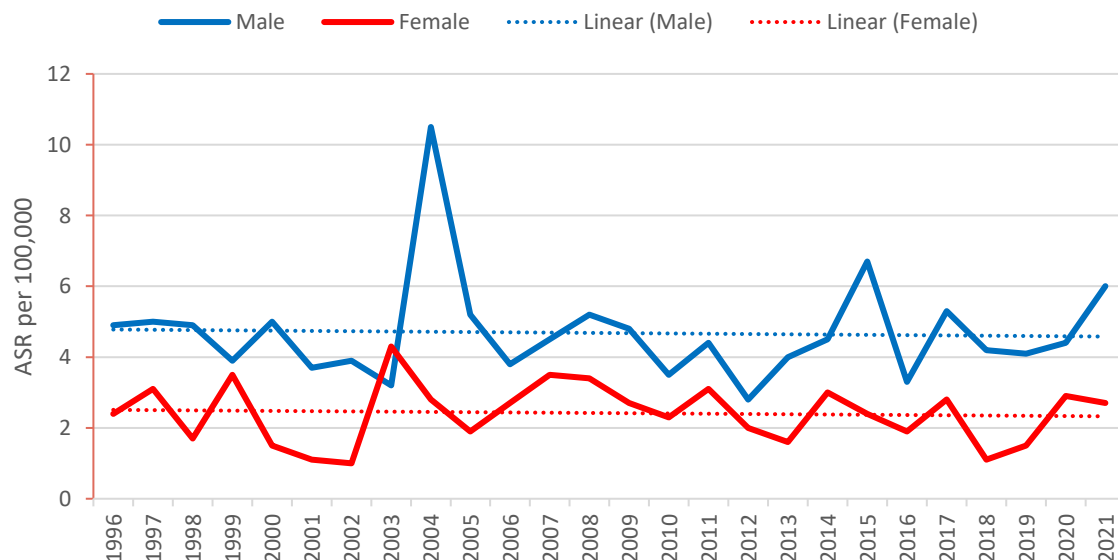
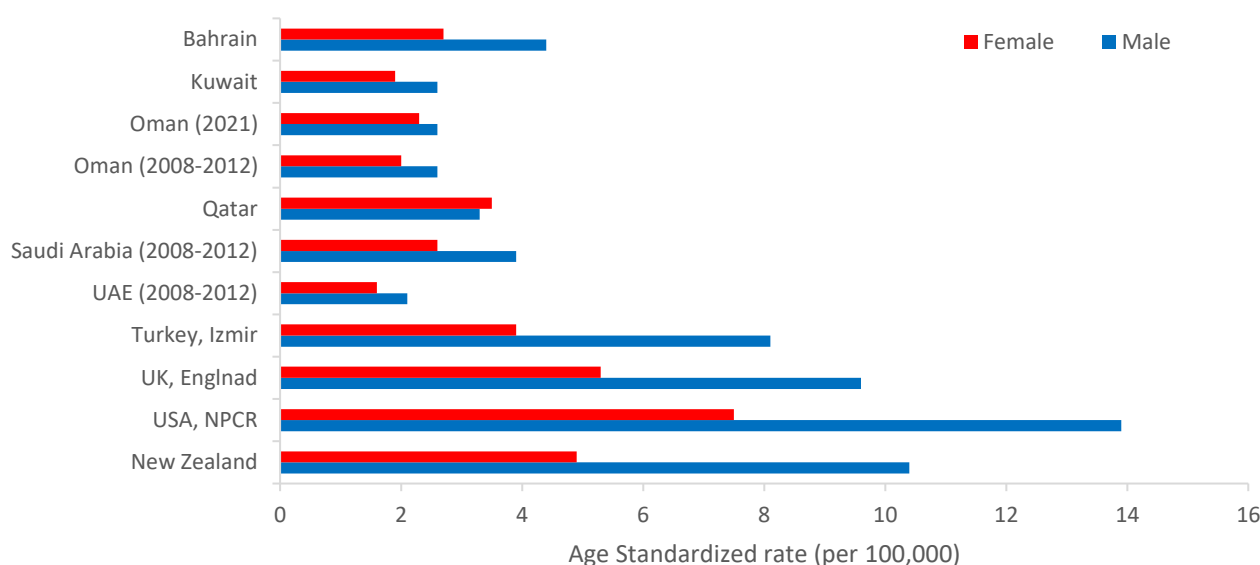




Table 30: Gender Distribution of Kidney and Ureter Cancer

Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Male	25	1.8	2.6
Female	23	1.7	2.3
Total	48		
Malignant lymphoma	1		

Figure 45: Age-standardized incidence rates of Kidney and Ureter Cancer in Oman and some selected countries



Note: Data of GCC countries are from 2013-2017; data of New Zealand, UK (England), Turkey (Izmir) are from 2008-2012, For USA –NPCR (National Program of Cancer Registries) from 2008-2012 was used.

Figure 46: Morphology of Kidney Cancer

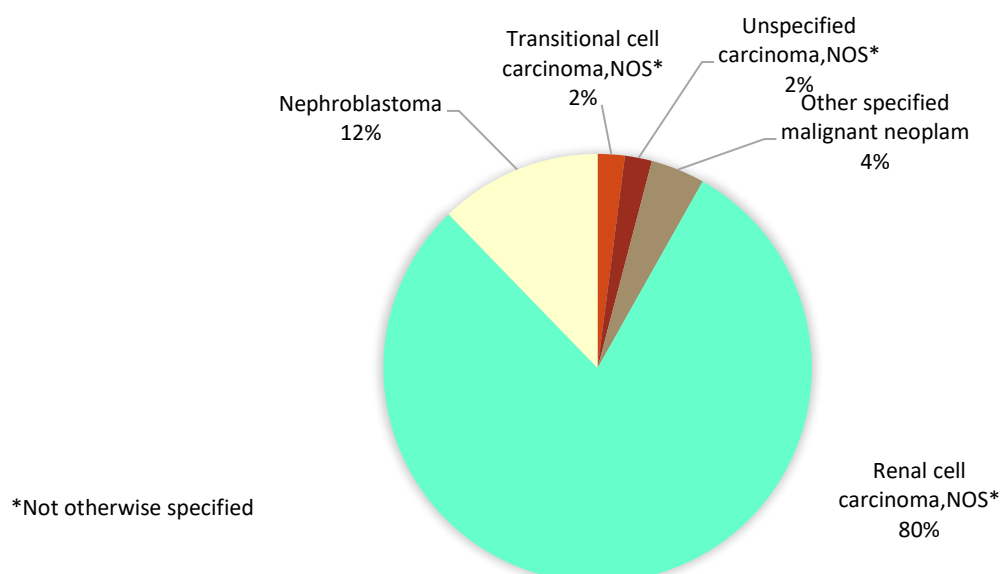


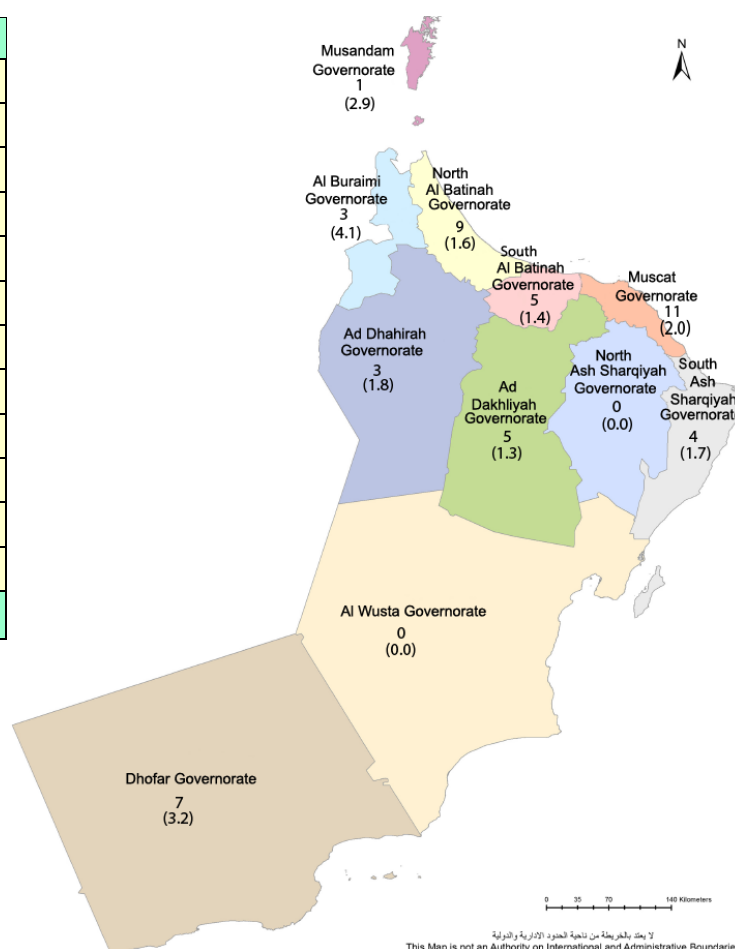


Figure 47: Incidence of Kidney and Ureter Cancer by Governorates

(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	11	2.0
North Al - Batinah	9	1.6
Ad - Dakhliyah	5	1.3
South Al - Batinah	5	1.4
Dhofar	7	3.2
South Ash - Sharqiah	4	1.7
North Ash - Sharqiah	0	0.0
Adh -Dhahirah	3	1.8
Buraymi	3	4.1
Musandam	1	2.9
Al - Wusta	0	0.0
Unknown	1	
Total	49	

Unknown 1



Time Trend of Oman ASR of Kidney Cancer 1996-2021

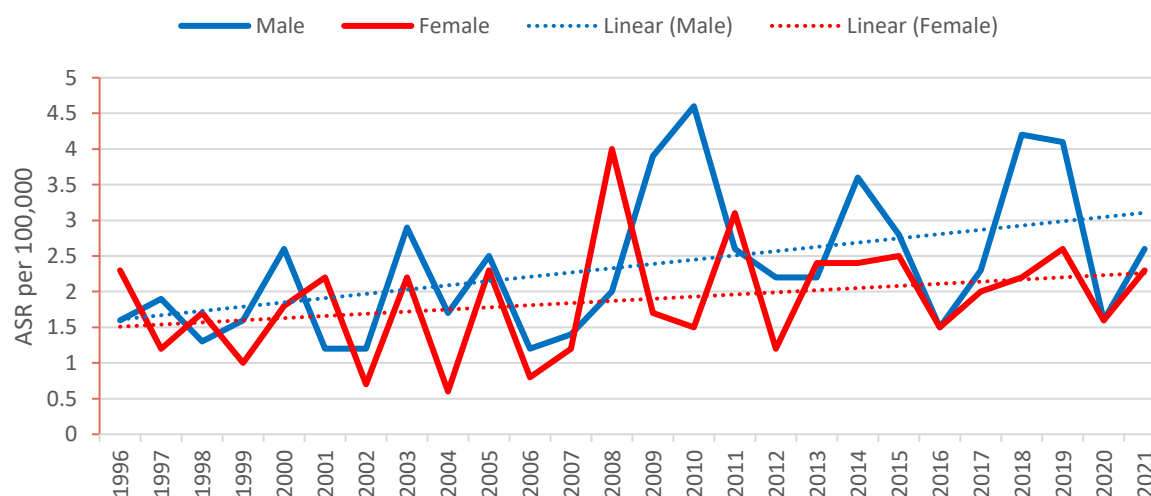
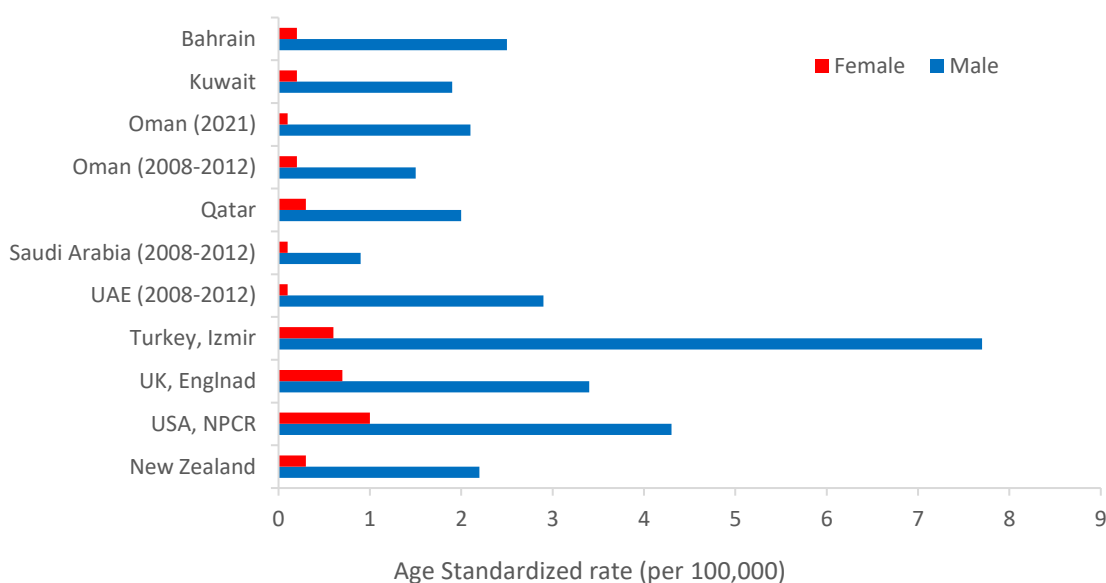




Table 31: Gender Distribution of Laryngeal Cancer

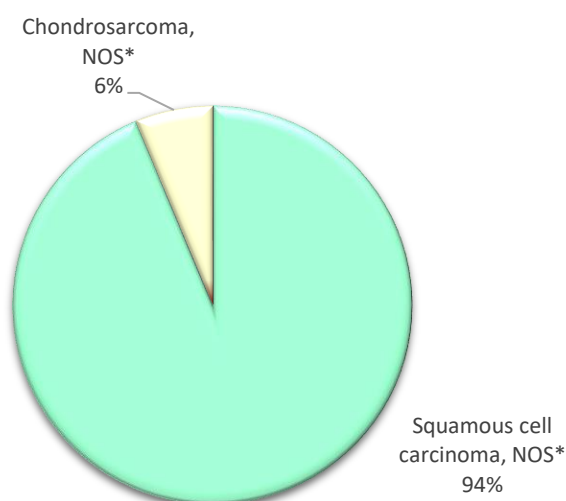
Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Male	14	1	2.1
Female	1	0.1	0.1
Total	15		
Chondrosarcoma	1		

Figure 48 :Age-standardized incidence rates of Laryngeal Cancer in Oman and some selected countries



Note: Data of GCC countries are from 2008-2012; data of New Zealand, UK (England), Turkey (Izmir) are from 2003-2007, For USA –NPCR (National Program of Cancer Registries) from 2003-2007 was used.

Figure 49: Morphology of Laryngeal Cancer



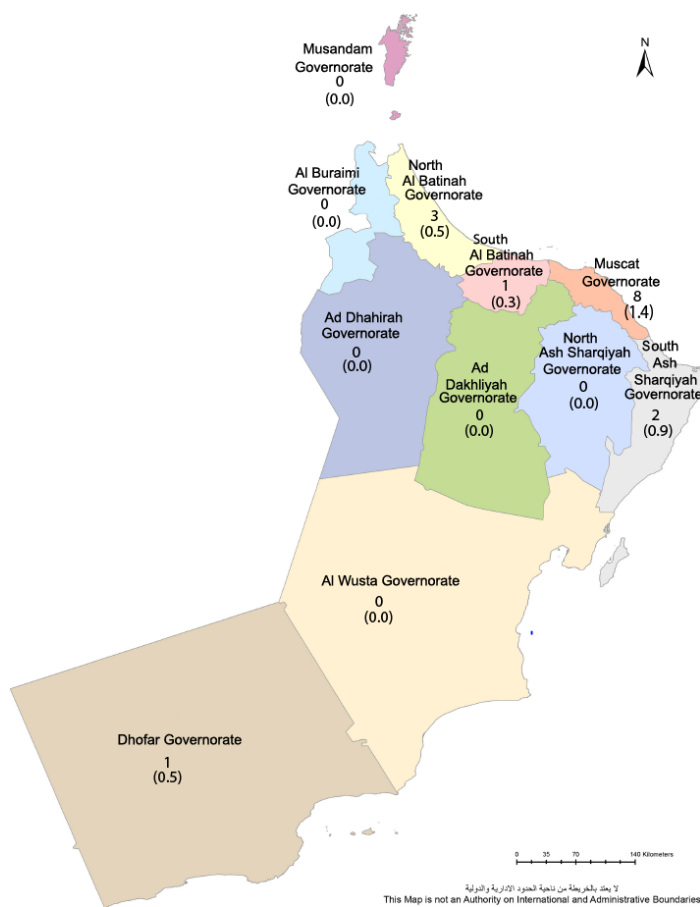
*Not otherwise specified



Figure 50: *Incidence of Laryngeal Cancer by Governorates

(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	8	1.4
North Al - Batinah	3	0.5
Ad - Dakhliyah	0	0.0
South Al - Batinah	1	0.3
Dhofar	1	0.5
South Ash - Sharqiah	2	0.9
North Ash - Sharqiyah	0	0.0
Adh - Dhahirah	0	0.0
Buraymi	0	0.0
Musandam	0	0.0
Al - Wusta	0	0.0
Unknown	1	
Total	16	



Total include chondrosarcoma

Unknown 1

Time Trend of Laryngeal Cancer 1996-2021

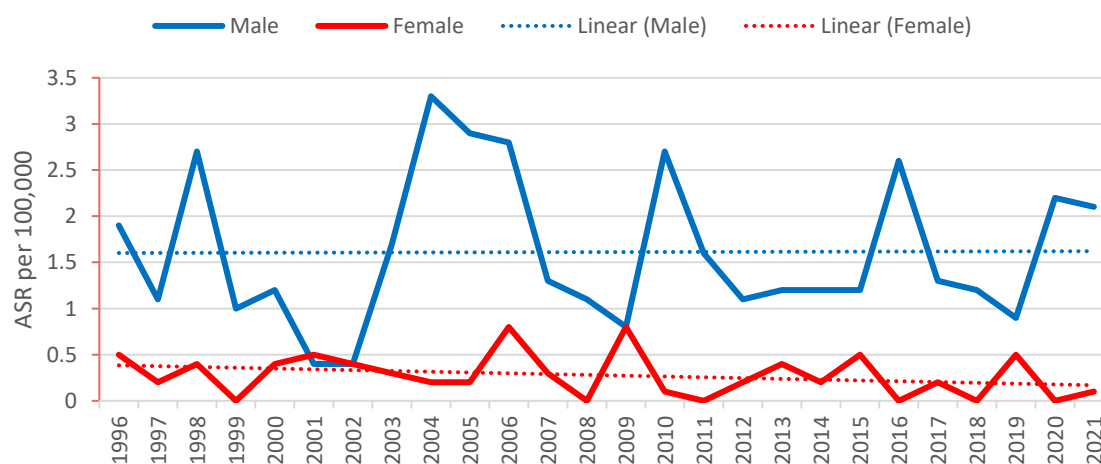
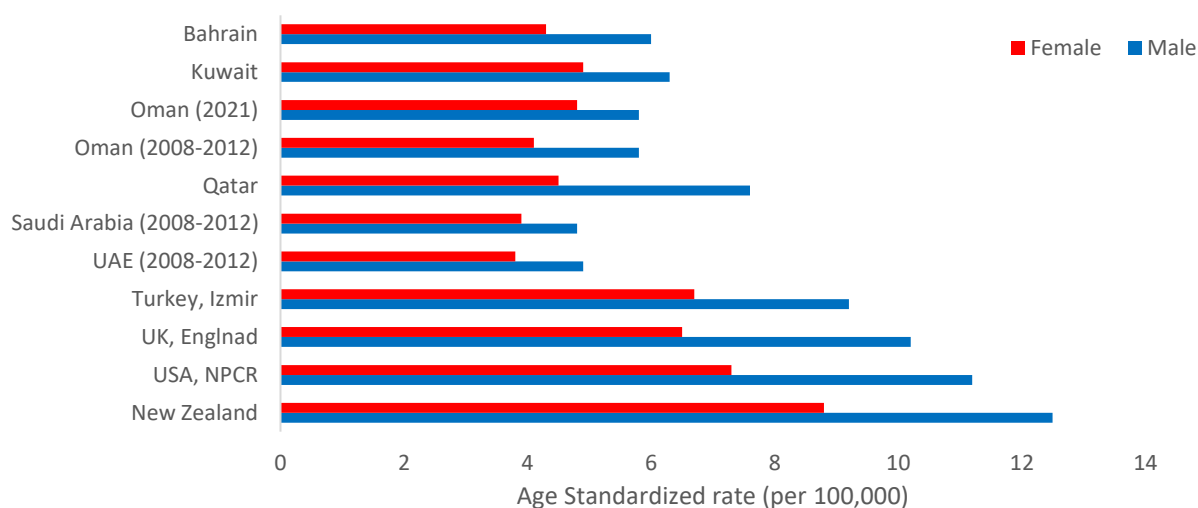




