GCC Cancer Incidence
Gulf Cancer Registry

List of Content

GCDC
الﻣركز الﺧليجي للتوعية من اﻷمراض ومكافﺣتها
Gulf Center for Disease Prevention and Control

List of Content

GCDC
المركز الخليجي للوقاية من الأمراض ومكافحتها
Gulf Center for Disease Prevention and Control

Acknowledgments

Contributors

United Arab Emirates

- Dr. Alya Zaid Harbi
- Mr. Wael Ahmed Shelpai
- Dr. Mariam Alameeri

Kingdom of Bahrain

- Dr. Ameera Al Nooh
- Dr. Maram AlSharbiti

Kingdom Saudi Arabia

- Prof. Mushabab Assiri
- Mr. Ahmed AlRawaji
- Mr. Saleh Alaliani
- Dr. Ali Alzhrani
- Mr. Meshal Alqahtani

Sultanate of Oman

- Dr. Najla Allawati

State of Qatar

- Ms. Suad Ahmed Awil Jama

State of Kuwait

- Dr. Amani A. Elbasmi

GCC Statistical Centre

- Data Collection and Dissemination Section

International Agency for Research on Cancer

- Dr. Ariana Znaor
- Dr. Mariam Zahwe
- Dr. Anton Barchuk

Authors

Gulf Center for Disease Prevention and Control [Gulf CDC]

- Dr. Sami Al Mudarra
- Mr. Ahmed AlHatlan
- Ms. Sadeem Alshiban
- Eng. Mazin Alrahbi

Glossary

Abbreviation	Meaning
ASIR	Age Specific Incidence Rate
ASR	Age Standardization Rate
BCR	Bahrain Cancer Registry
DCO	Death Certificate Only
EAPC	Estimated Annual Percentage Change
FCSC	Federal Competitiveness and Statistics Centre
GCC	Gulf Cooperation Council
GCCCP	Gulf Centre for Cancer Control and Prevention
GHC	Gulf Health Council
Gulf CDC	Gulf Center for Disease Prevention and Control
IACR	International Association of Cancer Registries
IARC	International Agency for Research on Cancer
ICD-O	International Classification of Diseases for Oncology
KCR	Kuwait Cancer Registry
MOPH	The Ministry of Public Health
MRO	Medical Review Office
MV	Morphological Verification
NCCCR	National Center for Cancer Care and Research
NCD	Non-Communicable Disease
NOS	Not otherwise specified
PBCR	Population-based cancer registry
PHI	Public Health Information
QNCR	Qatar National Cancer Registry
SCR	Saudi Cancer Registry
SEER	Surveillance, Epidemiology, and End Results
UAENCR	United Arab Emirates National Cancer Registry
UICC	Union for International Cancer Control
WHO	World Health Organization

Gulf Center for Disease Prevention and Control

Foreword

Cancer presents a substantial challenge to the high-priority health initiatives recognized by the Gulf Cooperation Council (GCC) nations. Since the late 1990s, the GCC Health Ministers' Council has prioritized national cancer prevention and control efforts, leading to the establishment of the Gulf Centre for Cancer Registration (GCCR) in 1998. Operated by King Faisal Specialist Hospital and funded by the Gulf Health Council (GHC), the GCCR created a regional database to monitor cancer incidences. In 2011, the Gulf Centre for Cancer Control and Prevention (GCCCP) was launched to coordinate collaborative cancer control strategies across GCC states. This partnership resulted in the Cancer Gulf Executive Plan, a joint initiative aimed at reducing the cancer burden through awareness, early detection, and integrated healthcare services involving both governmental and non-governmental sectors. [1]

In January 2021, the Supreme Council for the GCC approved the establishment of the Gulf Center for Disease Prevention and Control (Gulf CDC) as an autonomous public health institution serving six member states. The vision of the Gulf CDC is a Gulf society that enjoys the highest level of health and well-being through a Gulf partnership in public health with its mission being to foster harmonization, build knowledge, generate evidence to enable the prevention of communicable and non-communicable diseases, mitigate public health emergencies, and promote healthy communities across the Gulf. As part of the mandate of the Gulf CDC to enhance cancer-related healthcare activities in the GCC region, the Gulf CDC collaborates with the International Agency for Research on Cancer (IARC) under the World Health Organization (WHO) to provide support for the enhancement of cancer screening and registry initiatives in GCC countries. [2]

This edition of the Gulf Cancer Registry report reflects our continued commitment to advancing cancer surveillance in the region. Building on previous efforts, this report introduces several important improvements. For the first time, childhood cancers are addressed in separate, dedicated sections, offering focused insights into incidence patterns among younger populations. The new emphasis on data quality further strengthens the reliability and credibility of this report's findings. Additionally, this edition presents trend analyses by estimating the changes in key cancer indicators over time, enabling a clearer understanding of evolving patterns. Notably, separate analyses of national and non-national populations have been incorporated to ensure a more inclusive and representative view of the cancer burden across the Gulf region.