Table 32: Gender Distribution of Leukemia

Gender	Frequency	Crude Incidence rate	Age- Standardized incidence rate
Male	65	4.6	5.8
Female	59	4.2	4.8
Total	124		

Figure 51: Age-standardized incidence rates of Leukemia in Oman and some selected countries



Note: Data of GCC countries are from 2013 -2017 data of New Zealand, UK (England), Turkey Izmir) are from 2008-2012 For USA –NPCR (National Program of Cancer Registries from 2003-2007 was used

Figure 52: Morphology of Leukemia

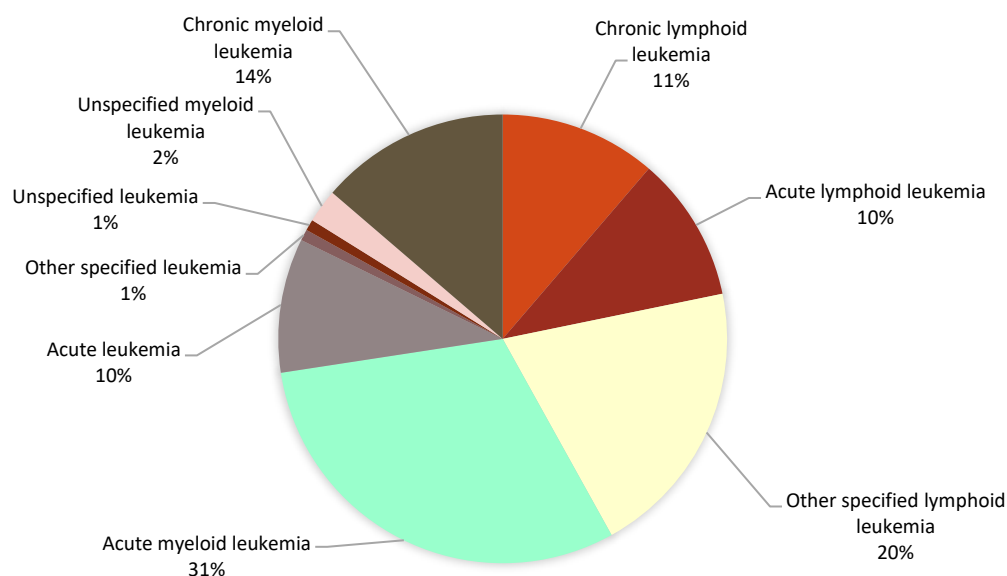


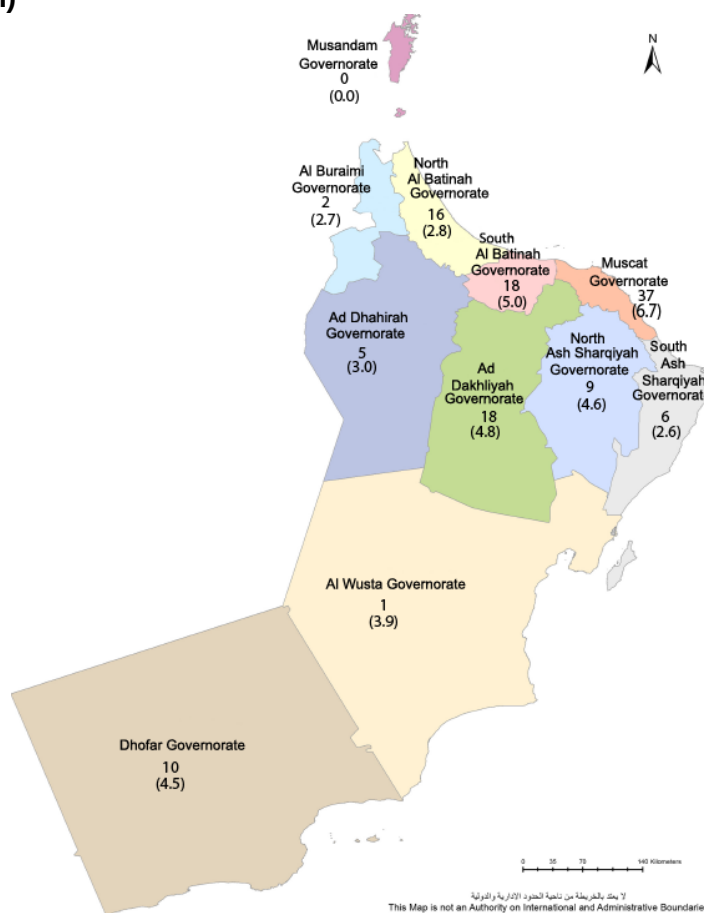


Figure 53 : Incidence of Leukemia by Governorates

(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	37	6.7
North Al - Batinah	16	2.8
Ad - Dakhliyah	18	4.8
South Al - Batinah	18	5.0
Dhofar	10	4.5
South Ash - Sharqiah	6	2.6
North Ash - Sharqiyah	9	4.6
Adh - Dhahirah	5	3.0
Buraymi	2	2.7
Musandam	0	0.0
Al - Wusta	1	3.9
Unknown	2	
Total	124	

Unknown 2



Time Trend of Oman ASR of Leukemia Cancer 1996-2021

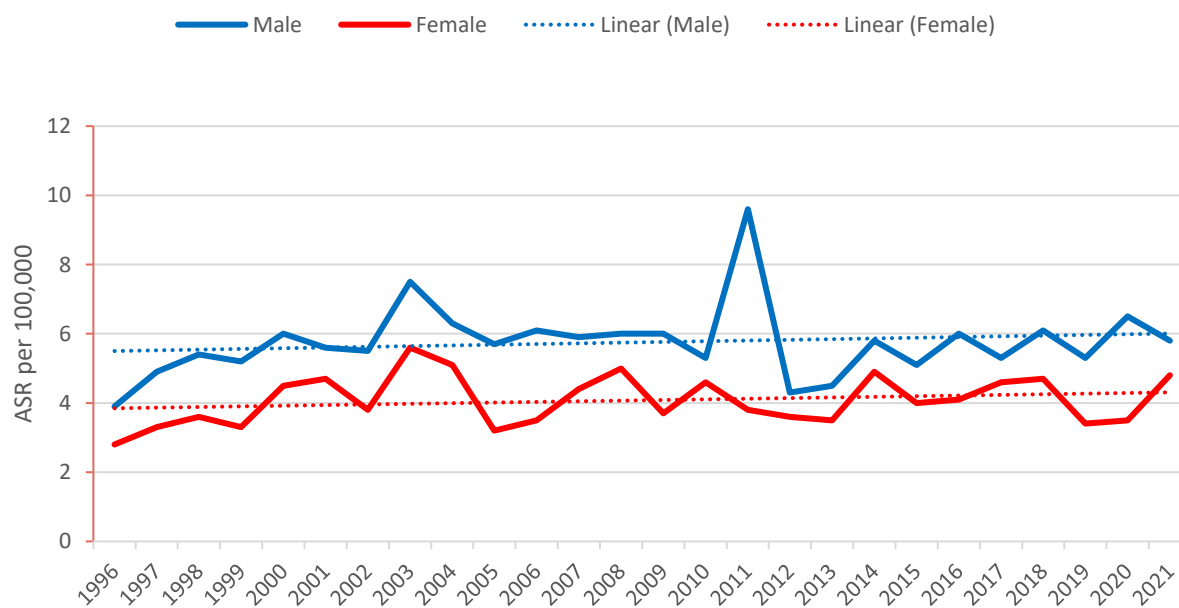
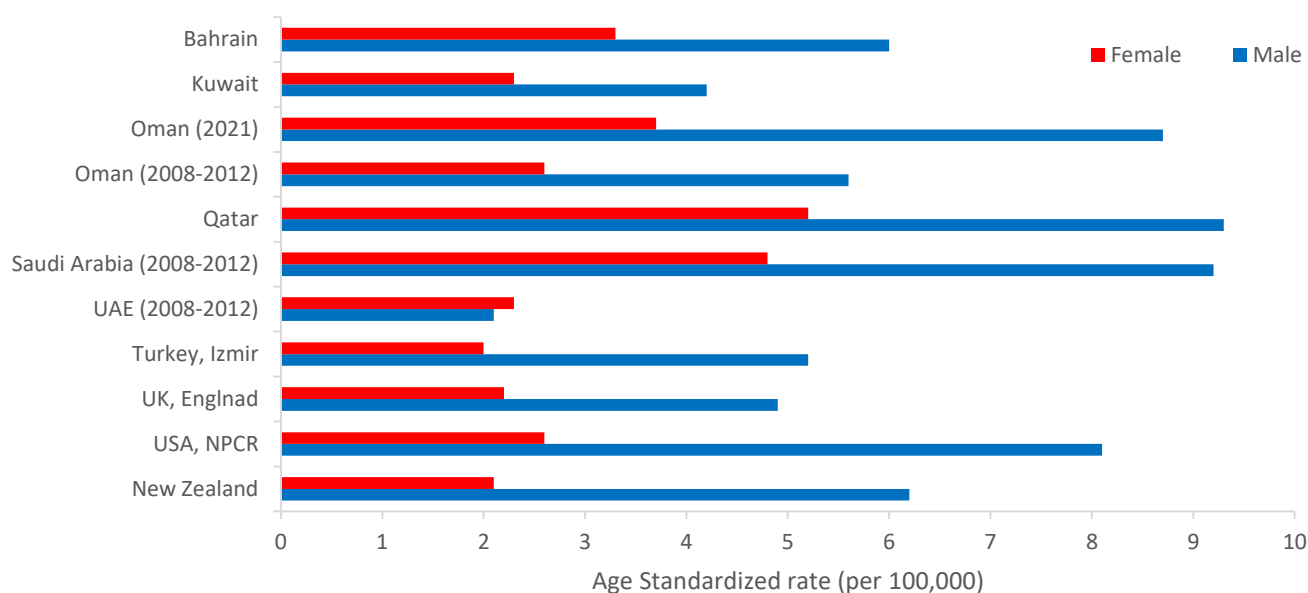




Table 33: Gender Distribution of Liver Cancer

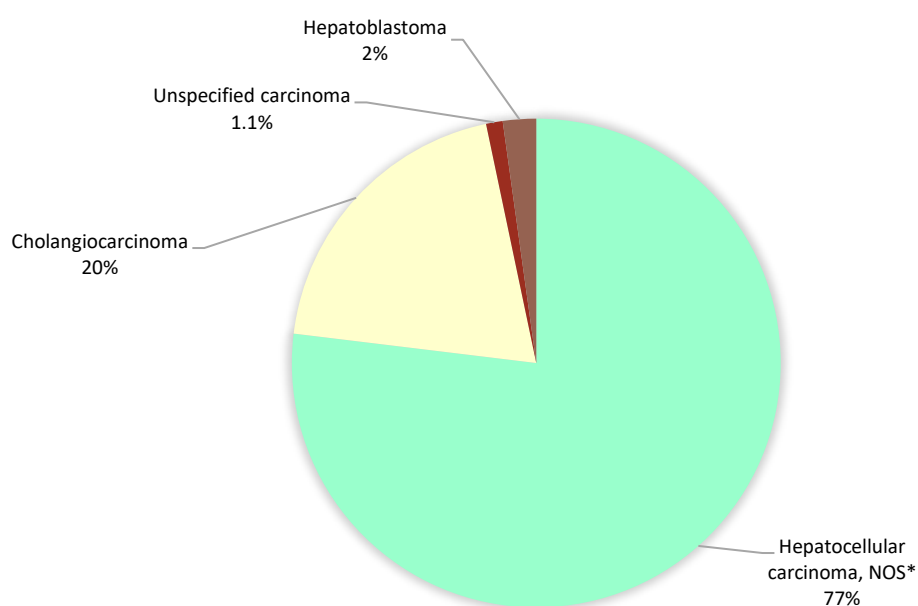
Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Male	60	4.2	8.7
Female	31	2.2	3.7
Total	91		

Figure 54: Age-standardized incidence rates of cancer of liver in Oman and some selected countries



Note: Data of GCC countries are from 2013-2017 data of New Zealand, UK ; England Turkey (Izmir) are from) 2008- 2012 For USA –NPCR (National Program of Cancer Registries from 2008-2012 .was used

Figure 55 : Morphology of Liver Cancer



*Not otherwise specified

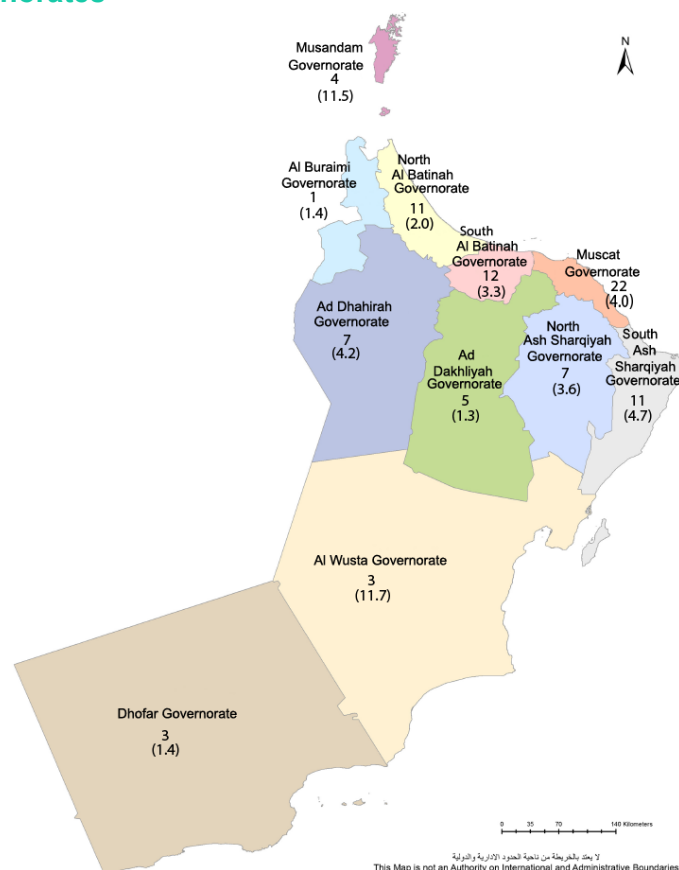


Figure 56: Incidence of Liver Cancer by Governorates

(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	22	4.0
North Al - Batinah	11	2.0
Ad - Dakhliyah	5	1.3
South Al - Batinah	12	3.3
Dhofar	3	1.4
South Ash - Sharqiah	11	4.7
North Ash - Sharqiah	7	3.6
Adh - Dhahirah	7	4.2
Buraymi	1	1.4
Musandam	4	11.5
Al - Wusta	3	11.7
Unknown	5	
Total	91	

Unknown 5



Time Trend of Oman ASR of Liver Cancer 1996-2021

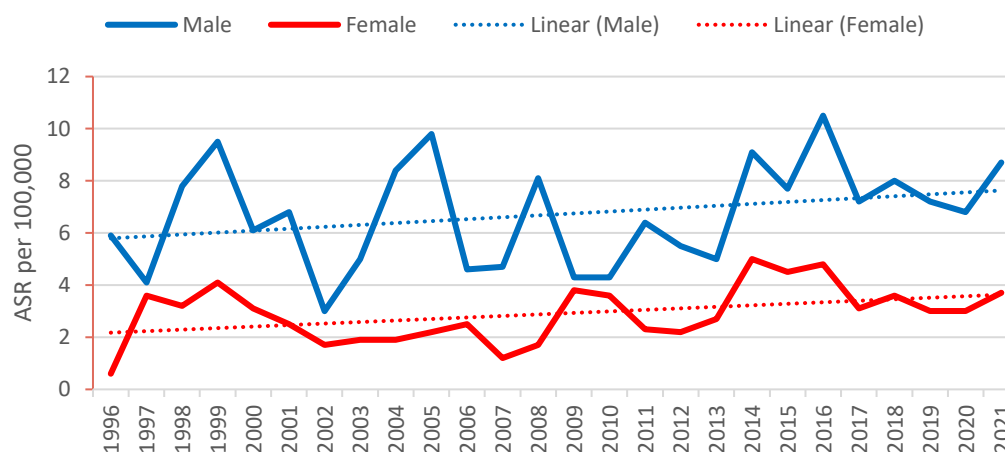
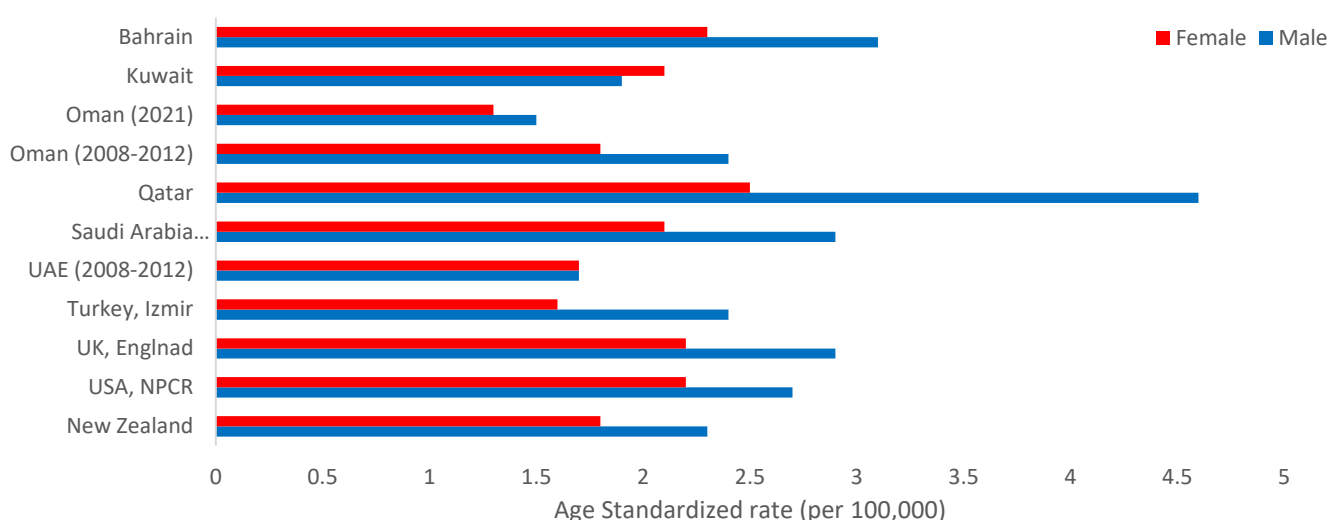




Table 34: Gender Distribution of lymphomas

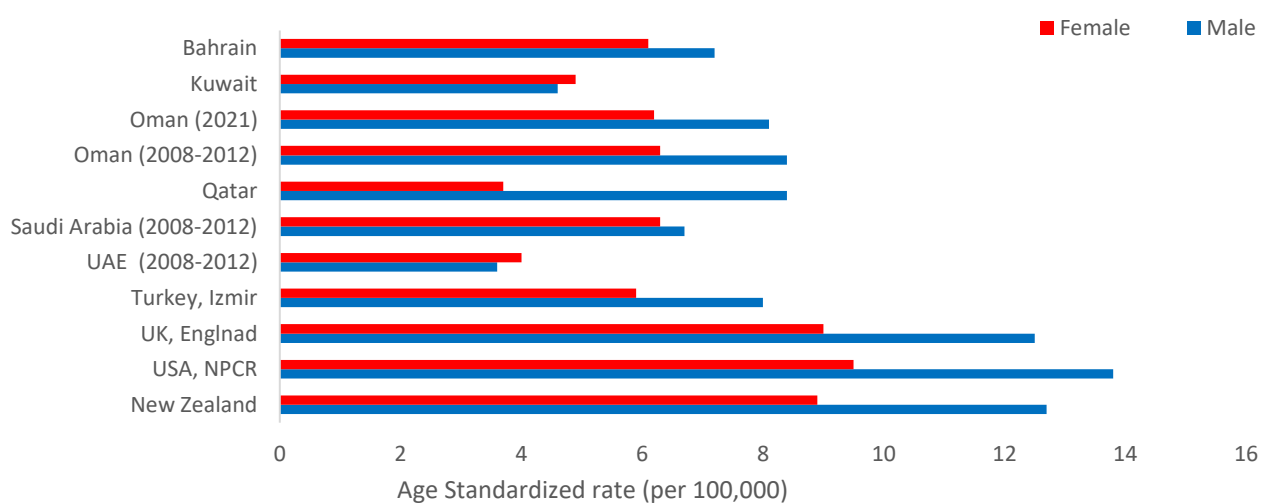
Gender	Hodgkin Lymphoma			Non-Hodgkin Lymphoma		
	Frequency	Crude Incidence rate	ASR	Frequency	Crude Incidence rate	ASR
Male	20	1.4	1.5	79	5.6	8.1
Female	16	1.1	1.3	66	4.7	6.2
Total	36			145		

Figure 57: Age-standardized incidence rates of Hodgkin Lymphoma in Oman and some selected countries



Note: Data of GCC countries are from 2008-2012; data of New Zealand, UK England Turkey Izmir are from 2003-2007, For USA –NPCR (National Program of Cancer Registries from 2003-2007 was used

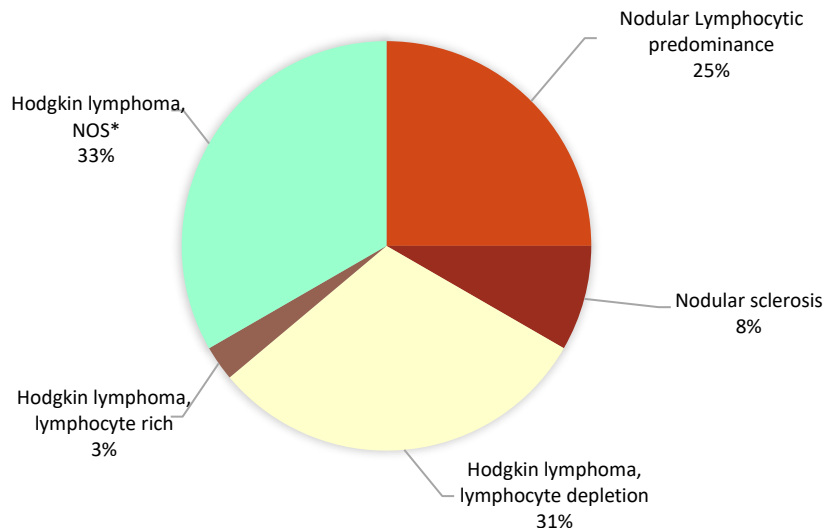
Figure 58: Age-standardized incidence rates of Non-Hodgkin Lymphoma in Oman and some selected countries



Note: Data of GCC countries are from 2013 – 2017 data of New Zealand, UK England Turkey Izmir are from ,2008-2012 8 For USA –NPCR , - National Program of Cancer Registries from 2008-2012 was used

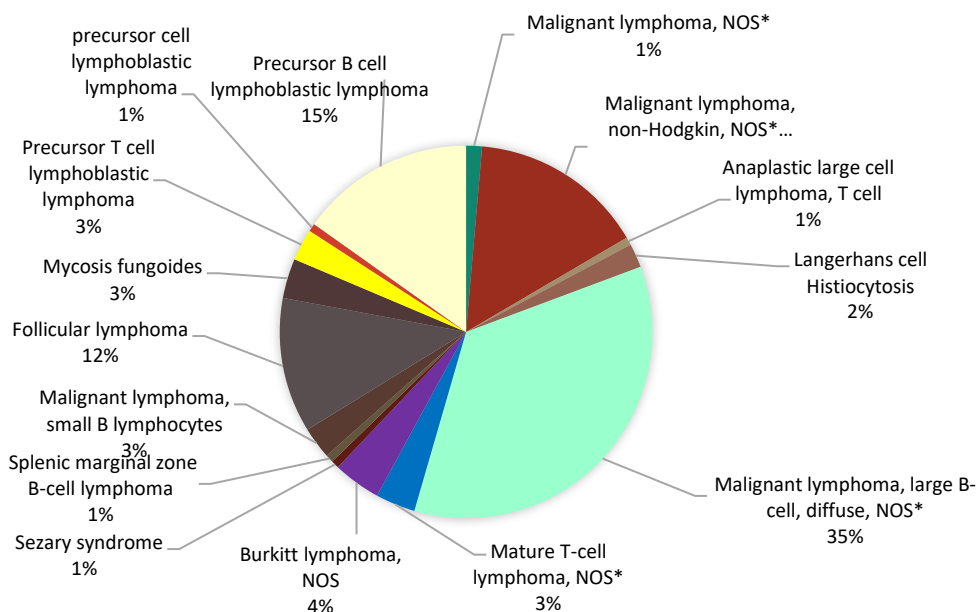


Figure 59: Morphology of Hodgkin Lymphoma



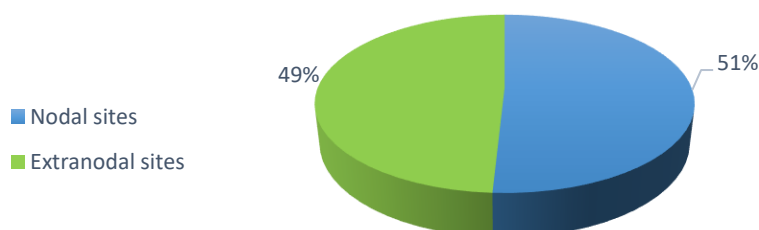
*Not otherwise specified

Figure 60: Morphology of Non-Hodgkin Lymphoma



*Not otherwise specified

Figure 61: Distribution of Non-Hodgkin Lymphoma sites



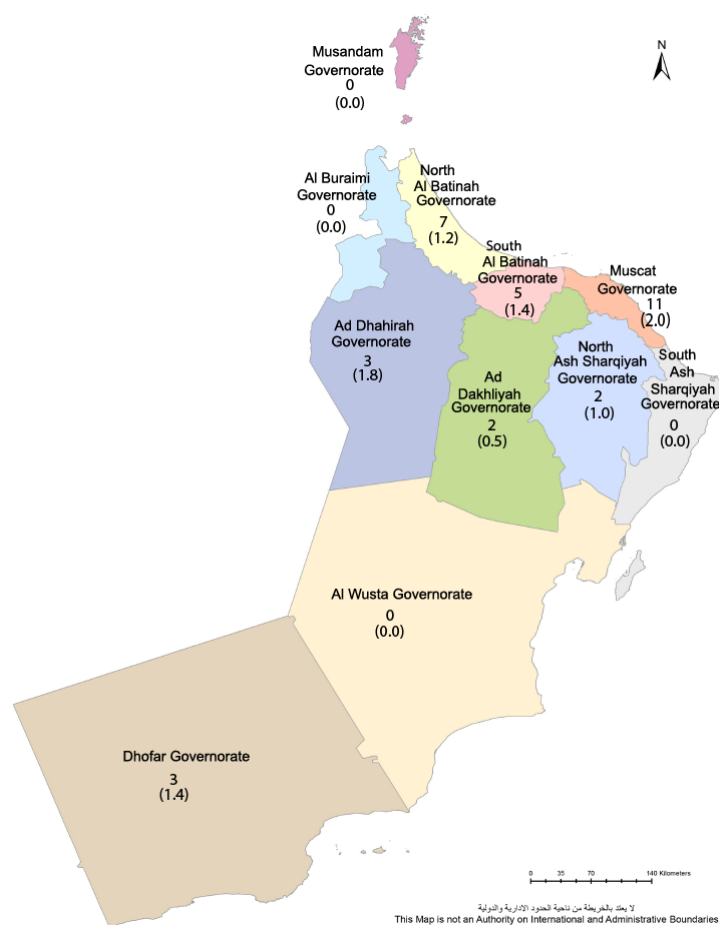
*Extranodal site includes: Stomach, Rectum, Bone marrow, Tonsils , Tongue, Breast, Bladder, Skin , Small intestine



Figure 62: Incidence of Hodgkin Lymphoma by Governorates

(Incidence rate are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	11	2.0
North Al - Batinah	7	1.2
Ad - Dakhliyah	2	0.5
South Al - Batinah	5	1.4
Dhofar	3	1.4
South Ash - Sharqiah	0	0.0
North Ash - Sharqiah	2	1.0
Adh - Dhahirah	3	1.8
Buraymi	0	0.0
Musandam	0	0.0
Al - Wusta	0	0.0
Unknown	3	
Total	36	



Time Trend of Oman ASR of Hodgkins Lymphoma Cancer 1996-2021

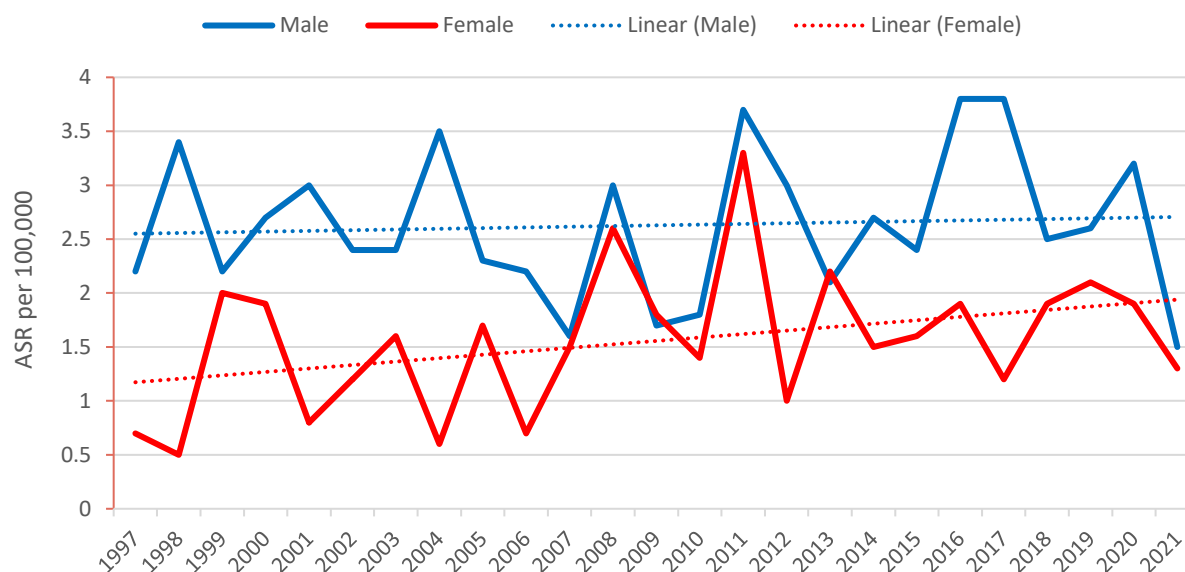


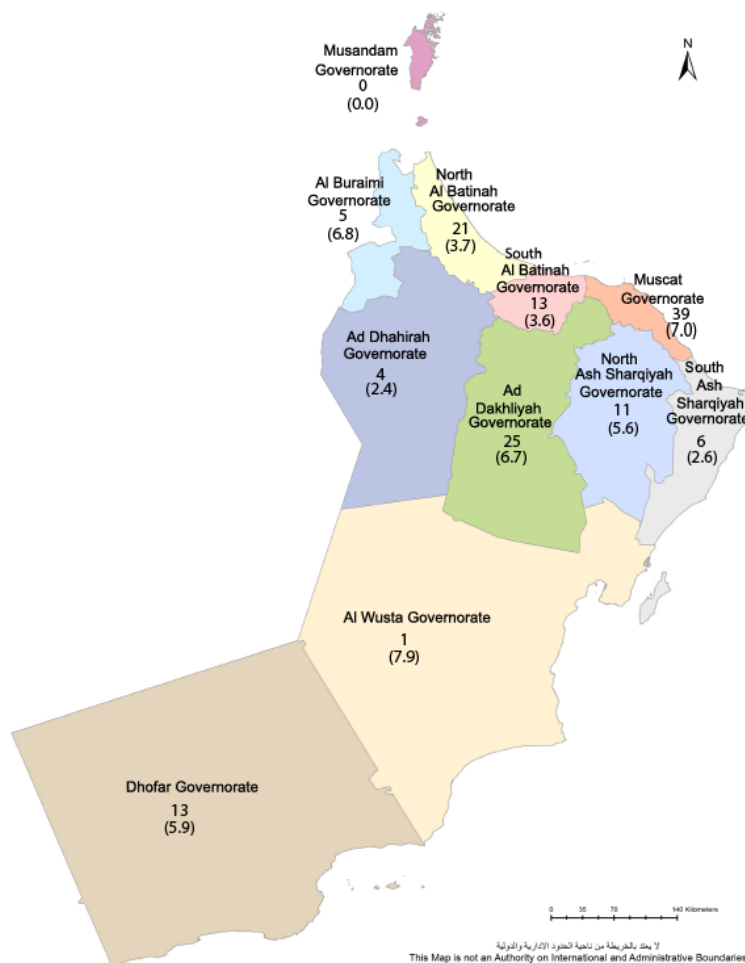


Figure 63: Incidence of Non-Hodgkin Lymphoma by Governorates

(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	39	7.0
North Al - Batinah	21	3.7
Ad - Dakhliyah	25	6.7
South Al - Batinah	13	3.6
Dhofar	13	5.9
South Ash - Sharqiah	6	2.6
North Ash - Sharqiah	11	5.6
Adh - Dhahirah	4	2.4
Buraymi	5	6.8
Musandam	0	0.0
Al - Wusta	1	3.9
Unknown	7	
Total	145	

Unknown 7



Time Trend of Oman ASR of Non-Hodkins Lymphoma 1996-2021

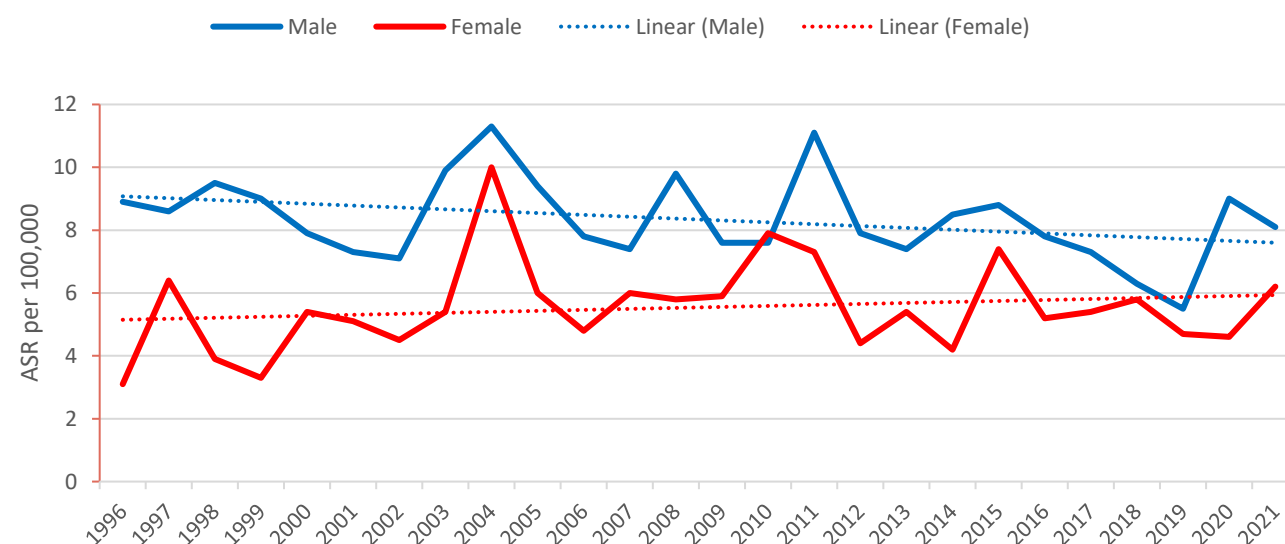
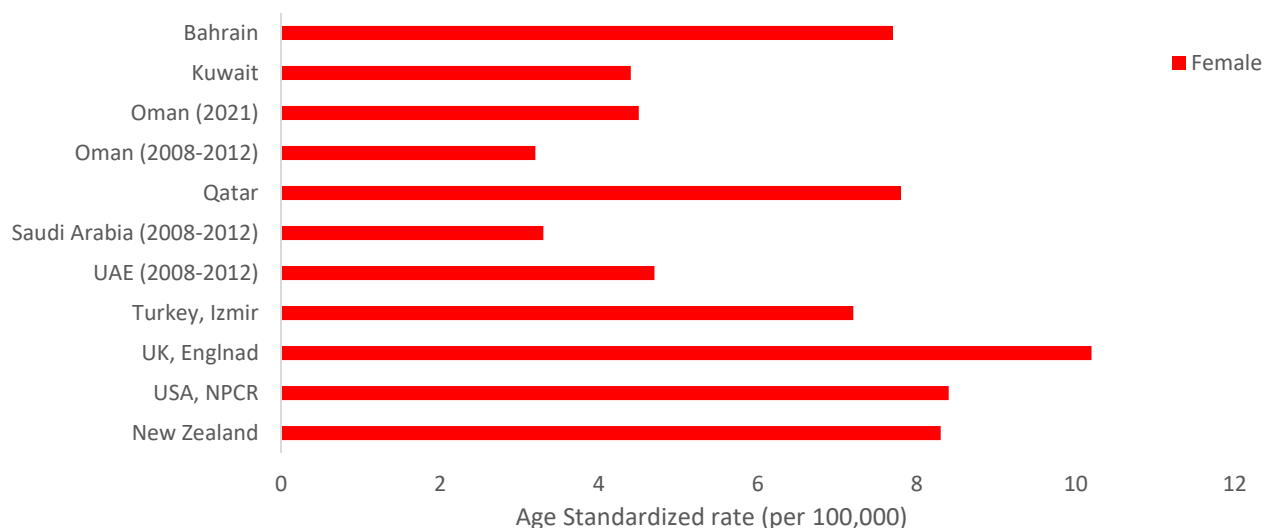




Table 35: Distribution of Ovarian Cancer

Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Female	43	3.1	4.5
Total	43		

Figure 64: Age-standardized incidence rates of Ovarian Cancer in Oman and some selected countries



Note: Data of GCC countries are from 2013-2017 data of New Zealand, UK (England), Turkey (Izmir) are from ;2012-2008-2012 For USA –NPCR (National -Program of Cancer Registries) from 2008-2012 was used

Figure 65: Morphology of Ovarian Cancer

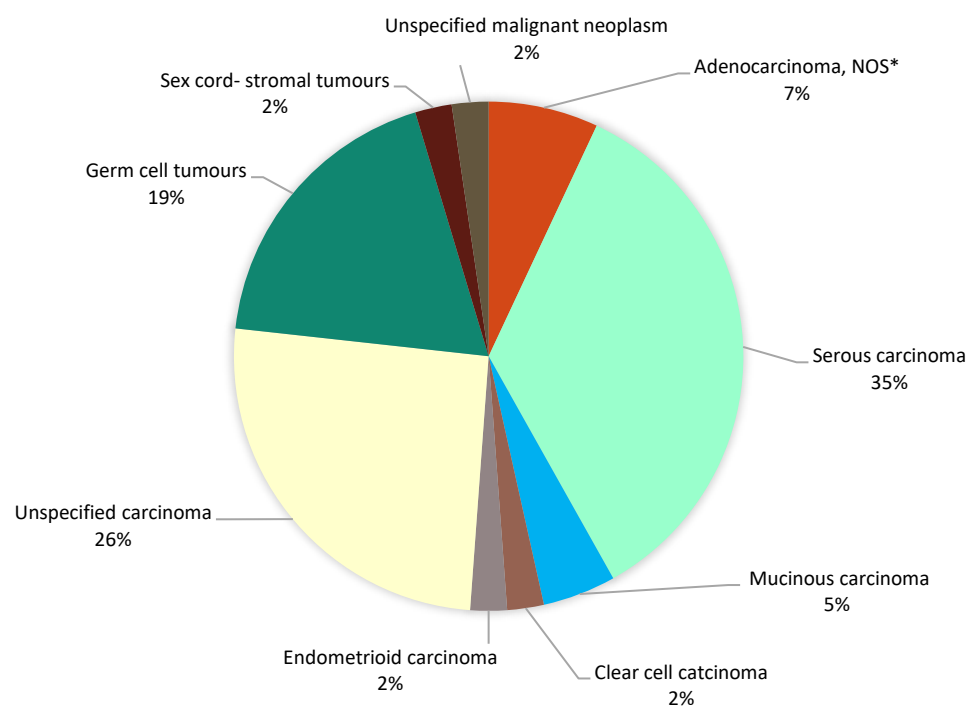
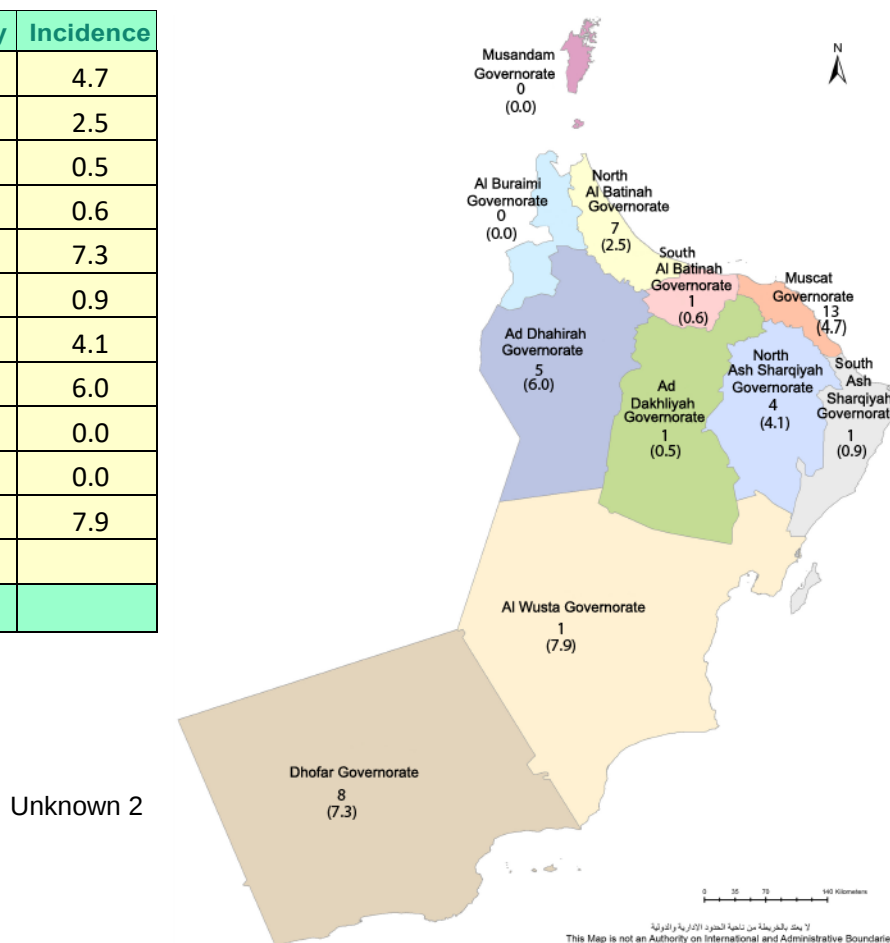