These improvements have marked a significant step forward in our collective efforts to inform policy, research, and cancer control initiatives. This report is the culmination of ongoing and productive collaborative efforts between the National Cancer Registry Offices of the GCC Member States' Ministries of Health and the Gulf CDC. Without their commitment, it would have been impossible to produce this report.
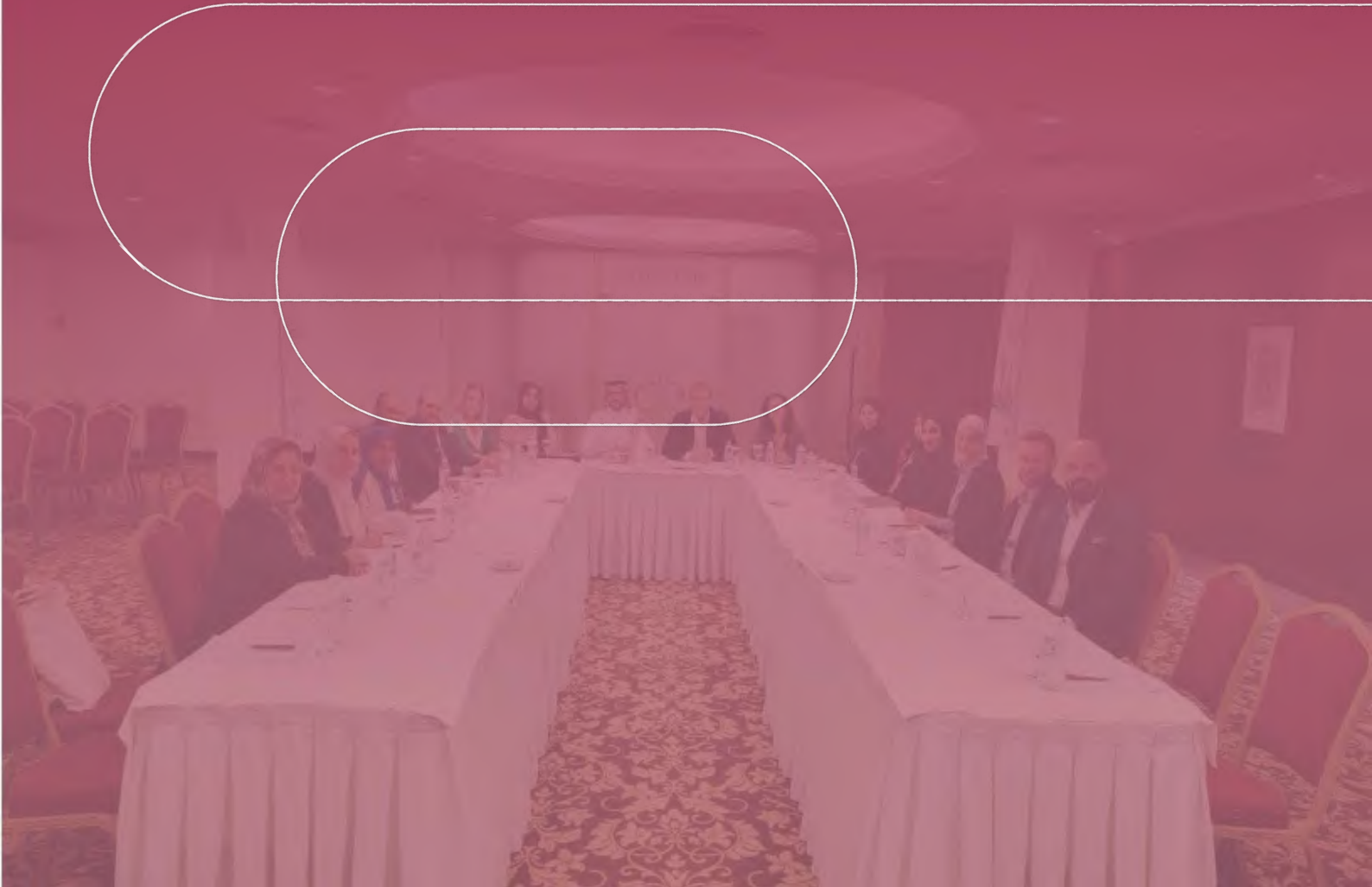
Section One

Introduction and Methodology

1. Background

According to the mandate of the Gulf Center for Disease Prevention and Control (Gulf CDC) and to enhance cancer initiatives within the Gulf Cooperation Council (GCC) region, the Gulf CDC collaborates with the International Agency for Research on Cancer (IARC) under the World Health Organization (WHO) to support cancer screening and registration efforts among GCC countries. The primary objectives of the Gulf CDC include the generation of statistics and reports on cancer incidence, the monitoring of early detection and screening programs, and the facilitation of epidemiological and clinical research. These efforts aim to establish a framework for assessing and mitigating the profound impact of cancer on GCC communities. This initiative also provides member states with tools for resource allocation and strategic planning.

The data for this report were aggregated from six national cancer registries, representing the United Arab Emirates (UAE), Kingdom of Bahrain, Kingdom of Saudi Arabia (KSA), Sultanate of Oman, State of Qatar, and State of Kuwait. This report covers all cancer cases diagnosed between January 2013 and December 2020 among nationals and non-nationals of the GCC states. Compared to the previous edition, this report features notable improvements aimed at enhancing the depth and clarity of the Gulf Cancer Registry. A new section has been introduced to specifically address childhood cancers, providing a focused analysis of the incidence patterns in younger age groups. The inclusion of the data quality section marks another advancement. Furthermore, this report provides estimates for the changes in cancer indicators over time, offering a clearer view of epidemiological trends. A significant enhancement was the inclusion of non-national populations, with separate analyses conducted for both national and non-national groups to ensure more comprehensive and representative results.

The population-based National Cancer Registry continues to serve as a fundamental element of effective cancer control and prevention initiatives. It offers critical data on cancer incidence and prevalence, which can be utilized to monitor and enhance national plans and strategies, thereby achieving better outcomes and ensuring the efficient allocation of resources.