Figure 66: Incidence of Ovarian Cancer by Governorates

(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	13	4.7
North Al - Batinah	7	2.5
Ad - Dakhliyah	1	0.5
South Al - Batinah	1	0.6
Dhofar	8	7.3
South Ash - Sharqiah	1	0.9
North Ash - Sharqiah	4	4.1
Adh - Dhahirah	5	6.0
Buraymi	0	0.0
Musandam	0	0.0
Al - Wusta	1	7.9
Unknown	2	
Total	43	



Time Trend of Oman ASR of Ovarian Cancer 1996-2020

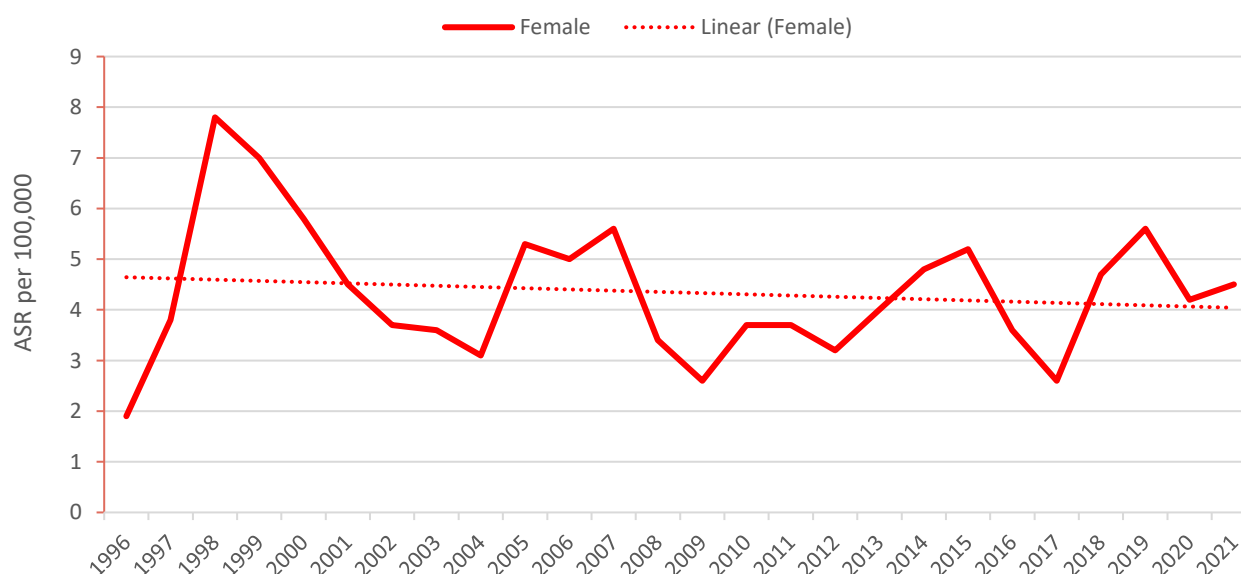
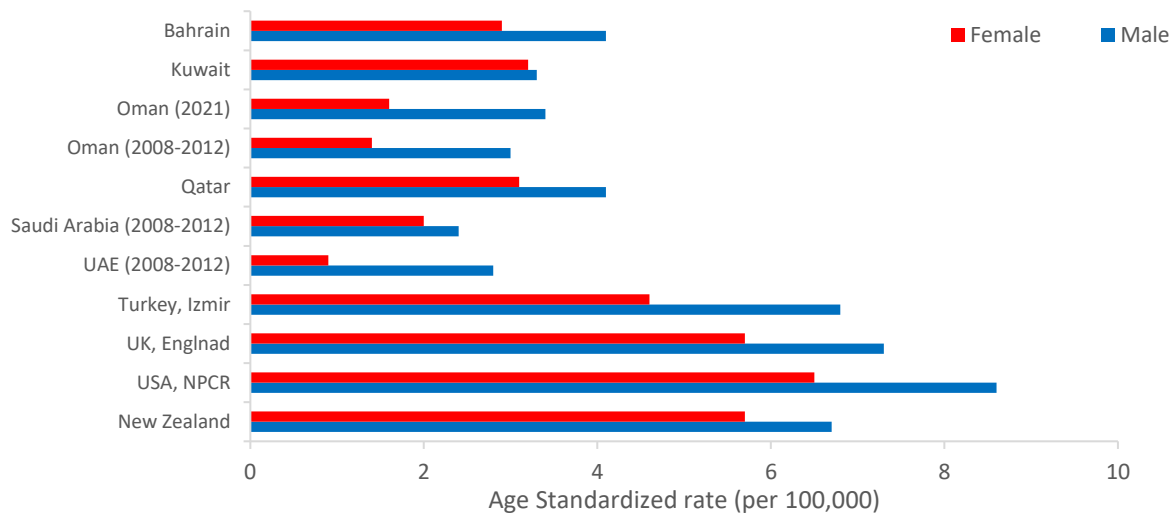




Table 36: Gender Distribution of Pancreatic Cancer

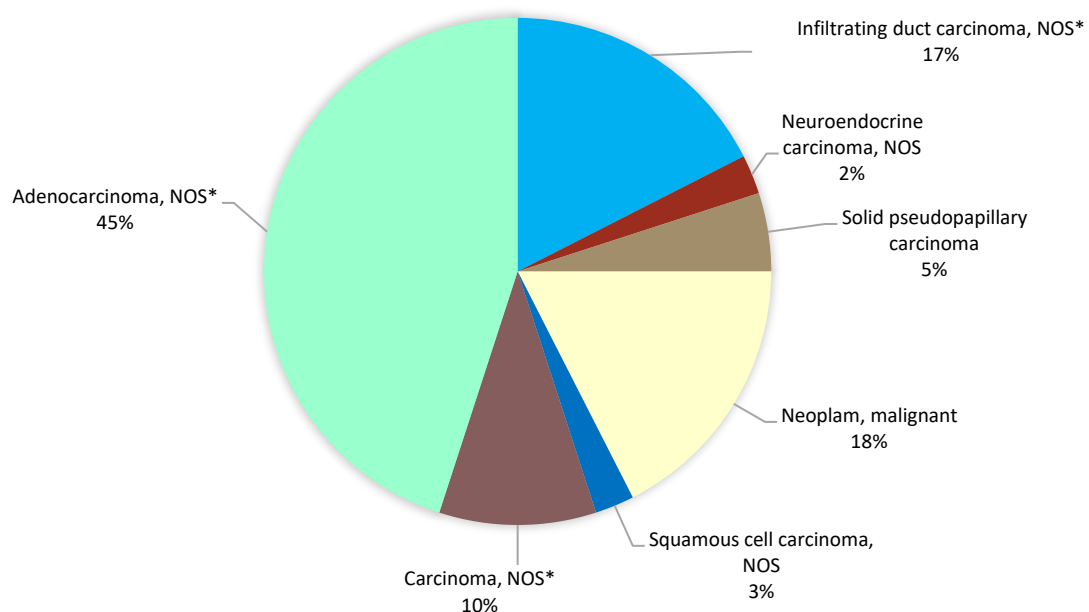
Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Male	25	1.8	3.4
Female	15	1.1	1.6
Total	40		

Figure 67 :Age-standardized incidence rates of Pancreatic Cancer in Oman and some selected countries



Note: Data of GCC countries are from 2013- 2017 - ; data of New Zealand, UK (England) , Turkey (Izmir) are from 2013- 2017 , For USA –(NPCR National Program of Cancer Registries from 2008 -2012 was used)

Figure 68: Morphology of Pancreatic Cancer



*Not otherwise specified

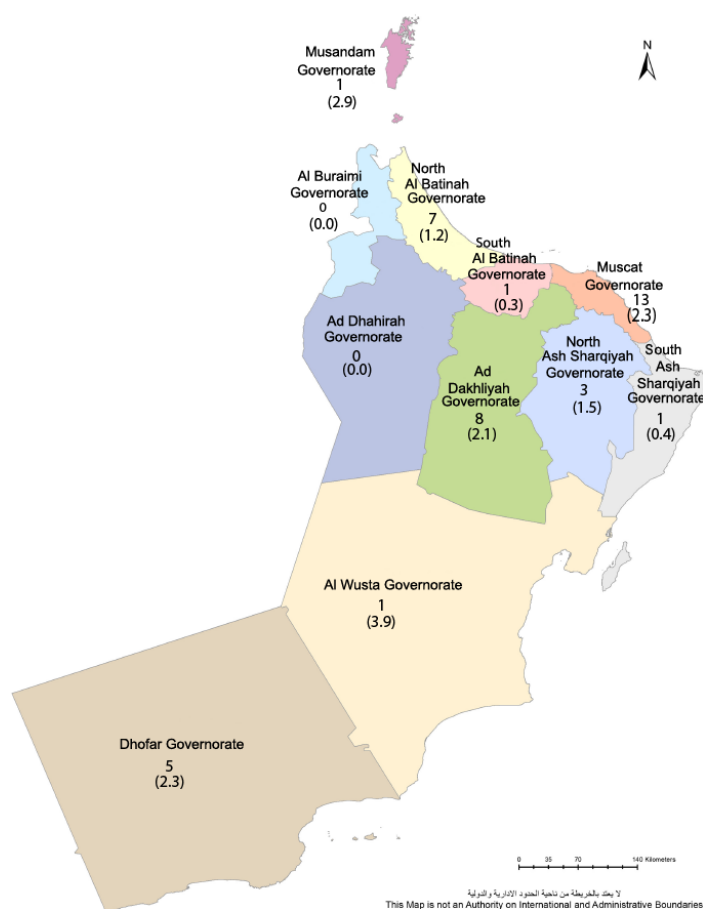


Figure 69 :Incidence of Pancreatic Cancer by Governorates

(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	13	2.3
North Al - Batinah	7	1.2
Ad - Dakhliyah	8	2.1
South Al - Batinah	1	0.3
Dhofar	5	2.3
South Ash - Sharqiah	1	0.4
North Ash - Sharqiah	3	1.5
Adh -Dhahirah	0	0.0
Buraymi	0	0.0
Musandam	1	2.9
Al - Wusta	1	3.9
Unknown	0	
Total	40	

Unknown 0



Time Trend of Oman ASR of Pancreatic Cancer 1996-2021

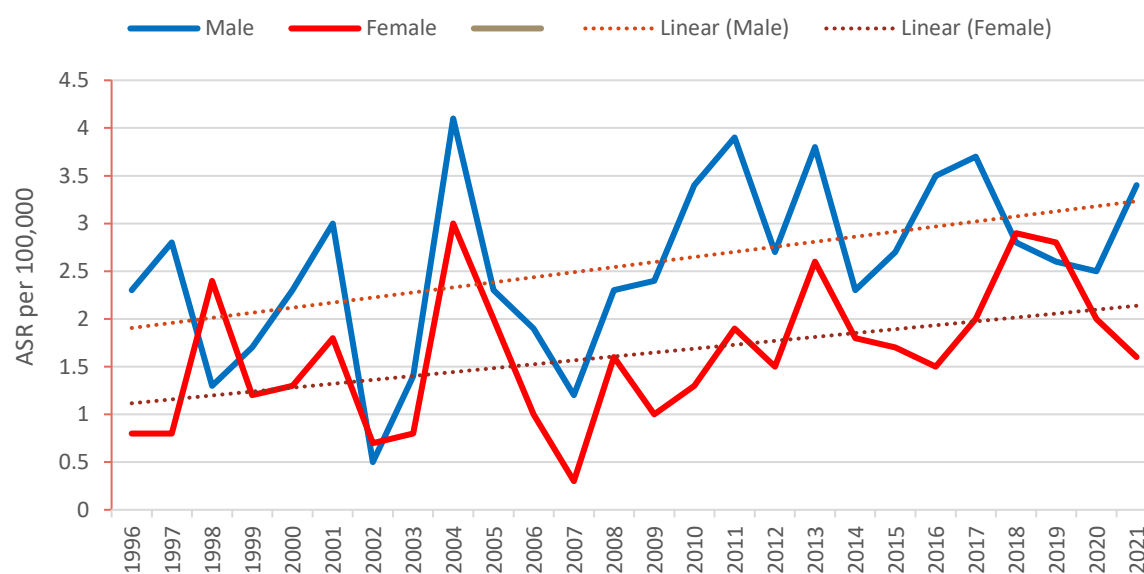
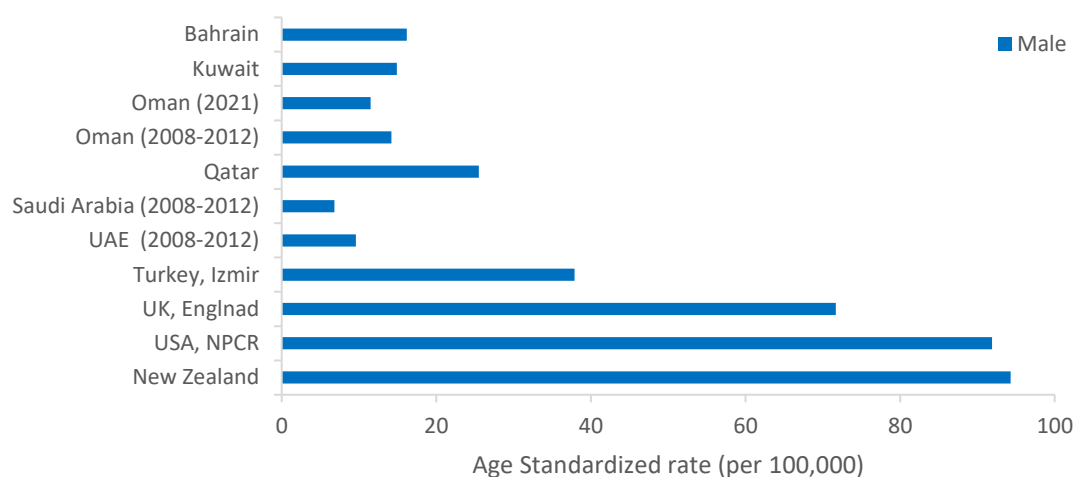




Table 37: Distribution of Prostate Cancer

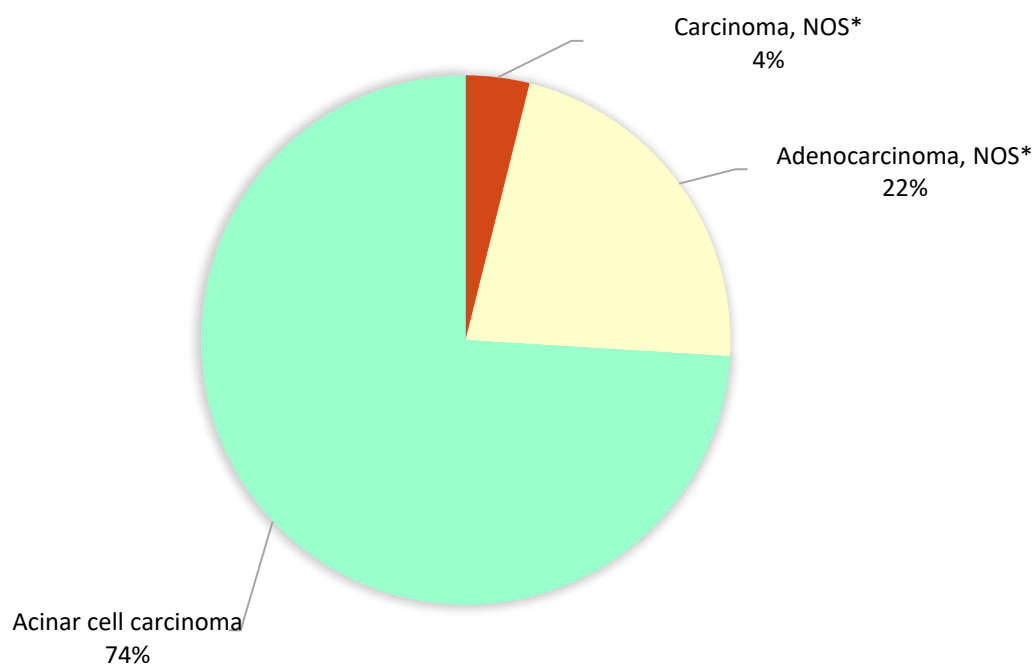
Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Male	77	5.5	11.5
Total	77		

Figure 70 :Age-standardized incidence rates of Prostate Cancer in Oman and some selected countries



Note: Data of GCC countries are from 2008-2012; data of New Zealand, UK (England), Turkey (Izmir) are from 2003-2007, For USA –NPCR (National Program of Cancer Registries) from 2003-2007 was used

Figure 71: Morphology of Prostate Cancer



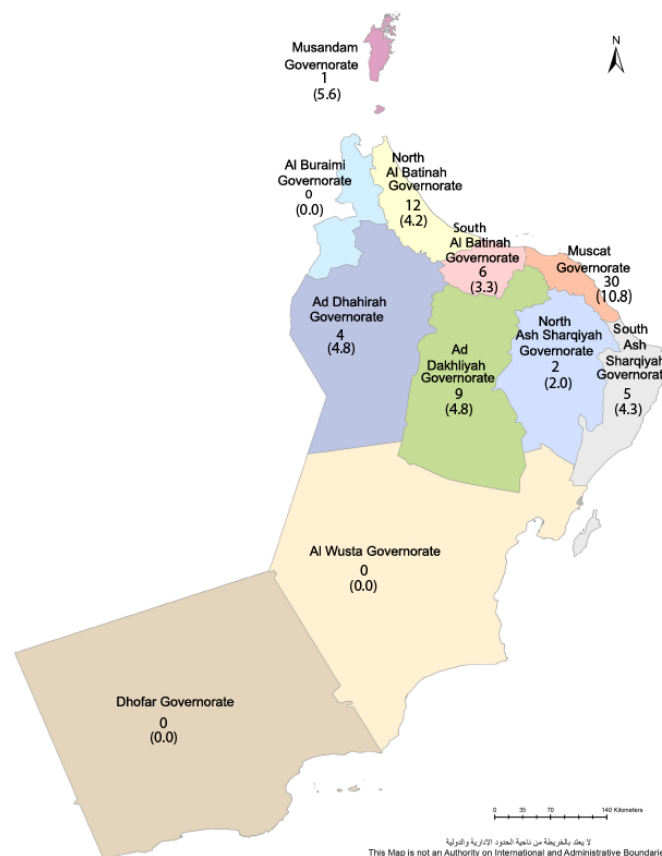
*Not otherwise specified



Figure 72: Incidence of Prostate Cancer by Governorates

(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	30	10.8
North Al - Batinah	12	4.2
Ad - Dakhliyah	9	4.8
South Al - Batinah	6	3.3
Dhofar	0	0.0
South Ash - Sharqiah	5	4.3
North Ash - Sharqiah	2	2.0
Adh -Dhahirah	4	4.8
Buraymi	0	0.0
Musandam	1	5.6
Al - Wusta	0	0.0
Unknown	8	
Total	77	