2. Population Covered

2.1 Geography

The geographical scope of this report pertains to the Gulf region, situated in the southeastern Arabian Peninsula. It extends from the Arabian Gulf in the east to the Arabian Sea in the south. Encompassing an area of approximately 2,673,000 km2 , this region includes six nations: the UAE, Bahrain, KSA, Oman, Qatar, and Kuwait [Figure 2.1].

Figure 2.1 GCC Countries Covered by the Gulf Cancer Registry

2.2 Population Size and Composition

The total population of the GCC nations was 53,964,744 in 2020, comprising 25,233,816 nationals and 28,730,928 non-nationals. For the population of nationals, the estimated annual average for the period 2013–2020 is 23,553,000, which demonstrates a balanced and traditional structure with a broad base, indicative of a youthful population and natural growth via births. Conversely, the estimated annual average of non-nationals was 29,715,000 with significant male dominance, especially within the working-age groups (25–39 years), reflecting a population primarily influenced by labor migration rather than innate demographic trends [Figures 2.2, 2.3, 2.4].
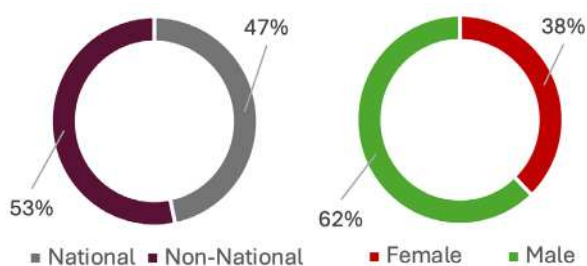
Figure 2.2 GCC Population Stratification by Nationality and Sex, 2020
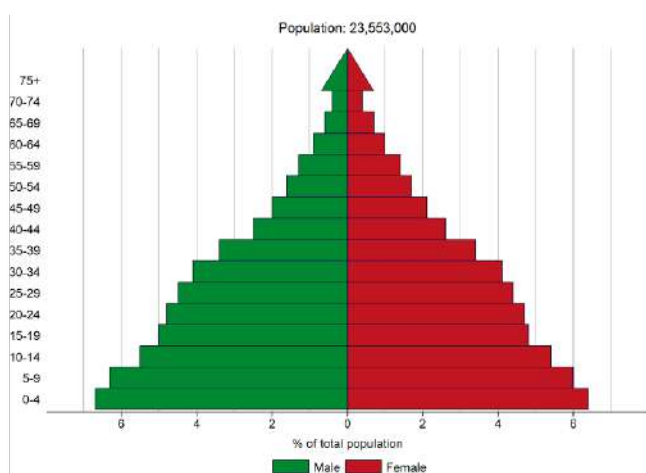
Figure 2.3 Annual Average Population Estimates – Nationals in GCC, 2013-2020
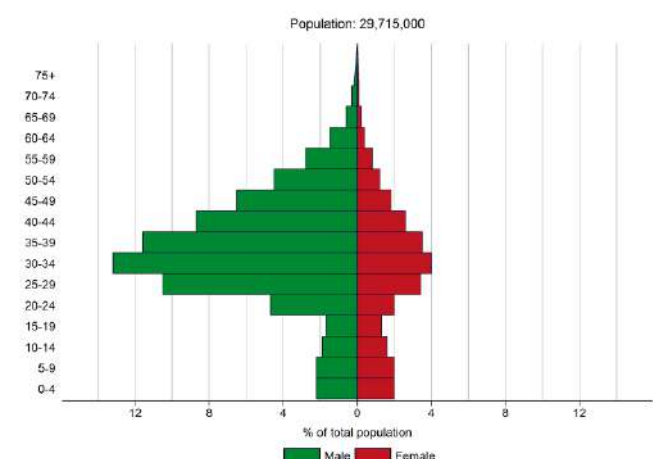
Figure 2.4 Annual Average Population Estimates – Non-Nationals in GCC, 2013-2020

3. Methodology

3.1 Data Sources and Coverage

The Gulf Center Registry predominantly depends on data supplied by the national cancer registries of each GCC nation. The primary point of contact is the Gulf Cancer Working Group, operating under the surveillance and analytics permanent communication network of the Public Health Information, with each member representing their respective country. This group is responsible for the annual collection and submission of anonymized cancer data. Each delegate is affiliated with their National Cancer Registry. Most of these registries are passive and electronic, and they routinely gather information from hospitals, clinics, pathology laboratories, and other pertinent institutions to ensure comprehensive and accurate documentation of all cases. Only malignant cancers were included in this report, and population data were obtained from GCC-STAT. [3]