Time Trend of Oman ASR of Prostate Cancer 1996-2021

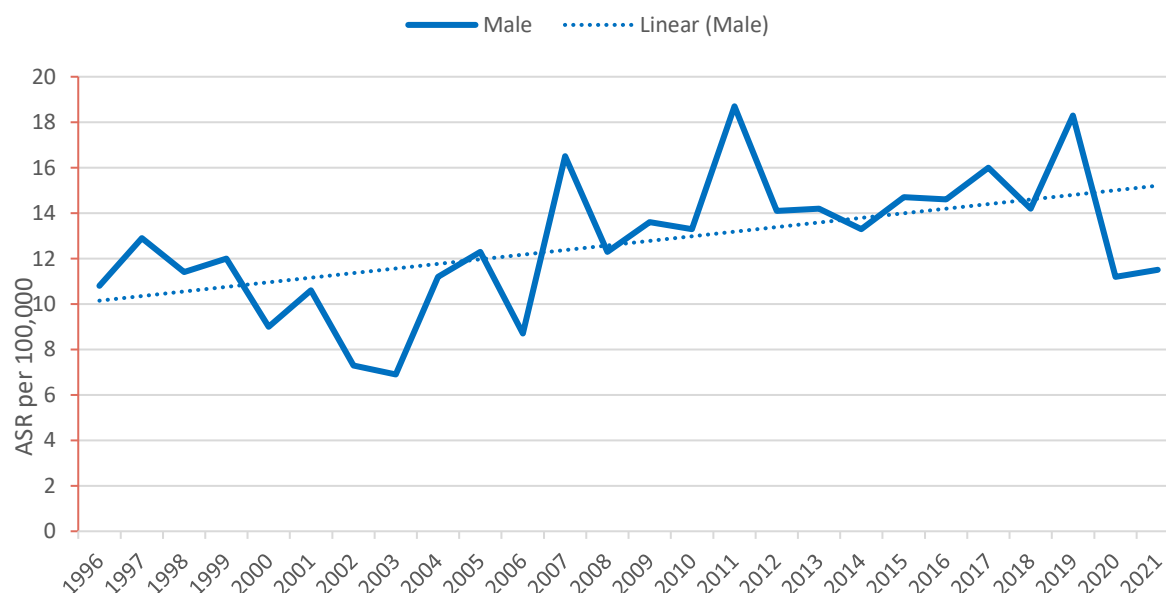
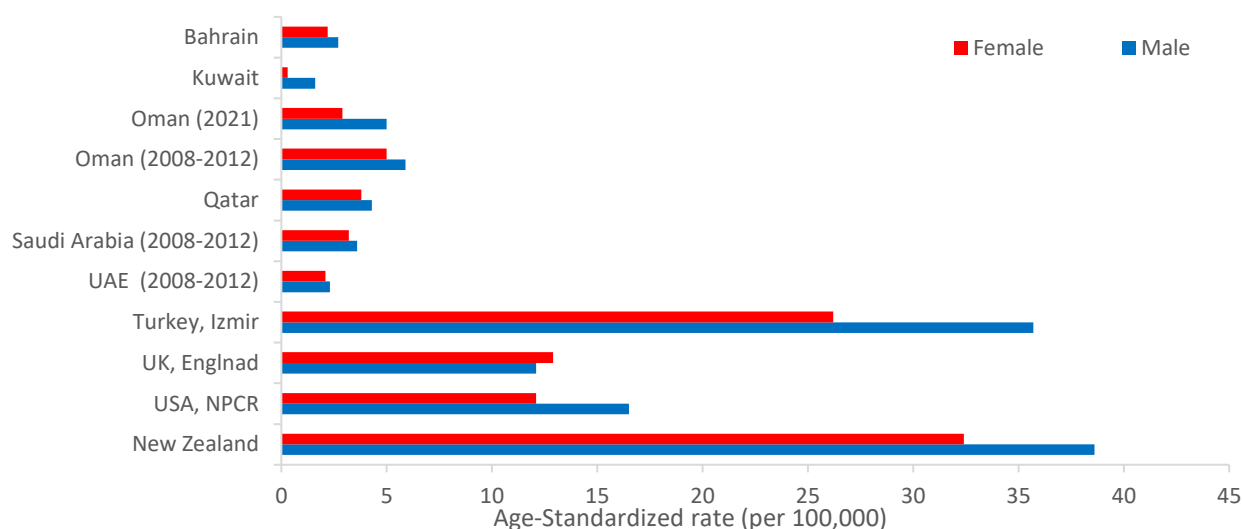




Table 38: Gender Distribution of Skin Cancer including Melanoma

Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Male	38	2.7	5
Female	28	2	2.9
Total	66		
Malignant lymphoma	1		

Figure 73: Age-standardized incidence rates of Skin Cancer in Oman and some selected countries



Note: Data of GCC countries are from 2013- 2017 data of New Zealand, UK (England), Turkey (Izmir) are from 2013-201, For USA –NPCR (National Program of Cancer Registries) from 2008- 2012

Figure 74 : Morphology of Skin Cancer

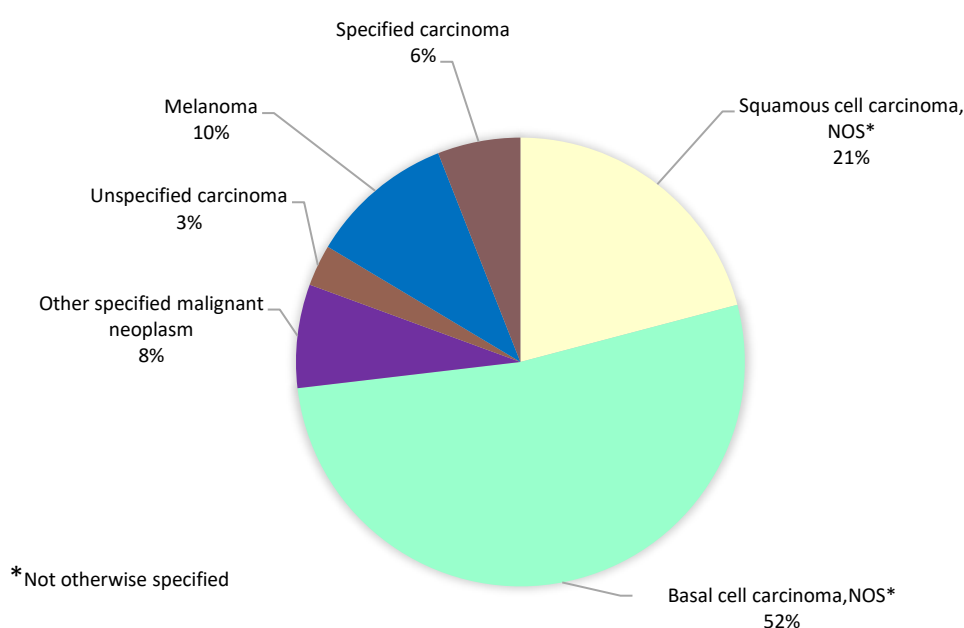




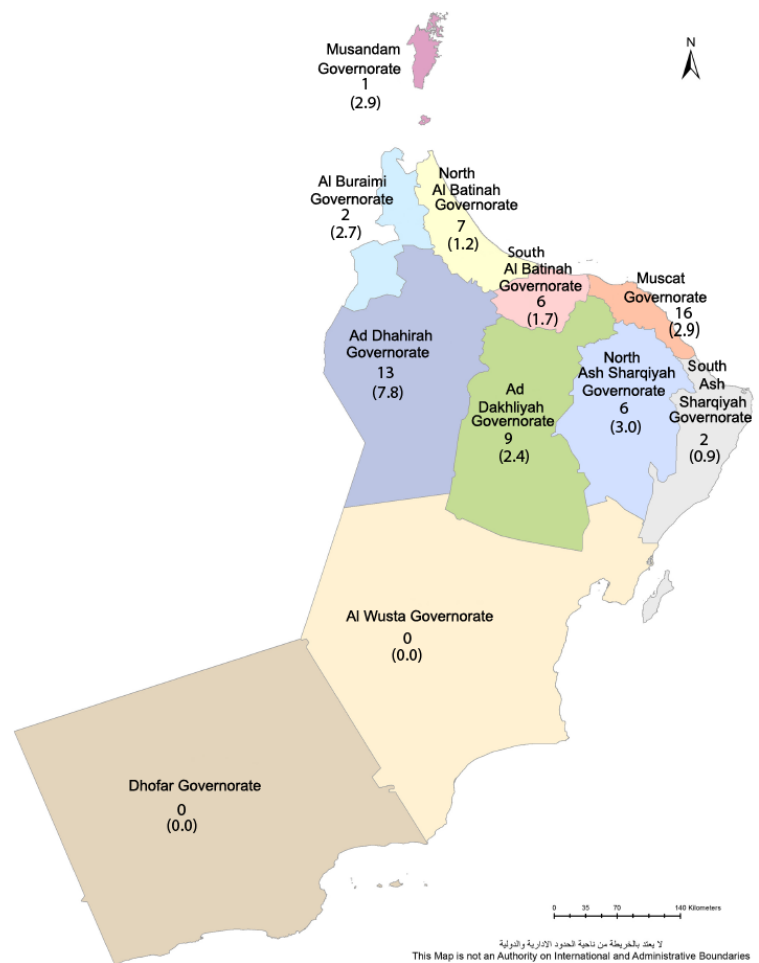
Figure 75: Incidence of Skin Cancer by Governorates

(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	16	2.9
North Al - Batinah	7	1.2
Ad - Dakhliyah	9	2.4
South Al - Batinah	6	1.7
Dhofar	0	0.0
South Ash - Sharqiah	2	0.9
North Ash - Sharqiah	6	3.0
Adh -Dhahirah	13	7.8
Buraymi	2	2.7
Musandam	1	2.9
Al - Wusta	0	0.0
Unknown	5	
Total	67	

* Total include Lymphoma

Unknown 5



Time Trend of Oman ASR of Skin Cancer 1996-2021

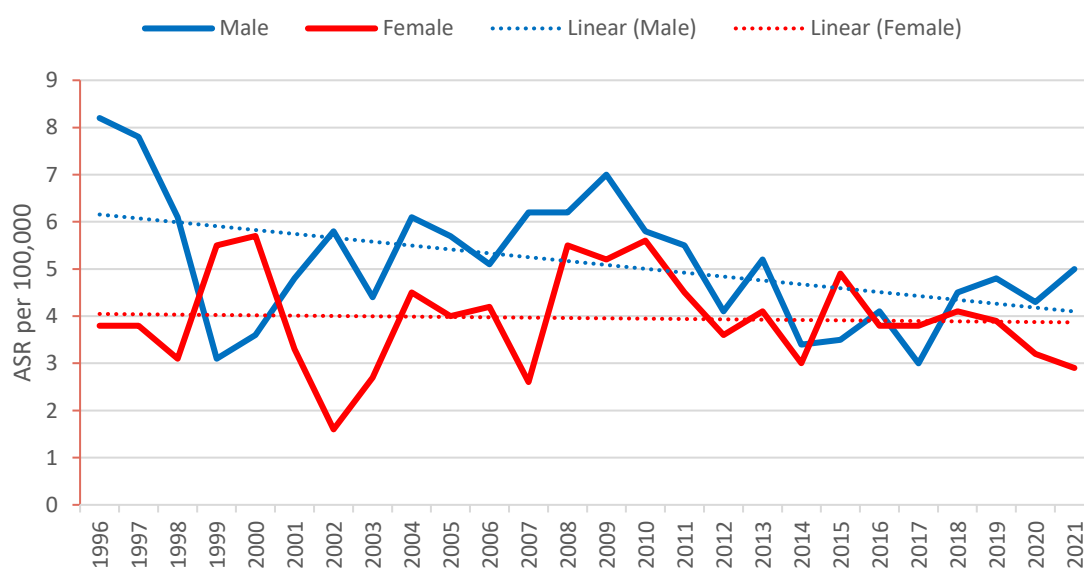
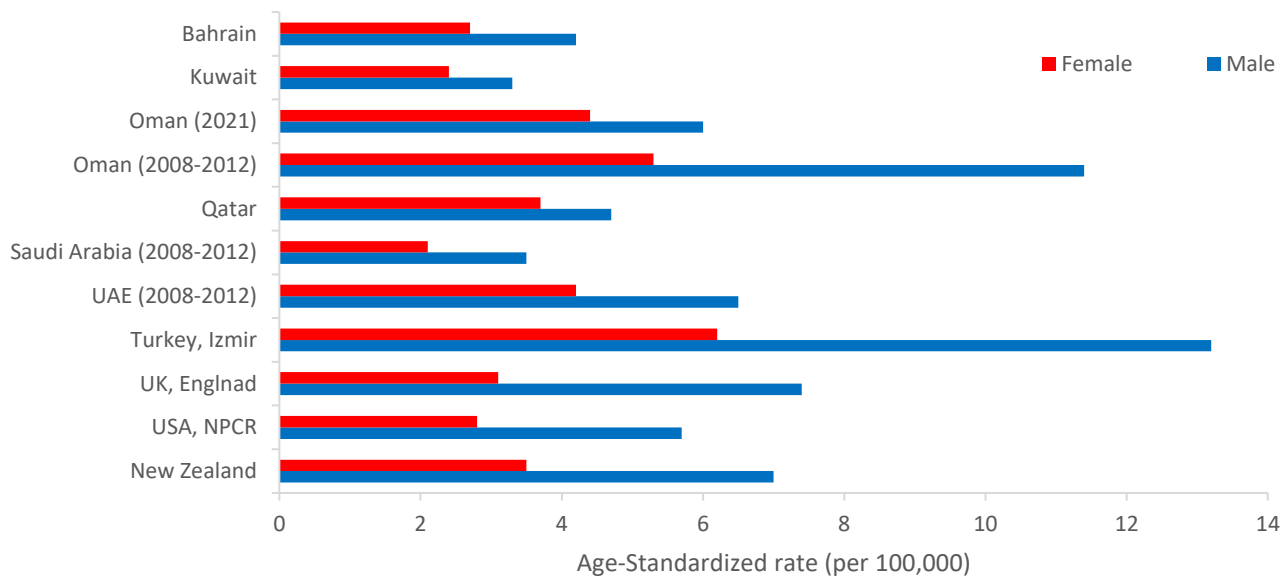




Table 39: Gender Distribution of Stomach Cancer

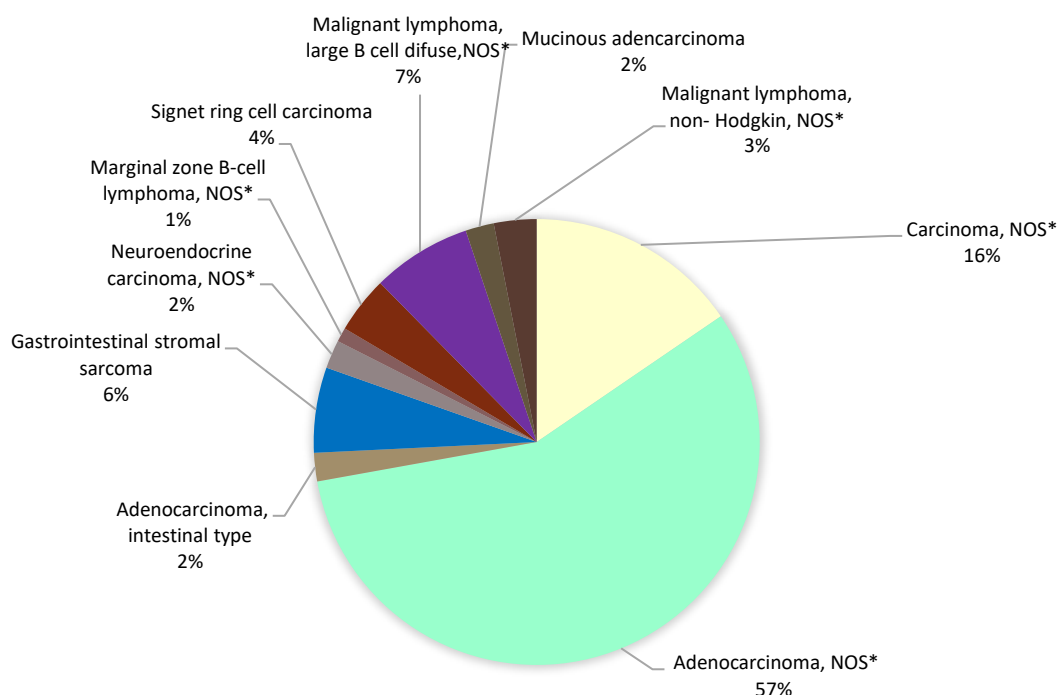
Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Male	48	3.4	6.0
Female	38	2.7	4.4
Total	86		
Malignant lymphoma	11		

Figure 76 : Age-standardized incidence rates of Stomach Cancer in Oman and some selected countries



Note: Data of GCC countries are from 2013-2017; data of New Zealand, UK, England, Turkey Izmir are from 2013-2017, For USA –NPCR (National Program of Cancer Registries) from 2008-2012

Figure 77: Morphology of Stomach Cancer



* Not otherwise specified



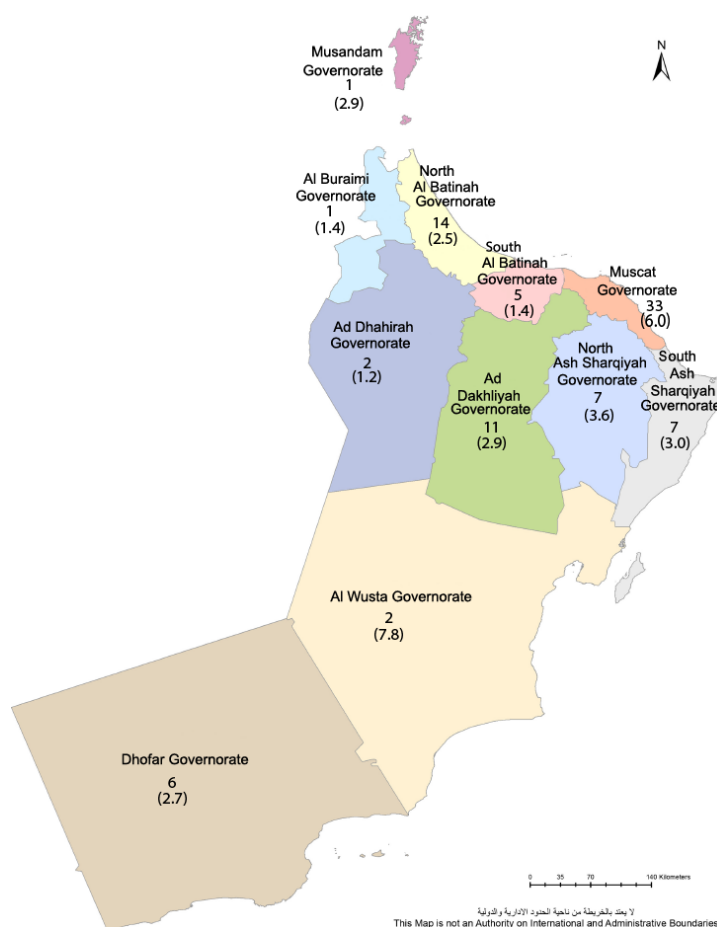
Figure 78 :Incidence of Stomach Cancer by Governorates

(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	33	6.0
North Al - Batinah	14	2.5
Ad - Dakhliyah	11	2.9
South Al - Batinah	5	1.4
Dhofar	6	2.7
South Ash - Sharqiah	7	3.0
North Ash - Sharqiah	7	3.6
Adh -Dhahirah	2	1.2
Buraymi	1	1.4
Musandam	1	2.9
Al - Wusta	2	7.8
Unknown	8	
Total	97	