3.2 Data Acquisition

The data acquisition process comprised six stages. It commenced with the collection of data from each country, followed by an initial phase of data cleaning and validation to ensure consistency and the absence of duplicates or errors. Effective communication with national contacts was essential during this stage, as it enabled the clarification and acquisition of additional information that contributed to improving the quality of the dataset. Subsequently, the data were subjected to advanced cleaning, cross-matching, and validation checks aligned with the IARC standards to confirm accuracy and consistency. Finally, the refined data were imported into CanReg5, and backups were systematically created. This structured methodology not only enhanced data quality but also promoted effective collaboration and documentation throughout the process [Figure 3.1].
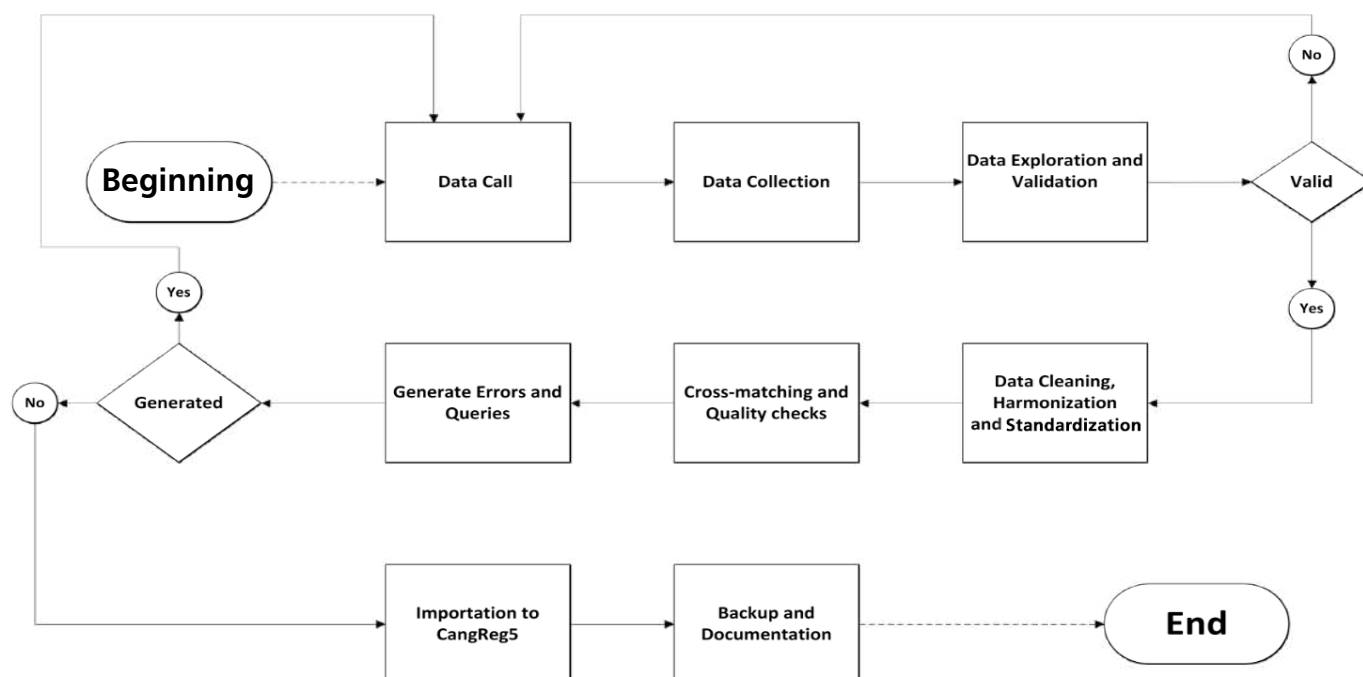
Figure 3.1 Data Acquisition Process of The Gulf Cancer Registry, 2013–2020

3.3 Variables

The variables that are collected from the six GCC countries are:

Variables	Description	Codes and Values
IDs	Unique identifiers assigned to each patient and their tumour for proper tracking and record-keeping.	Unique Patient ID Unique Tumour ID
Sex	The biological sex of the patient	1 Male 2 Female 9 Unknown
Birth Date	The patient's date of birth	YYYYMMDD
Age	The age of the patient when the tumour was diagnosed.	# (999 Unknown)
Nationality	The nationality of the patient.	1 National 2 Non-National 9 Unknown
Region	The geographic area or location where the patient resides or where the diagnosis was made.	TEXT
Date of Diagnosis	Date of the first diagnosis of cancer by a physician or the date of the First pathology report	YYYYMMDD
Topography	The origin site of the neoplasm (where the tumour arose)	C###
Morphology	The histological classification of the cancer tissue (histopathological type) and a description of the course of development	####
Behaviour	The behaviour is the fifth digit of the morphology code, it describes the behaviour of the tumour whether it is benign, in situ, or malignant etc.	0 Benign 1 Uncert. Benign/ Malignant 2 In situ (Carcinoma) 3 Malignant 9 Unknown

Laterality	Code the side of the paired organ, or the side of the body on which the reportable tumour originated.	0 Not paired 1 Right 2 Left 3 Bilateral Involvement 4 Paired, Lat. Unknown 9 Unknown
SEER	The spread of cancer as categorized by SEER summary staging version 2000 - The clinical Extent of disease before treatment	0 in situ 1 Localized 2 Regional 3 Distant metastases 9 Unknown
Basis of diagnosis	Code the most conclusive method used to distinguish how the diagnosis of the reportable tumour was made.	0 DCO (Death Certificate Only) 1 Clinical 2 Clin. Invest./Ult Sound 3 Surgery/Autopsy 4 Laboratory test 5 Cytology/ Haematological 6 Histology of metastases 7 Histology of primary 8 Histology, NOS 9 Unknown
Treatment	The therapies used to treat the tumour, include surgery, radiation, chemotherapy, immunotherapy, or hormone therapy.	1 yes 2 no
Date of Last Contact	The most recent date the patient was seen or contacted by a healthcare provider.	YYYYMMDD
Vital Status	The patient's status at the most recent follow-up, indicates whether they are alive or deceased.	1 Deceased 2 Alive 9 Unknown
Cause of death	The patient's underlying cause of death if the patient is deceased.	1 cancer 2 others 9 unknown

Table 3.1 The Codebook Used in the Gulf Cancer Registry, 2013–2020

3.4 Classification and Coding

A. Site and Histology

Tumor site (topography), histology (morphology), and behavior were coded according to the International Classification of Diseases for Oncology, Third Edition (ICD-O-3).(Fritz et al., 2000) The ICD-O-3 codes were automatically converted within the CanReg system to the appropriate code in the International Classification of Diseases, 10th revision (ICD-10) and International Classification of Childhood Cancer, Third Edition (ICCC3) which was used to tabulate the results. Other behaviors were also collected when available. However, only tumors with malignant behaviors were included in this report. [4]