Total include Lymphoma

Unknown 8



Time Trend of Oman ASR of Stomach Cancer 1996-2021

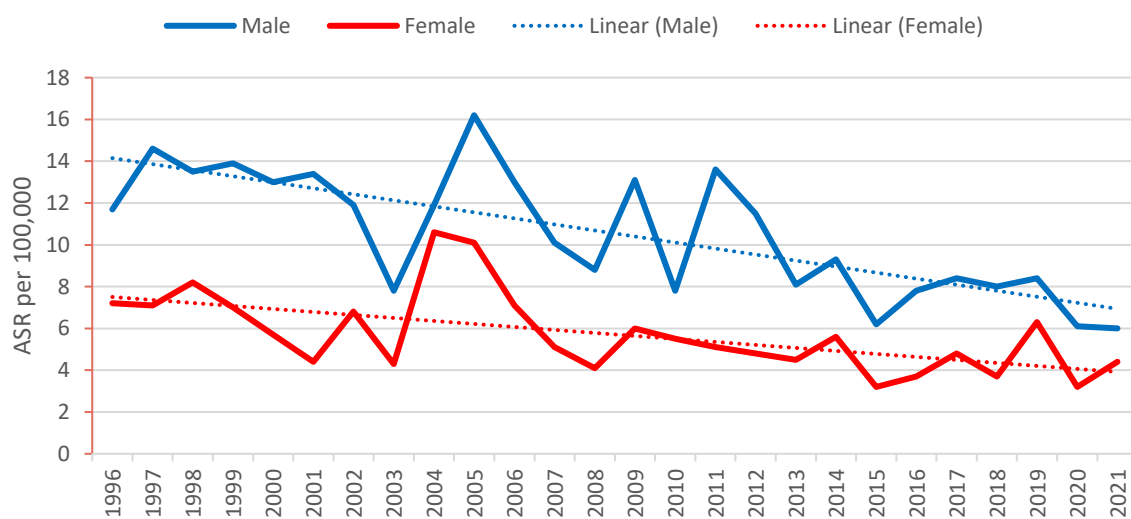
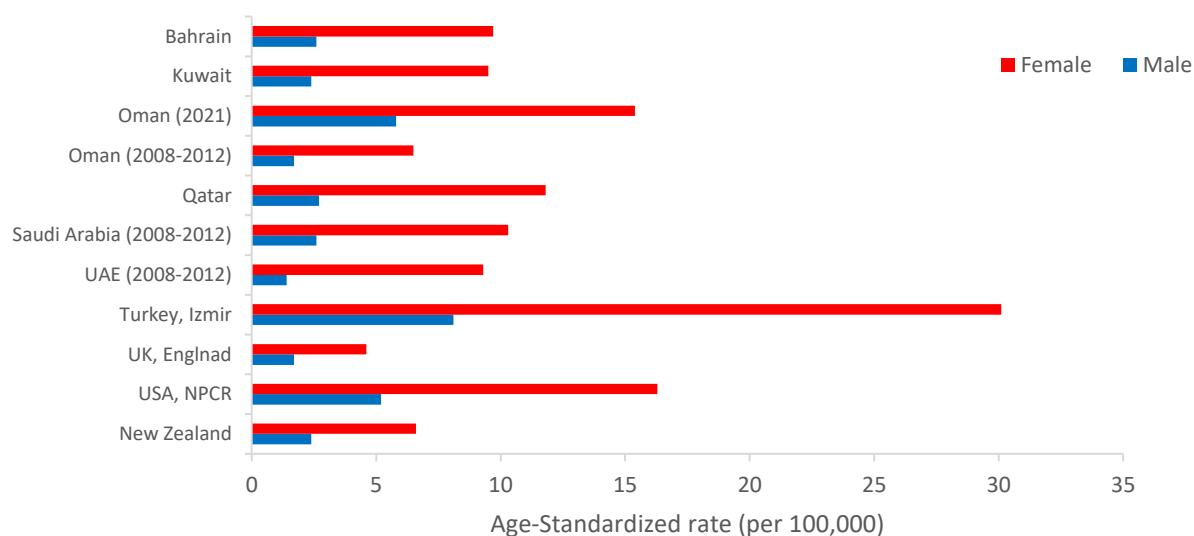




Table 40: Gender Distribution of Thyroid Cancer

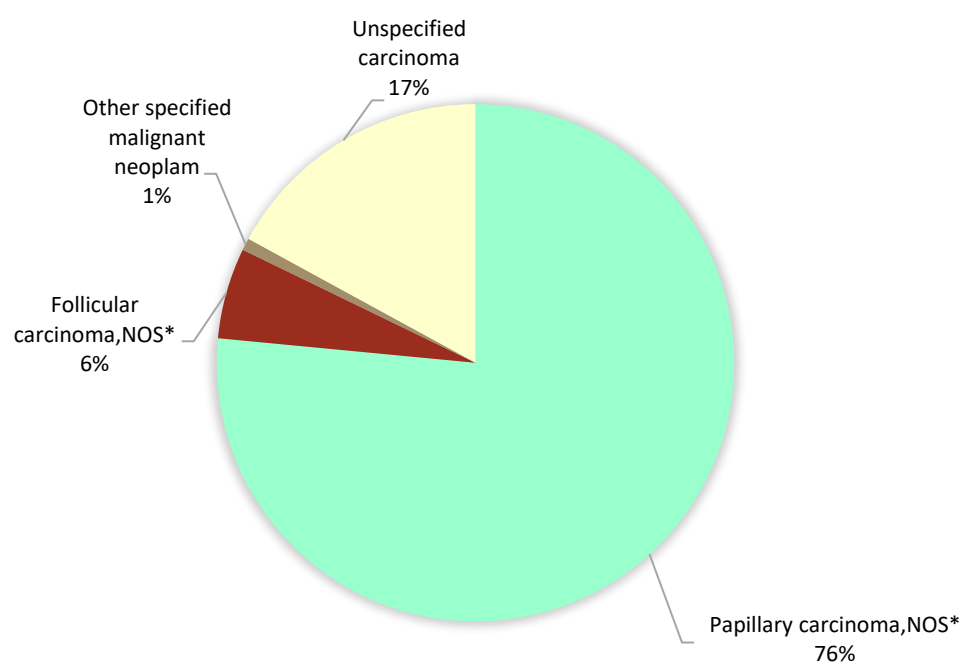
Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Male	66	4.7	5.8
Female	196	14.1	15.4
Total	262		
Malignant lymphoma	2		

Figure 79: Age-standardized incidence rates of Thyroid Cancer in Oman and some selected countries



Note: Data of GCC countries are from 2013- 2017 -2012; data of New Zealand, UK (England), Turkey (Izmir) are from 2013-2017 , For USA –NPCR (National Program of Cancer Registries) from 2008-2012) was used.

Figure 80: Morphology of Thyroid Cancer



*Not otherwise specified



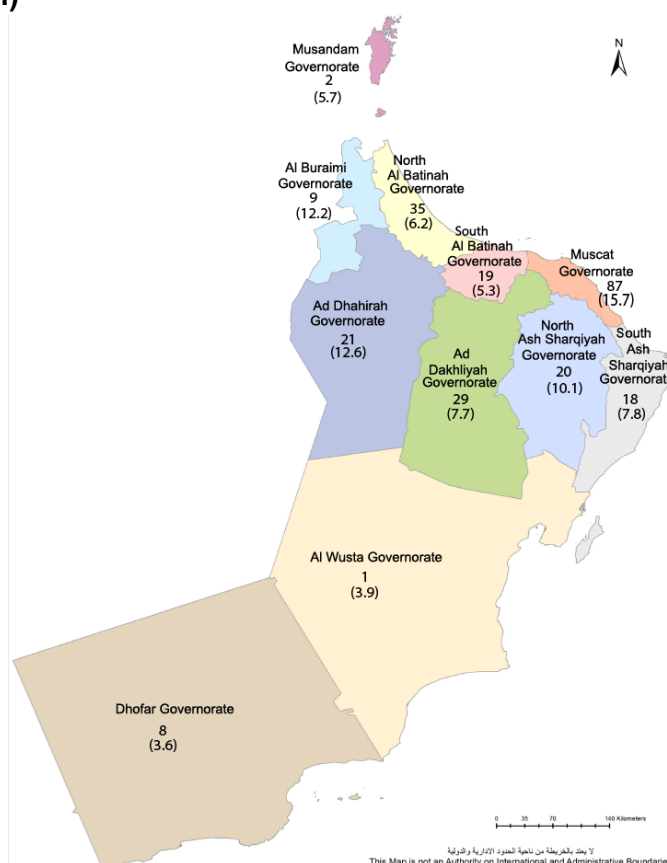
Figure 81: *Incidence of Thyroid Cancer by Governorates

(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	87	15.7
North Al - Batinah	35	6.2
Ad - Dakhliyah	29	7.7
South Al - Batinah	19	5.3
Dhofar	8	3.6
South Ash - Sharqiah	18	7.8
North Ash - Sharqiah	20	10.1
Adh -Dhahirah	21	12.6
Buraymi	9	12.2
Musandam	2	5.7
Al - Wusta	1	3.9
Unknown	15	
Total	264	

Total include Lymphoma

Unknown 15



Time Trend of Thyroid Cancer 1996-2021

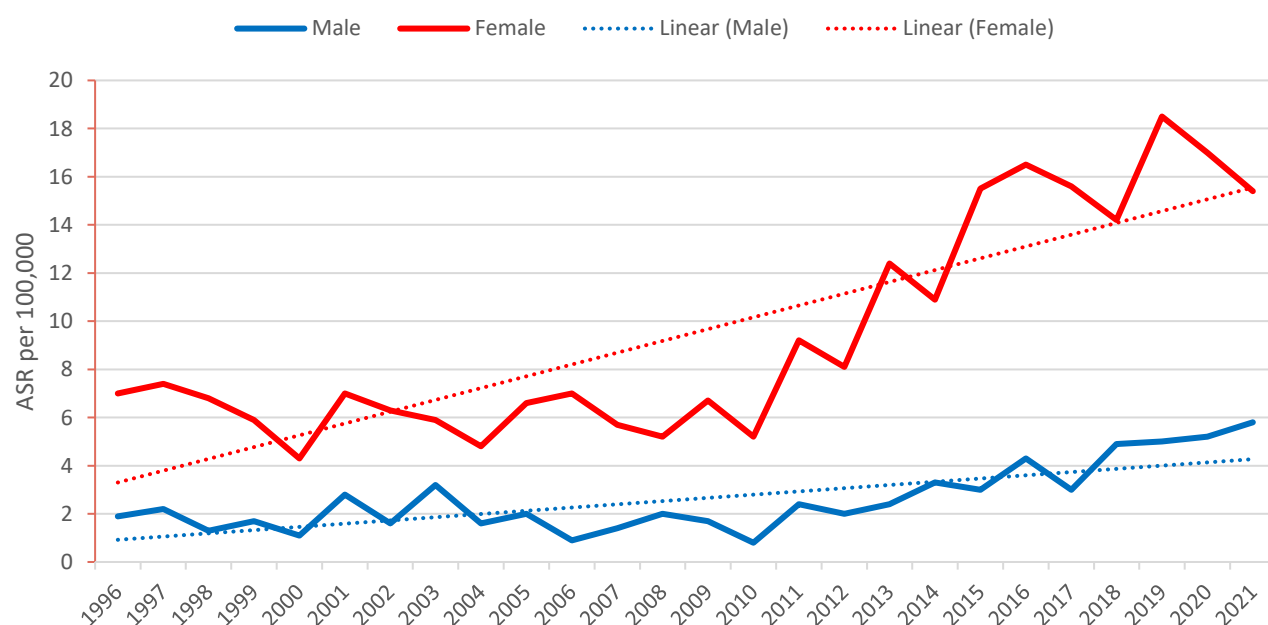
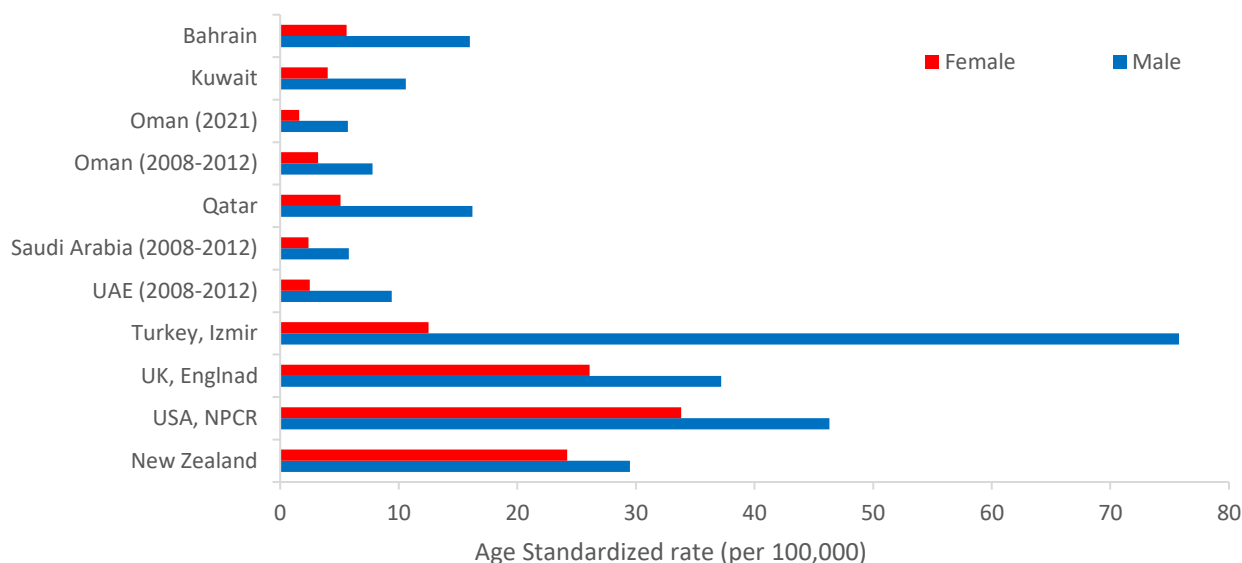




Table 41: Gender Distribution of TBL Cancer

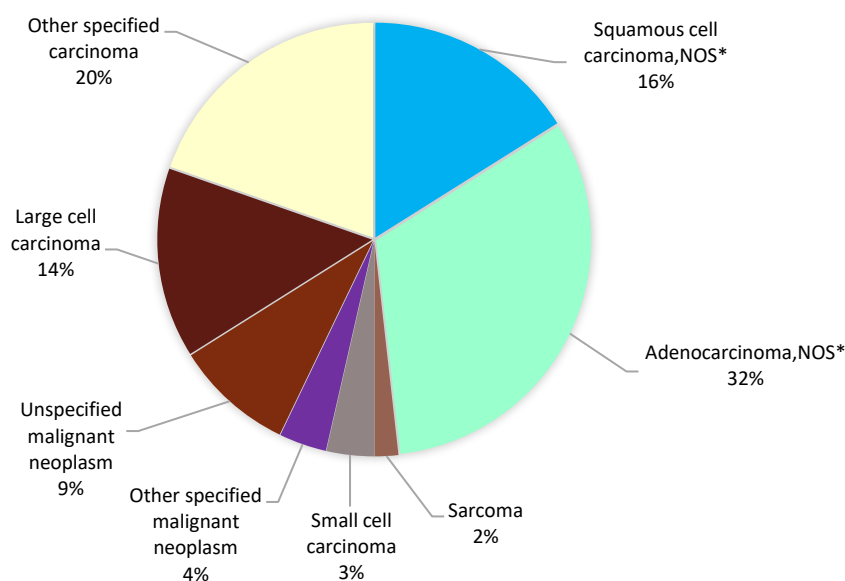
Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Male	42	3	5.7
Female	13	0.9	1.6
Total	55		
Malignant lymphoma	1		

Figure 82 :Age-standardized incidence rates of Trachea, Bronchus and Lung Cancer in Oman and some selected countries



Note: Data of GCC countries are from 2013-2017 ; data of New Zealand, UK (England), Turkey (Izmir) are from 2008-2012, For USA –NPCR (National Program of Cancer Registries from 2008-2012 was used

Figure 83: Morphology of Trachea, Bronchus and Lung Cancer



*Not otherwise specified


Figure 84: Incidence of Lung Cancer by Governorates

Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	20	3.6
North Al - Batinah	12	2.1
Ad - Dakhliyah	3	0.8
South Al - Batinah	4	1.1
Dhofar	6	2.7
South Ash - Sharqiah	5	2.2
North Ash - Sharqiah	2	1.0
Adh -Dhahirah	2	1.2
Buraymi	1	1.4
Musandam	0	0.0
Al - Wusta	0	0.0
Unknown	1	
Total	56	

Total include Lymphoma

Unknown 1

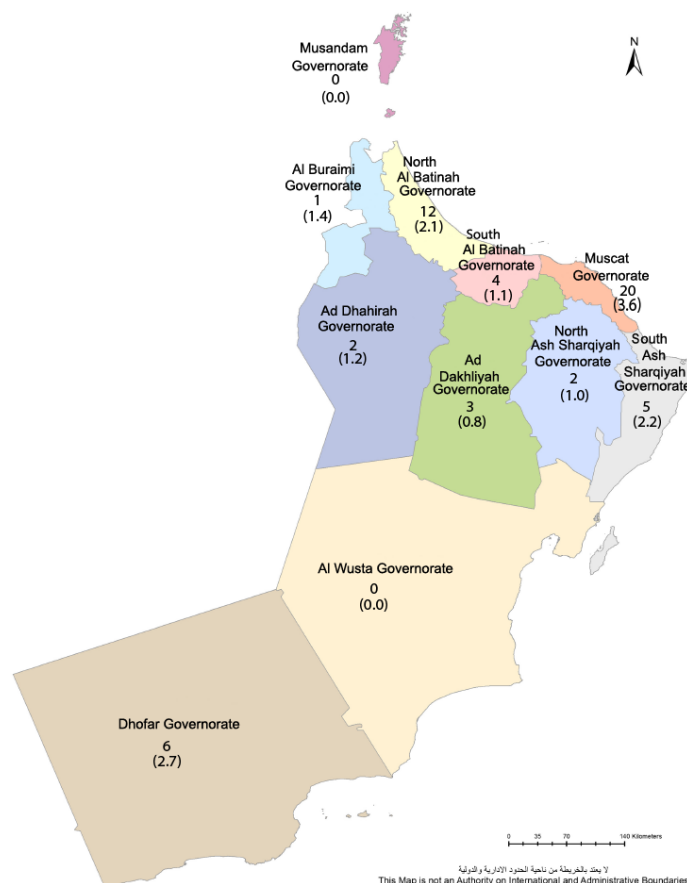
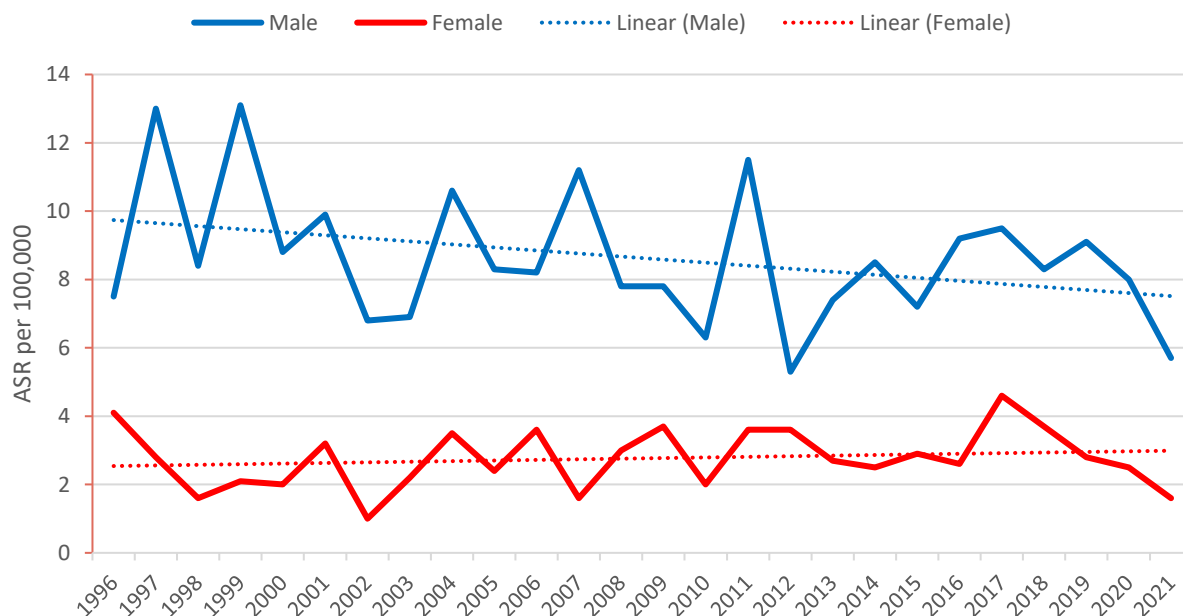

Time Trend of Oman ASR of Lung Cancer 1996-2021




Figure 85: Stages of lung cancer in Oman, 2020

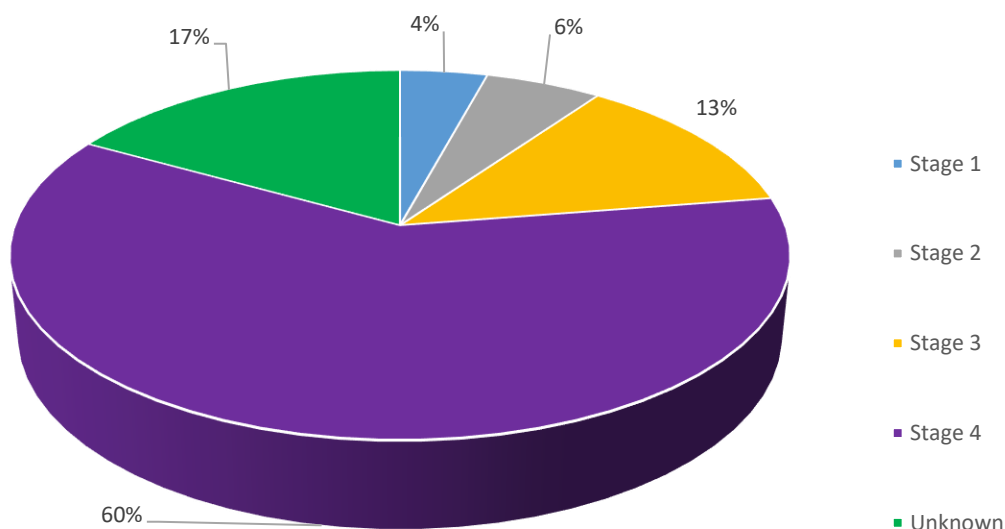


Figure 86: Stages of lung cancer in Oman, 2021

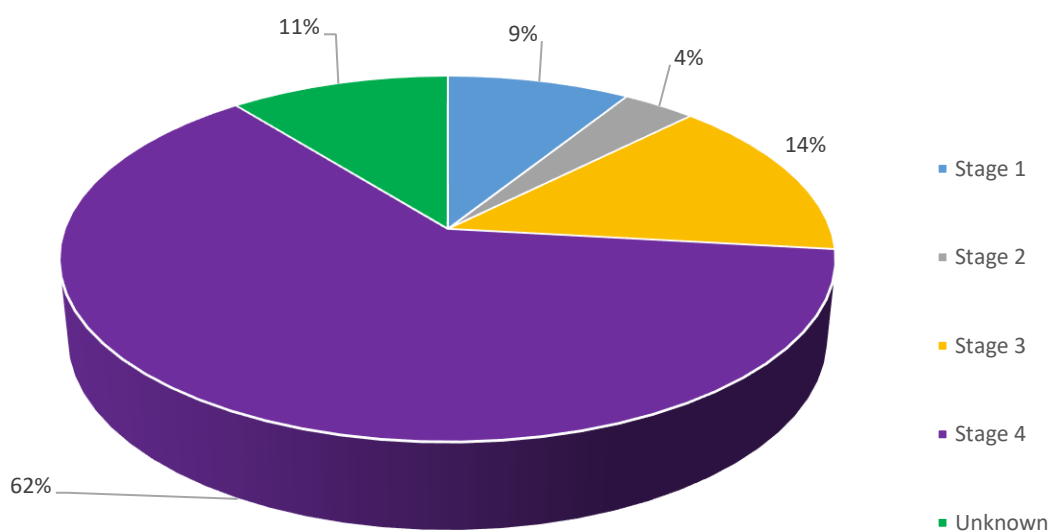
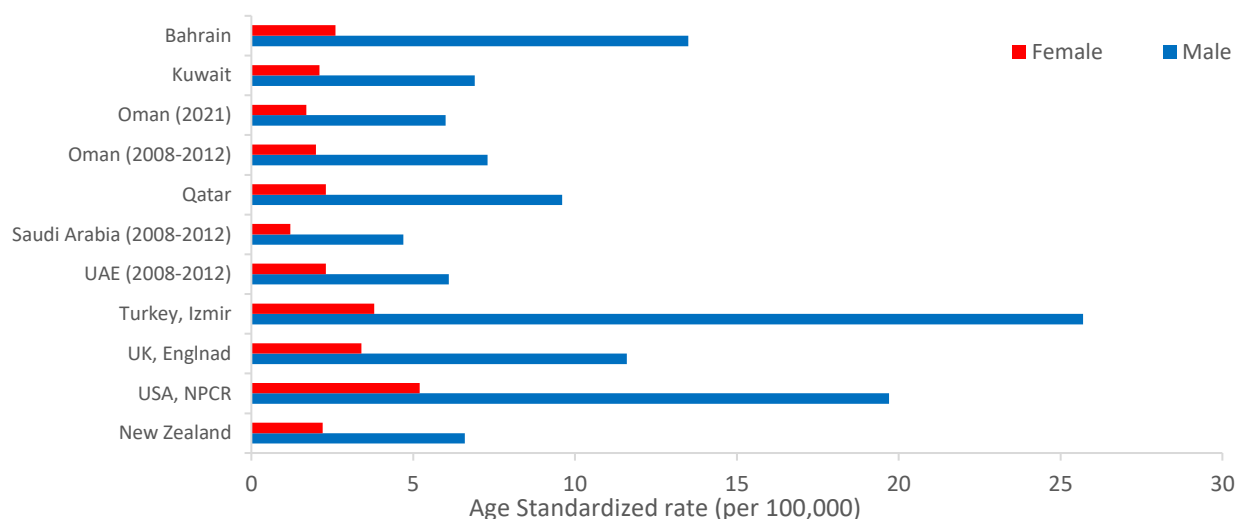




Table 42: Gender Distribution of Urinary Bladder Cancer

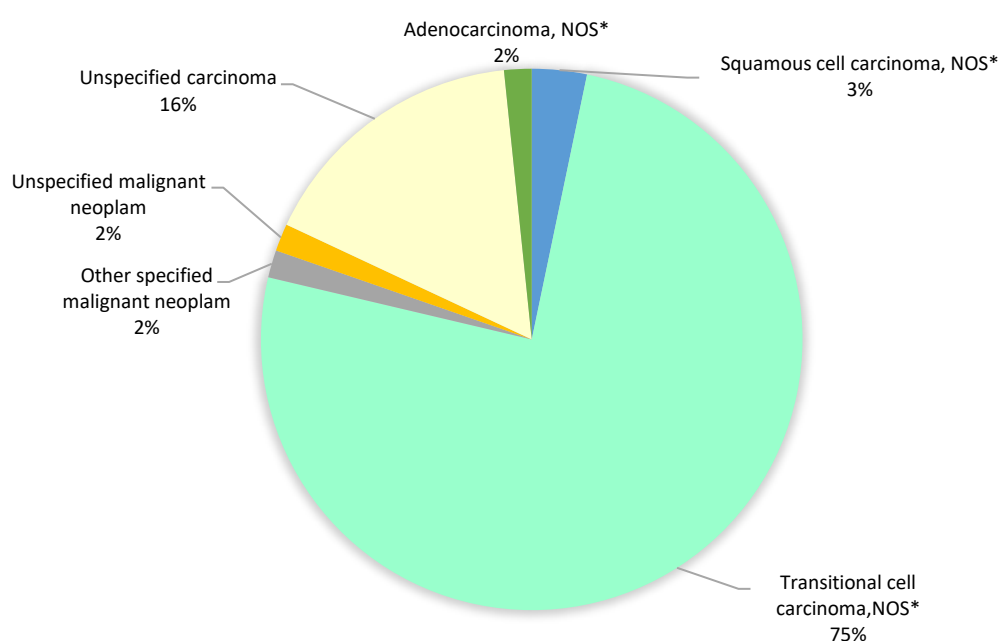
Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Male	46	3.3	6
Female	14	1	1.7
Total	60		
Malignant Lymphoma	1		

Figure 87 :Age-standardized incidence rates of Urinary Bladder Cancer in Oman and some selected countries



Note: Data of GCC countries are from 2013-2017 ; data of New Zealand, UK (England), Turkey (Izmir) are from 2008-2012 , For USA –NPCR National Program of Cancer Registries from 2008-2012 was used)

Figure 88 :Morphology of Urinary Bladder Cancer



*Not otherwise specified



Figure 89:*Incidence of Urinary Bladder Cancer by Governorates

(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	15	2.7
North Al - Batinah	7	1.2
Ad - Dakhliyah	6	1.6
South Al - Batinah	6	1.7
Dhofar	4	1.8
South Ash - Sharqiah	9	3.9
North Ash - Sharqiah	2	1.0
Adh -Dhahirah	5	3.0
Buraymi	1	1.4
Musandam	1	2.9
Al - Wusta	0	0.0
Unknown	5	
Total	61	

Total include Lymphoma

Unknown 5



Trend of Oman ASR of Urinary Bladder Cancer 1996-2021

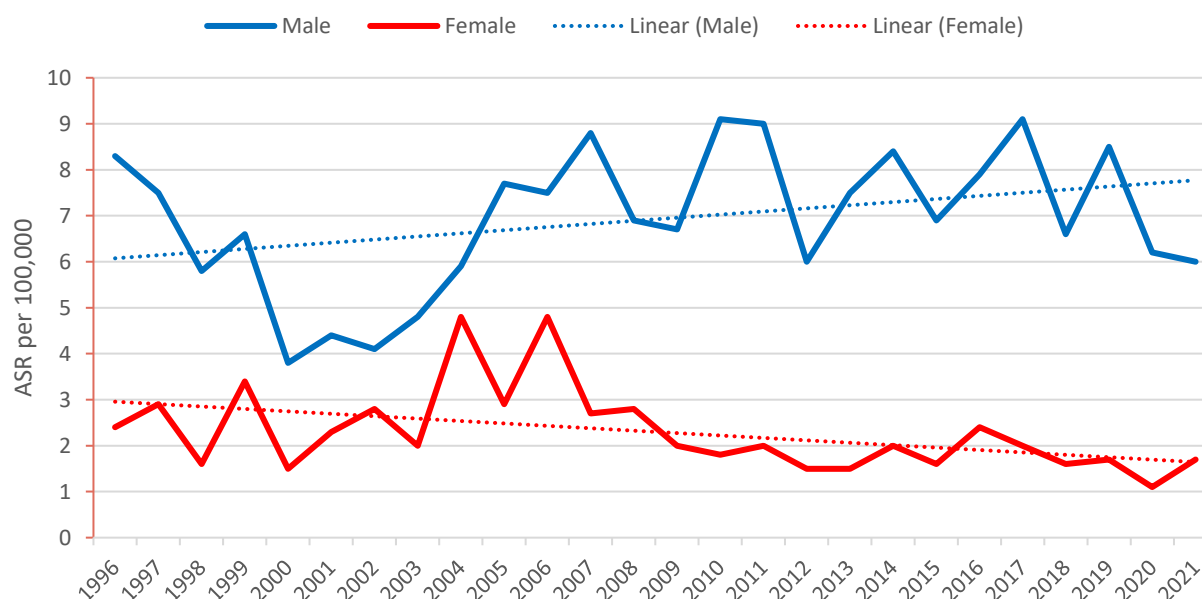
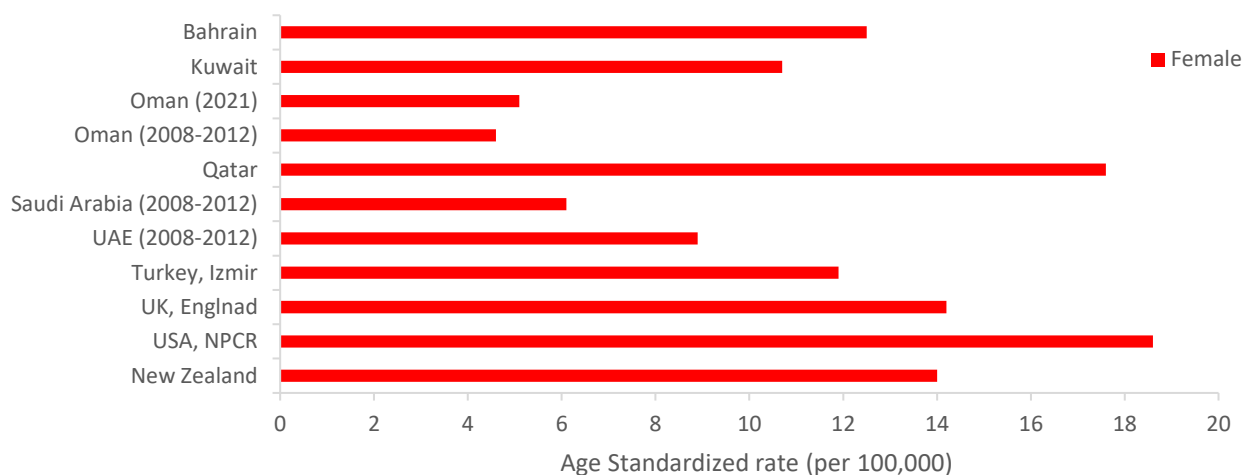




Table 43: Distribution of Uterine Cancer

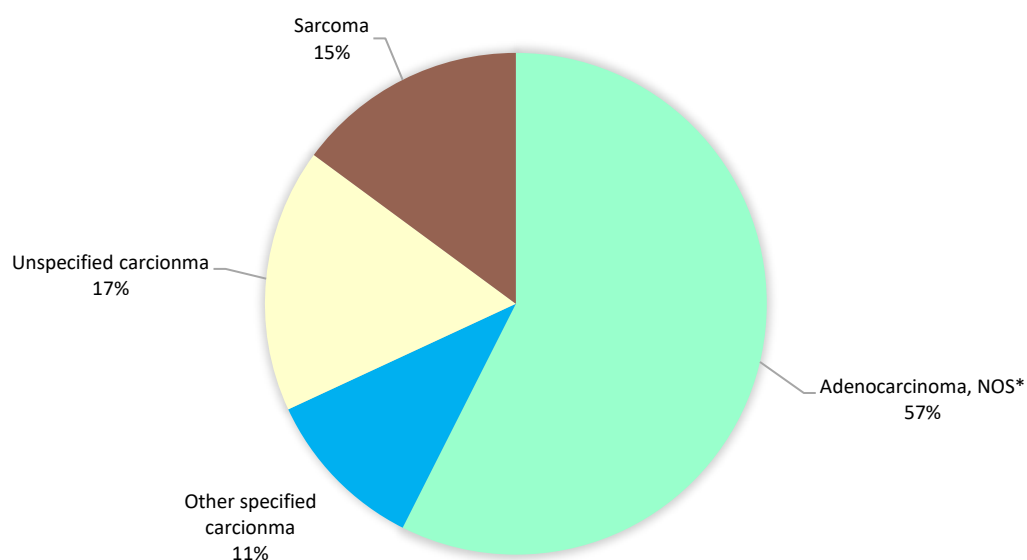
Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Female	47	3.3	5.1
Total	47		

Figure 90: Age-standardized incidence rates of Uterine Cancer in Oman and some selected countries



Note: Data of GCC countries are from 2013-2017 ; data of New Zealand, UK England Turkey Izmir are from 2008-2012 , For USA –NPCR (National Program of Cancer Registries from 2008-2012 was used

Figure 91: Morphology of Uterine Cancer



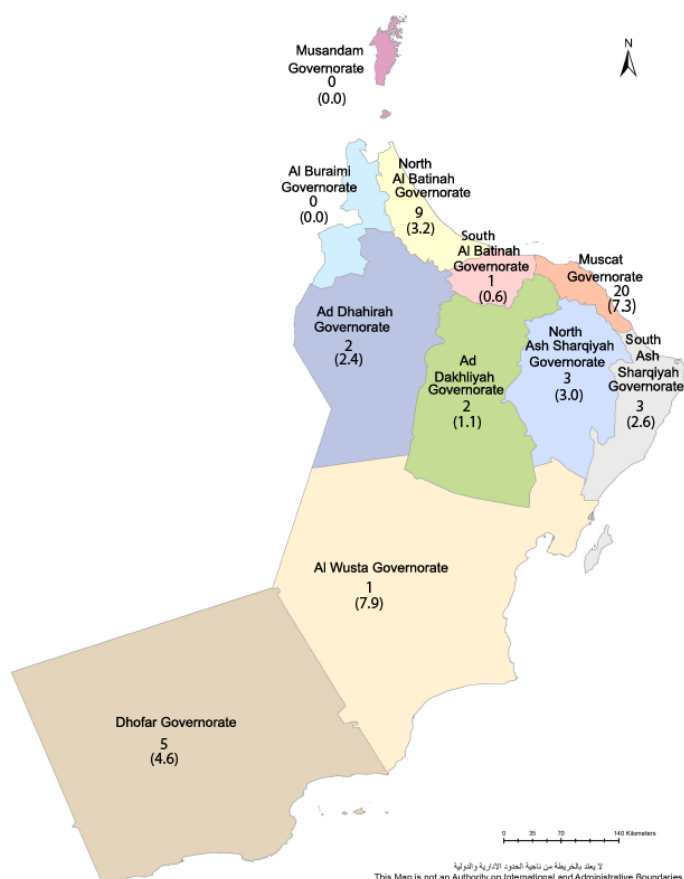
*Not otherwise specified



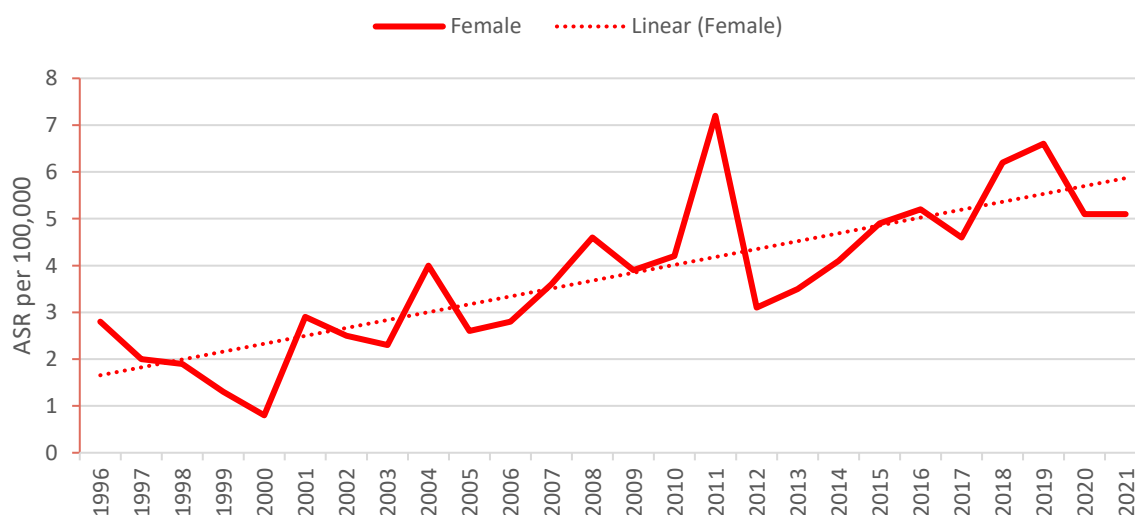
Figure 92: Incidence of Uterine Cancer by
(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	20	7.3
North Al - Batinah	9	3.2
Ad - Dakhliyah	2	1.1
South Al - Batinah	1	0.6
Dhofar	5	4.6
South Ash - Sharqiah	3	2.6
North Ash - Sharqiah	3	3.0
Adh -Dhahirah	2	2.4
Buraymi	0	0.0
Musandam	0	0.0
Al - Wusta	1	7.9
Unknown	1	
Total	47	

Unknown 1



Time Trend of Oman ASR of Uterine Cancer 1996-2021



Childhood Cancers

Childhood Cancers

In 2021, Oman recorded a total of 2,318 cases of cancers. Of these, 155 cases were among children aged 14 years and below constituting 6.69% of the total cancers reported.