B. Incidence Date

C. Incidence date is defined according to original recommendations of IACR. [Figure 3.2]

Incidence date refers to, in decreasing order of priority:

(a) Date of first consultation at, or admission to, a hospital, clinic or institution for the cancer in question;

(b) Date of first diagnosis of the cancer by a physician or the date of the first pathology report- a population-based registry should seek this information only when necessary for recording the incidence date;

(c) Date of death (year only), when the cancer is first ascertained from the death certificate and follow-back attempts have been unsuccessful; or

(d) Date of death preceding

(e) Date of death preceding an autopsy, when this is the time at which cancer is first found and was unsuspected clinically (without even a vague statement, such as "tumour suspected", "malignancy suspected")

Figure 3.2 Definitions of Date of Incidence Used in the Gulf Cancer Registry, 2013–2020

C. Multiple Primaries

The registry delineates multiple primary cancers in accordance with the guidelines established by the IARC/IACR (2004). These cases are fully recorded and systematically tabulated. It is imperative to acknowledge that the registry reports and enters cancer cases (tumours) independently of the individual patient. Consequently, a patient may have multiple entries or records within the registry if diagnosed with several primary cancers. According to the prevailing regulations, an individual may possess only one primary cancer at a specific anatomical site unless the second malignancy is of a distinctly different histological subtype. Furthermore, laterality (tumours located on the opposite side of paired organs) and temporal factors (tumours appearing in the same organ after a significant interval) are not regarded as indicative of new primary cancers.

D. Basis of Diagnosis

All of the six countries shared the same codes except for Qatar which does not use codes 3 and 6. [Table 3.2]

Code	Description
0	Death certificate only
Non-Microscopic 1 2 3 4	Clinical Clinical investigation Surgery/Autopsy Laboratory test (Specific tumour markers)
Microscopic 5 6 7 8	Cytology/Haematology Histology of a metastasis Histology of a primary tumour Histology, NOS
9	Unknown

Table 3.2 Basis of diagnosis used in the Gulf Cancer Registry is recorded according to the coding scheme of ICD-0-3, 2013-2020

3.5 The Database

The registry used CanReg (version 5) for data entry, management, storage, and analysis. The CanReg is an open-source tool designed for the input, storage, verification, and analysis of cancer registry data. It includes modules for data entry, quality assurance, consistency checks, and fundamental data analysis. For further information on the CanReg, please visit the IARC website through this Link. [5]

3.6 Confidentiality

To safeguard confidentiality during the collection, storage, utilization, and transmission of identifiable data, all requests for data disclosure should be submitted in writing to the registry. Requests involving the identification of individual subjects necessitate specific authorization, ensuring the implementation of suitable confidentiality safeguards.

3.7 Statistical Methods

3.7.1 Cumulative Risk

The cumulative incidence represents the probability or risk of developing a disease within a specified period. For cancer, this risk is defined as the number of newborn children (per 100) anticipated to develop a particular type of cancer before reaching the age of 75 years, assuming that they are exposed to age-specific incidence rates (ASIRs) observed during the defined period in the absence of competing causes. As a form of direct standardization, cumulative risk facilitates comparisons between populations with different age structures. This approach offers advantages over age-standardized rates (ASRs), including the elimination of reliance on an arbitrary standard population and enhanced interpretability, rendering it more accessible for communication with general audiences.

3.7.2 Age-standardized rate (ASR)

The ASR is the aggregate rate that would have been observed given the schedule of ASIR in a population with the age composition of a designated reference population, known as the standard population. The most widely accepted reference for international comparisons is the global standard population proposed by Segi and subsequently modified by Doll et al. The ASR is typically expressed per 100,000 individuals for all age groups and, owing to its relatively low occurrence, per 1,000,000 individuals for children and adolescents [Table 3.3]. [6]

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

Table 3.3 World Standard Population Used for Calculations

3.7.3 Age-specific incidence rate (ASIR)

The ASIR was calculated by dividing the number of new cancer cases observed within a specific age group during a defined period by the corresponding number of person-years within a population of the same age group and period. For oncological cases, the resulting number is typically expressed as a rate per 100,000 person-years.

3.7.4 Estimated Annual Percentage Change (EAPC)

The estimated annual percentage change (EAPC) was calculated using CanReg5 software, which automatically computed this value for each cancer type and population subgroup. The EAPC represents the average annual change in cancer incidence, with positive values indicating an increasing trend and negative values indicating a decreasing trend over a specified period. The EAPC calculation was based on a regression model applied to the natural logarithm of ASRs over time. The slope of the regression was used to estimate the APC.

3.7.5 Non-National Population

Of the six countries in the report, non-national population data were readily available for four; therefore, no estimation was required for these countries. However, for the remaining two countries, for which non-national population data were missing, an indirect estimation approach was applied. This method used an inverted calculation of ASIRs for each age group to estimate the non-national population. This calculation was performed separately for each age group to ensure that non-national population estimates were available across all age groups for these two countries. Using the available data on cancer cases and the corresponding ASIRs, the non-national populations of these countries were estimated, allowing for consistency and comparability across all six countries in the dataset.