Table 44: Frequency of Five Common Cancers in Omani Children

Topography	Frequency	Percentage (%)
Non-Hodgkin lymphomas	22	14.2
Lymphoid leukemias	18	11.6
Neuroblastoma and ganglioneuroblastoma	14	9.3
Acute myeloid leukemias	13	8.3
Intracranial and intraspinal embryonal tumours	12	7.7

Table 45: Frequency of Five Common Cancers in Omani Boys

Topography	Frequency	Percentage (%)
Lymphoid leukemias	13	16.5
Non-Hodgkin lymphomas	10	12.7
Neuroblastoma and ganglioneuroblastoma	6	7.6
Intracranial and intraspinal embryonal tumours	6	7.6
Astrocytomas	5	6.3

Table 46: Frequency of Five Common Cancers in Omani Girls

Topography	Frequency	Percentage (%)
Non-Hodgkin lymphomas	12	15.8
Lymphoid leukemias	9	11.8
Acute myeloid leukemia	8	10.5
Astrocytomas	6	7.9
Intracranial and intraspinal embryonal tumours	6	7.9

Figure 93: Frequency Distribution of Common Cancers in Omani Children 2021

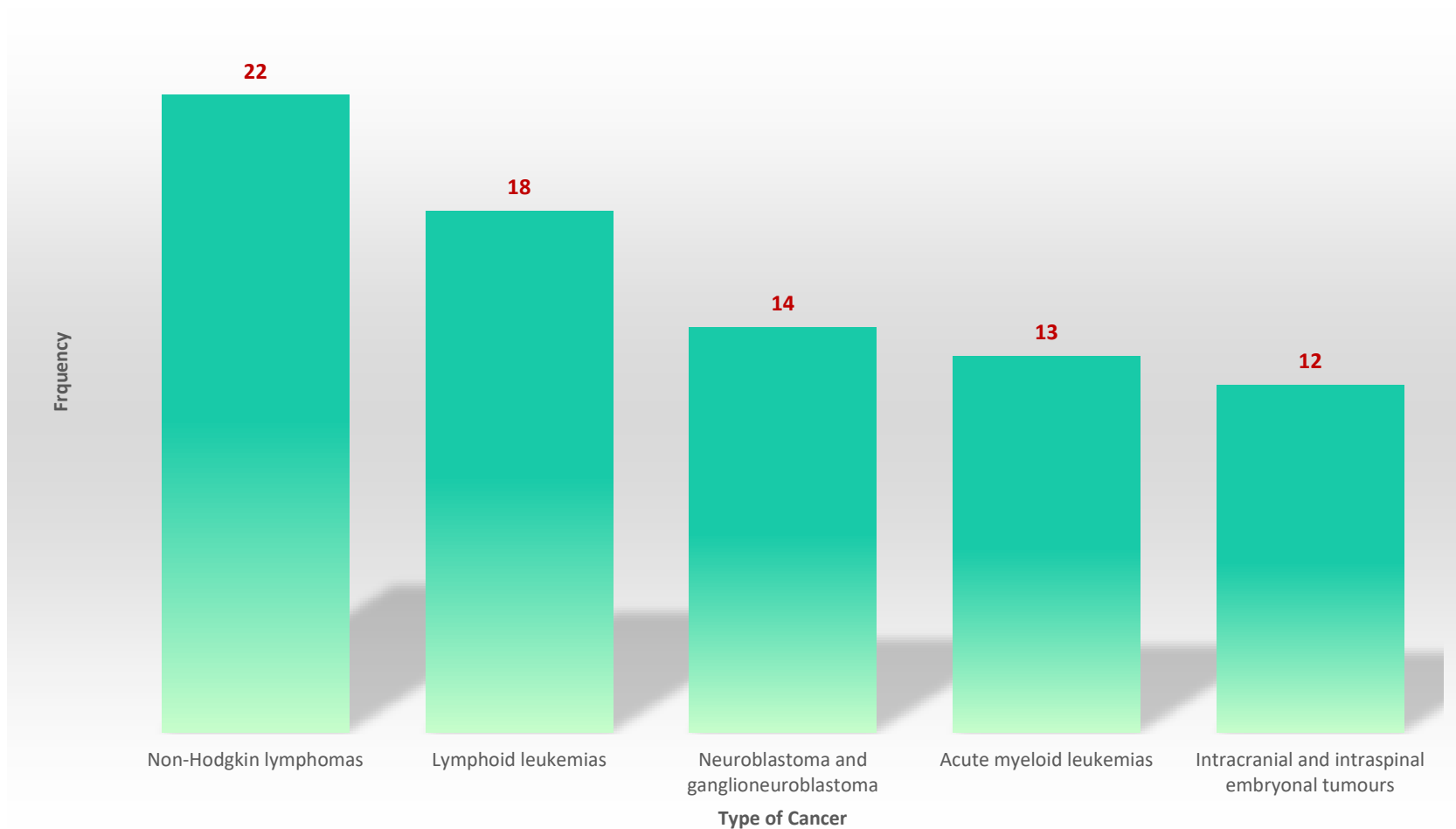


Table 47 : Frequency Distribution of Childhood Cancers in Oman 2021 (International Classification of Childhood Cancer)

CR,Crude incidencerate;ASR,Age-Standardized incidencerate.Both rates are per million per year.The above analysis is restricted to children aged 0-14 years

Site	Male						Female					
	-0	-5	-10	All	CR*	ASR*	-0	-5	-10	All	CR*	ASR*
Leukemia, myeloproliferative and myelodysplastic diseases	15	2	3	20	36.3	20.4	9	4	6	19	35.8	20.9
Lymphoid leukemias	9	2	2	13	23.6	13.3	2	1	2	5	9.4	5.5
Acute myeloid leukemias	4	0	0	4	7.3	4.1	5	2	2	9	16.9	9.9
Chronic myeloproliferative diseases	0	0	1	1	1.8	1.0	0	0	1	1	1.9	1.1
Myelodysplastic syndrome and other myeloproliferative diseases	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Unspecified and other specified leukemias	2	0	0	2	3.6	2.0	2	1	1	4	7.5	4.4
Lymphomas and reticuloendothelial neoplasms	8	4	5	17	30.9	17.4	10	2	2	14	26.4	15.4
Hodgkin lymphomas	0	2	1	3	5.4	3.1	1	0	1	2	3.8	2.2
Non-Hodgkin lymphomas	5	1	4	10	18.2	10.2	9	2	1	12	22.6	13.2
Burkitt lymphoma	1	1	0	2	3.6	2.0	0	0	0	0	0.0	0.0
Miscellaneous lymphoreticular neoplasms	1	0	0	1	1.8	1.0	0	0	0	0	0.0	0.0
Unspecified lymphomas	1	0	0	1	1.8	1.0	0	0	0	0	0.0	0.0
CNS and miscellaneous intracranial and intraspinal neoplasms	8	4	6	18	32.7	18.4	9	5	5	19	35.8	20.9
Ependymoma and choroids plexus tumours	3	0	0	3	5.4	3.1	0	1	0	1	1.9	1.1
Astrocytomas	1	3	1	5	9.1	5.1	2	2	2	6	11.3	6.6
Intracranial and intraspinal embryonal tumours	4	0	2	6	10.9	6.1	4	0	2	6	11.3	6.6
Other gliomas	0	1	2	3	5.4	3.1	2	2	1	5	9.4	5.5
Other specified	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Unspecified	0	0	1	1	1.8	1.0	1	0	0	1	1.9	1.1
Neuroblastoma and other peripheral nervous cell tumours	5	0	1	6	10.9	6.1	8	0	0	8	15.1	8.8
Neuroblastoma and ganglioneuroblastoma	5	0	1	6	10.9	6.1	8	0	0	8	15.1	8.8
Other peripheral nervous cell tumours	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Retinoblastoma	1	0	0	1	1.8	1.0	2	0	0	2	3.8	2.2
Retinoblastoma	1	0	0	1	1.8	1.0	2	0	0	2	3.8	2.2
Renal tumours	4	0	1	5	9.1	5.1	2	1	0	3	5.6	3.3
Nephroblastoma and other nonepithelial renal tumors	3	0	0	3	5.4	3.1	2	1	0	3	5.6	3.3
Renal carcinomas	1	0	1	2	3.6	2.0	0	0	0	0	0.0	0.0
Unspecified	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0

Hepatic tumours	2	0	0	2	3.6	2.0	0	0	0	0	0.0	0.0
Hepatoblastoma	2	0	0	2	3.6	2.0	0	0	0	0	0.0	0.0
Hepatic carcinomas	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Unspecified	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Malignant bone tumours	2	2	0	4	7.3	4.1	0	0	3	3	5.6	3.3
Osteosarcomas	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Chondrosarcomas	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Ewing tumour and related sarcomas of bone	1	1	0	2	3.6	2.0	0	0	2	2	3.8	2.2
Other specified	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Unspecified	1	1	0	2	3.6	2.0	0	0	1	1	1.9	1.1
Soft tissue and other extraosseous sarcomas	3	0	0	3	5.4	3.1	0	1	1	2	3.8	2.2
Rhabdomyosarcomas	1	0	0	1	1.8	1.0	0	1	0	1	1.9	1.1
Fibrosarcomas, peripheral nerve sheath and other fibrous neoplasms	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Kaposi's sarcoma	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Other specified	0	0	0	0	0.0	0.0	0	0	1	1	1.9	1.1
Unspecified	2	0	0	2	3.6	2.0	0	0	0	0	0.0	0.0
Germ cell and trophoblastic tumours and gonadal neoplasms	1	1	0	2	3.6	2.0	1	0	1	2	3.8	2.2
Intracranial and intraspinal germ cell tumours	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Malignant extra cranial and extra gonadal germ cell tumours	1	1	0	2	3.6	2.0	0	0	0	0	0.0	0.0
Malignant gonadal germ cell tumours	0	0	0	0	0.0	0.0	1	0	1	2	3.8	2.2
Gonadal carcinomas	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Other and unspecified	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Other malignant epithelial neoplasms and malignant melanomas	0	1	0	1	1.8	1.0	0	0	4	4	7.5	4.4
Adrenocortical carcinomas	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Thyroid carcinomas	0	0	0	0	0.0	0.0	0	0	3	3	5.6	3.3
Nasopharyngeal carcinomas	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Malignant melanoma	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Skin carcinomas	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Other and unspecified	0	1	0	0	0.0	0.0	0	0	1	1	1.9	1.1
Other and unspecified malignant neoplasms	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Other specified	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Other unspecified	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Total	49	14	16	79	143.5	80.8	41	13	22	76	143.1	83.5

Cancer among Non-Omanis

Cancer among Non-Omanis

The total number of all tumors registered among Non-Omanis was 164. Of these only 1 cases (0.6%) were carcinoma in Situ. Out of 163 malignant cases males accounted for 58 case (35.6%) and females accounted for 105 cases (64.4%) Table (48). The high frequency of cancer reported from Muscat 91 cases followed by Dhofar 15 cases

Table 48: Gender Distribution of Cancer Cases among Non-Omanis

Gender	Frequency	(%) Percentage
Male	58	35.6
Female	105	64.4
Total	163	
Carcinoma in situ	1	

Table 49: Five Most Common Cancers in Non-Omanis (Males & Females)

Topography	Frequency	(%) Percentage
Breast	44	27
Leukemia	14	8.6
Thyroid	12	7.4
NHL	9	5.5
Colorectum	8	4.9

Table 50: Five Most Common Cancers in Non-Omanis (Males)

Topography	Frequency	(%) Percentage
Leukemia	9	15.5
NHL	8	13.8
Prostate	7	12
Stomach	4	6.9
Skin	4	6.9

Cancer among Non-Omanis

Table 51: Five Most Common Cancers among Non-Omanis (Females)

Topography	Frequency	(%) Percentage
Breast	44	41.9
Thyroid	8	13.8
Colorectal	6	10.3
Uterus	5	8.6
Leukemia	5	8.6

Figure 94: Stages of breast cancer 2020

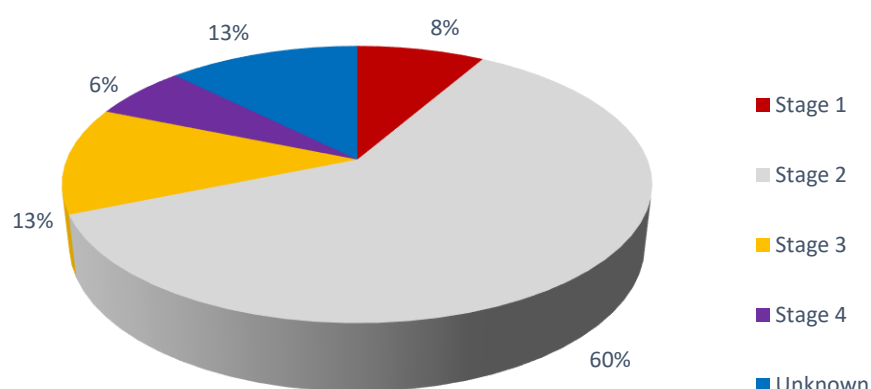
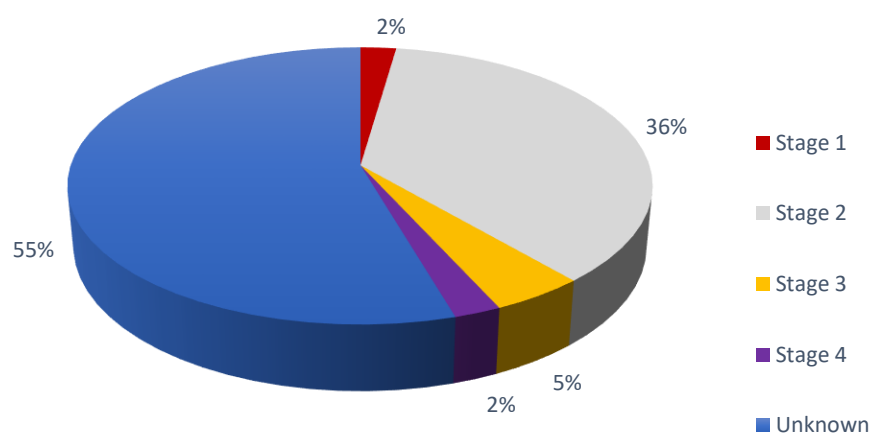


Figure 95: Stages of breast cancer 2021



Cancer among Non-Omanis

Table 52: Regional Distribution of Cancer Cases among Non-Omanis

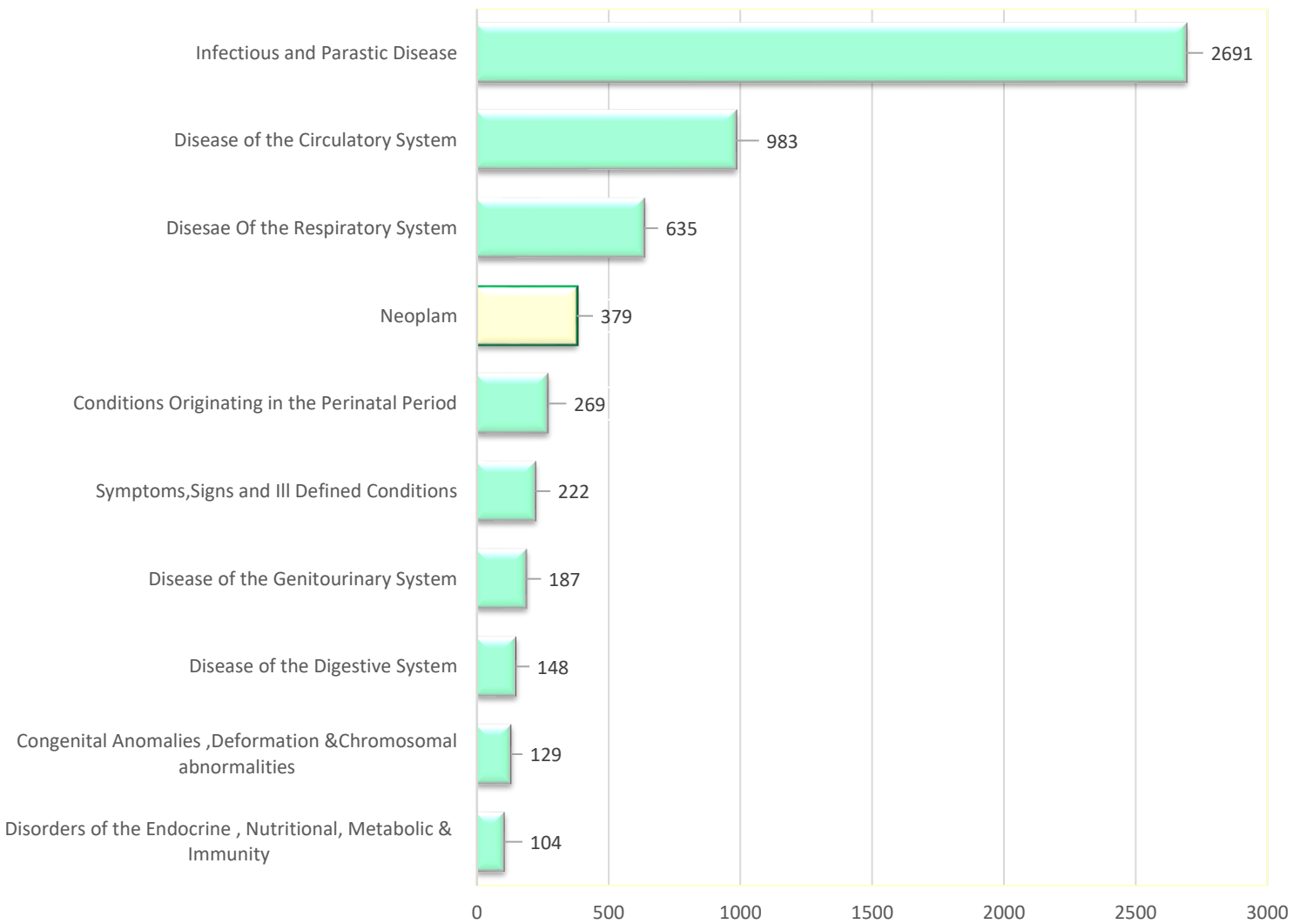
Region	Frequency
Muscat	91
Dhofar	15
North Al Batinah	10
Al Buraymi	3
North Ash Sharqiyah	9
Ad Dakhliyah	11
South Ash Sharqiyah	3
South Al Batinah	7
Adh Dhahirah	5
Musandam	2
AL Wusta	2
Unknown	3
Total	163

Table 53: Distribution of Cancer Cases among Non-Omanis by Nationality 2021

Country	Frequency
Egypt	29
India	24
Philippines	15
Sudan	12
Pakistan	11
United Republic of Tanzaina	11
Bangladesh	10
Yemen	6
United Kingdom	4
Sri Lanka	3
Tunisia	3
Algeria	2
Indonesia	2

Country	Frequency
Iraq	2
Saudi Arabia	2
Syrian Arab Republic	2
Afghanistan	1
Australia	1
Bahrain	1
Burundi	1
Comoros	1
Congo	1
Ethiopia	1
Gaza Strip(Palestine)	1
Germany	1
Iran ,Islamic Republic of	1
Italy	1
Japan	1
Jordan	1
Lebanon	1
Monaco	1
Morocco	1
Palau	1
Poland	1
South Africa	1
United States of America	1
Viet Nam	1
Unknown	4
Total	163

Figure 96 : Most Common Causes of MOH Hospital Deaths
(Source: Annual Health Report 2021)



Oman National Cancer Registry
Directorate General of Primary Health Care
Ministry of Health
Sultanate of Oman

Request for Data from the Oman National Cancer Registry
All requests should be submitted to the attention of the Director,
Department of Non-Communicable Disease

DGPHC, Post Box 393, Area Code 100, Muscat, Sultanate of Oman

Tel: (968) 24946378

Fax: (968) 24946379

Date Submitted :

Name :

Department :

Institution :

Telephone No :

Fax No :

Information Requested:

(Specify patient population, Time period, Year/s, Anatomic site/Histology, Region / Wilayat etc.)

Purpose of Request:

(Specify presentation at conference/meeting/publication, clinical/epidemiological study, personal information, etc.)

Collaborators and Co-authors:

Ethical approval received..... : Yes / No

Requester's affirmation statement:

I hereby, the requester of the above data affirm that the data given to me by the Oman National Cancer Registry will be treated with utmost confidentiality in relation to patient's identity, I also affirm that the data given to me will not be presented or published by me or any of my collaborators as an original work but rather can be cited in my presentation and / or publication with acknowledgement to the ONCR.

Requester's signature :

Date :

For official use only:

Request :

Approved :

Denied :

Director of Non- Communicable Disease department Signature

Date :



Annex 2



SAMPLE OF OMAN NATIONAL CANCER REGISTRY FORM

To : Directorate General of Health Affairs Department of Non-Communicable Disease Surveillance & Control (DNCD)				DGHA, Muscat Tel: 24696187, Fax : 24695480 E-mail : dep-ncd@moh.gov.om			
1. Cancer Registry No. (To be filled by the Cancer Registry)				2. Date of Registration (To be filled by the Cancer Registry)			
3. Patient Hospital File No.				4. Hospital Name			
5. Department of				6. Civil ID.			
7. First Name		8. Father's Name		9. Grandfather's Name		10. Tribe Name	
11. Sex 1=Male 2=Female 9=Unknown		12. Marital Status 1=Single 2=Married 3=Divorced 4=Widowed 9=Unknown		13. Age or D. of Birth		14. Nationality 1= Omani 2= Non-Omani (Specify) _____ 9= Unknown	
15. Country of Birth		16. Religion 1= Muslim, 2= Christian 3= Hindu, 4= Jewish 5= Others, 9= Not Known		17. Ethnic Group 1= Arab 2= Asian 3= Caucasian 9= Not Known		18. Occupation	
19. Telephone Land Line Mobile				21. Wilayat : _____			
20. Other contact's Tel. No.				22. Village : _____			
23. Date of First Diagnosis				24. If Pt had Biopsy give Lab. Biopsy Specimen No.			
25. Primary Site of Cancer				ICD-9-3 Code			
26. Histological type of Cancer				(ICD-9-3 Code will be filled by the Central Registry)			
27. Laterality 0=Not a Paired Site, Unknown or ill-defined Site 1=Right : Origin of Primary 2=Left : Origin of Primary 3=Bilateral Involvement 9=Paired Site, Laterality Unknown		28. Extent of Disease 0=In Situ 1=Localized 2=Regional by Direct Extension 3=Regional to Lymph Nodes 4=Regional, (both 2,3) 5=Regional, (not specified) 7=Distal Metastasis/Systemic Disease 8=Not applicable (e.g. Leukemias) 9=Unstaged, Unknown or Unspecified		29. Histologic Grading 1=Grade I Well differentiated/Differentiated, NOS 2=Grade II Moderately differentiated/Moderately well differentiated/ Intermediate differentiation. 3=Grade III Poorly differentiated 4=Grade IV Undifferentiated anaplastic 5=T - Cell 6=B. Cell 7=Null Cell 8=Killer Cell 9=Grade or differentiation not determined, not stated or not applicable 10= Other's			
TNM Classification (Clinical)				31. N			
30. T				32. M			
34. Clinical (Stage)				33. M			
35. Most valid basis of Diagnosis				36. Treatment			
37. Date of Death				38. Cause of Death			
39. Date of Last Contact				39. Source of information			
Doctor's Name :				Doctor's Designation :			
Doctor's Signature :				Department :			
Date :				Tumor Registrar :			
				Coding :			
				Entry :			

1. Send White copy to NCD Section Fax : 24695480 2. Keep Pink Copy in Patient's Case Notes (File) 3. Send Blue Copy to Medical Records Dept.

MR-123