3.7.6 Selection of Countries for ASR Comparison

The five Nordic countries, i.e., Denmark, Finland, Iceland, Norway, and Sweden, were selected for ASR comparisons with GCC nations because of the availability of standardized cancer data from the Global Cancer Observatory (GCO), which publishes its data via the online database GLOBOCAN. Collectively, these countries cover a combined area of approximately 4.4 million km2 and have a total population of approximately 27 million as of 2020 [Table 3.4]. This demographic diversity provides a robust context for analyzing cancer statistics and trends. The Nordic healthcare system is generally assumed to have consistent features, including tax-based funding, public ownership and operation of hospitals, universal access for residents, and comprehensive coverage.[7,8]

Country	Population	Area
Denmark	5,831,404	40,000km²
Finland	5,529,543	303,940km²
Iceland	366,463	100,830km²
Norway	5,379,475	3,644,285km²
Sweden	10,353,442	407,280km²
Total	**27,460,327**	**4,496,335km²**

Table 3.4 Nordic Population and Land Area based on World Bank - 2020.

Section Two

GCC Cancer Incidence
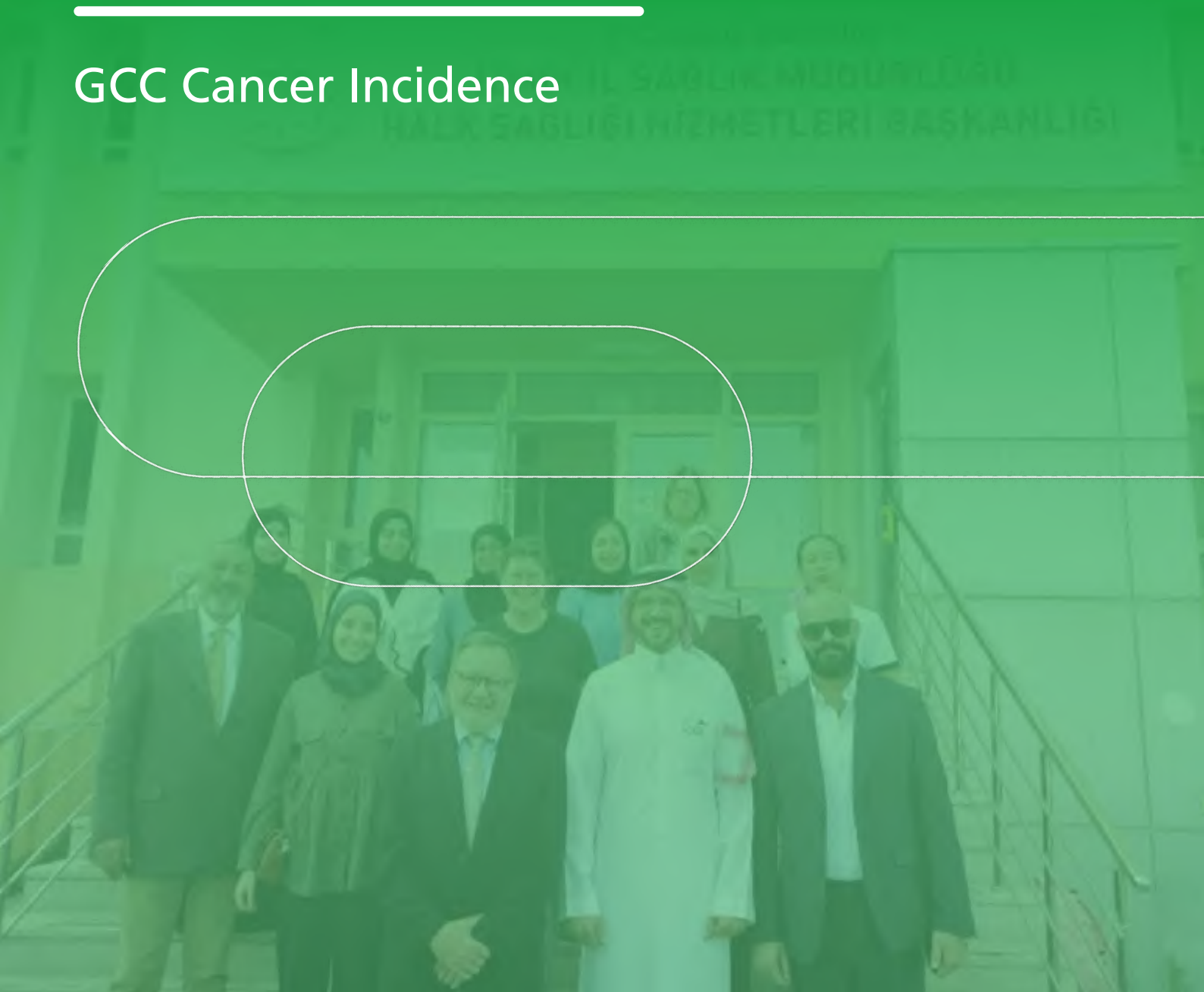
The report categorizes the results into two primary timeframes: 2013–2016 as the first period, and 2017–2020 as the second. Each timeframe is further subdivided by nationality and gender. This organizational framework offers a clear and comprehensive overview of trends and variations among different population groups.

4. GCC Cancer Incidence

4.1 Number of Cancer Cases in GCC

January 2013 to December 2020, excluding C44 (non-melanoma skin cancer), there was a total of 141639 new national patients diagnosed with cancer. Regarding non-nationals, there were a total of 72431 diagnosed cases of cancer. Between 2013 and 2019, both national and non-national cases demonstrated a consistent increase in reported cases which is likely due to the increase in population number. The number of national cases increased steadily from 15,966 cases in 2013 to 21,892 in 2019, with annual growth rates ranging from 1% to 8%. Similarly, non-national cases increased from 8,295 to 10,106 over the same period, with annual increases ranging from 0.3% to 5%. However, in 2020, both categories experienced a notable decline in the number of cases. National cases decreased by 39%, while non-national cases declined by 27%. This significant reduction is likely attributable to the COVID-19 pandemic, which may have disrupted healthcare services, screening procedures, or data reporting. From 2013 to 2016, 45% of national cases were male and 55% were female, while among non-national cases, 52% were male and 48% were female.

During 2017–2020, national cases consisted of 44% males and 56% females, whereas non-national cases consisted of 50% males and 50% females. [Figure 4.1,4.2,4.3]
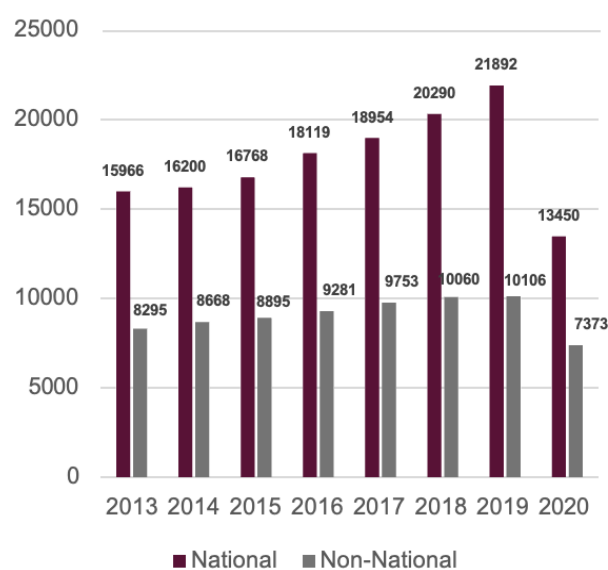
Figure 4.1 Number of GCC Cancer Cases per year 2013-2020

(Excluding C44 skin cancers)
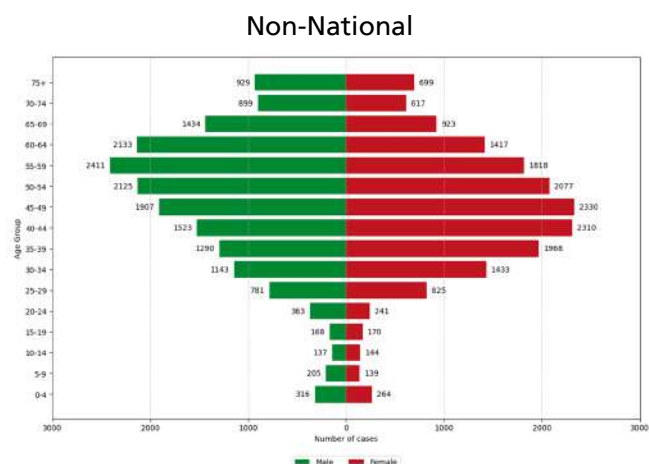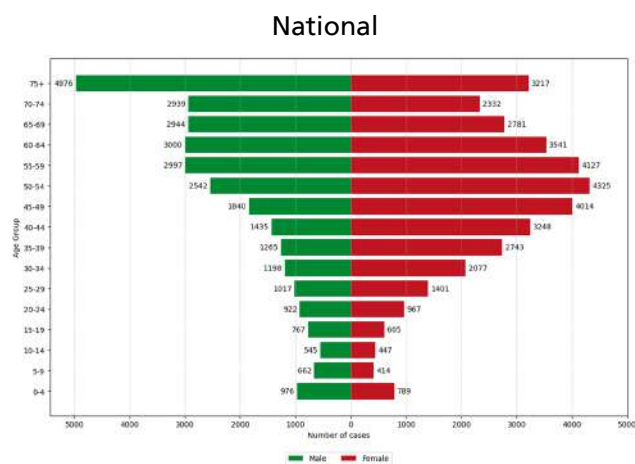
Figure 4.2 Distribution of GCC Cancer Cases by Age Group and Sex, 2013–2016
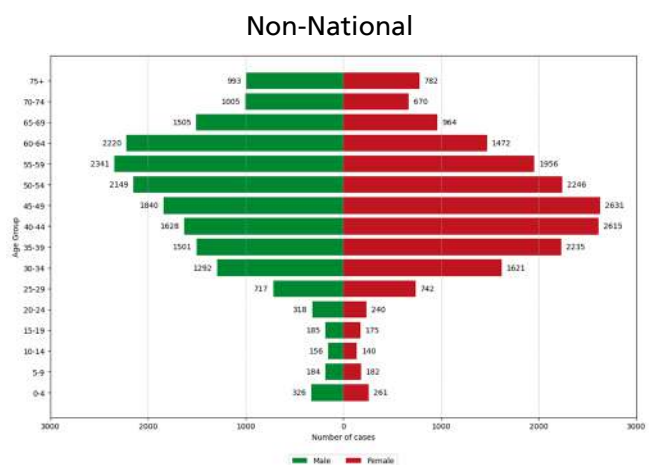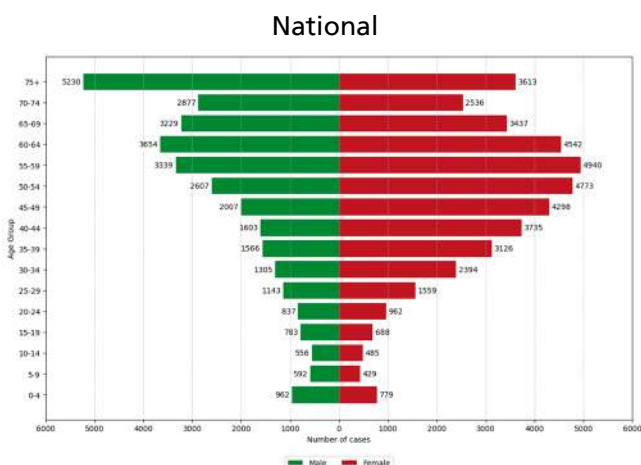
Figure 4.3 Distribution of GCC Cancer Cases by Age Group and Sex, 2017-2020

Figure 4.4 Overall Distribution of GCC Cancer Cases by Nationality, 2013–2020

4.2 Distribution of Cancer Cases in GCC

In both periods 2013–2016 and 2017–2020, KSA accounted for most cancer cases among nationals, comprising 71% and 67%, respectively. KSA also represented a significant share among non-nationals with 39% and 31% in the first and second periods, respectively. The UAE registered the second-highest number of cases among non-nationals, exhibiting a slight increase from 30% in the first period to 32% in the second. Among non-nationals, Qatar reported an increase from 12% to 18%. Other countries, such as the Kingdom of Bahrain, the State of Kuwait, and the Sultanate of Oman, remained relatively stable across populations and time frames [Figure 4.4].

4.3 Most Common Cancers in GCC

Among both nationals and non-nationals, the most frequently diagnosed malignancy in men was colorectal cancer (colon, rectum, and anus), followed by lymphoma. Breast cancer was the most common diagnosis in women, followed by malignant cancers of the thyroid then colorectal. [Figures 4.5–4.8 and Table 4.1].

National

Non-National

Figure 4.5 Number of Cases of the Top 10 Most Common GCC Cancers by Nationality and Sex, 0-75+ years, 2013-2016

National
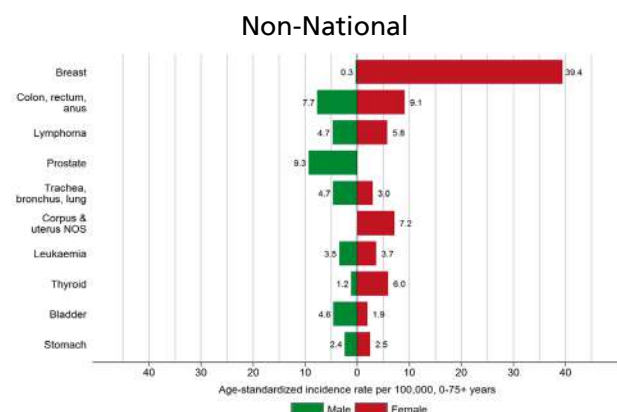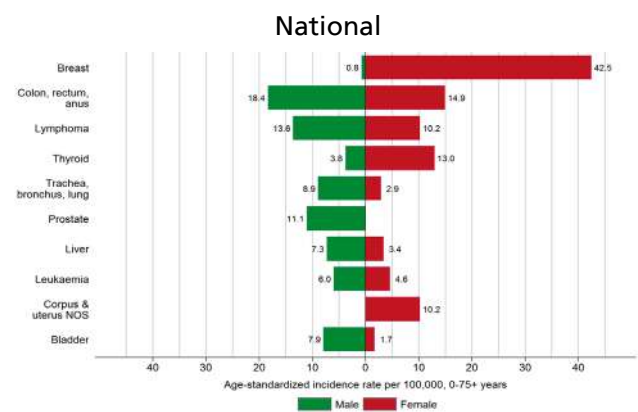
Non-National

Figure 4.6 ASR Per 100.000 of the Top 10 Most Common GCC Cancers by Nationality and Sex, 0-75+ years, 2013-2016

National
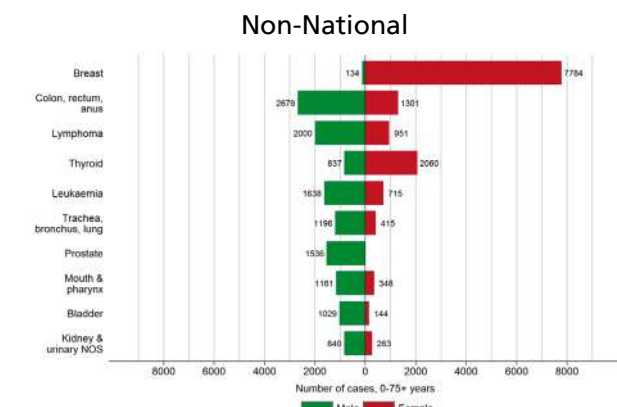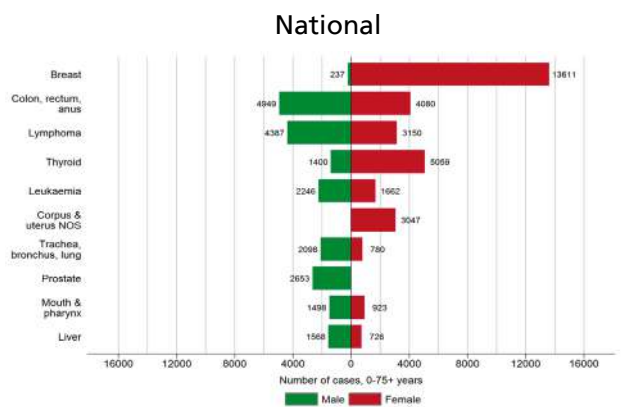
Non-National

Figure 4.7 Number of Cases of the Top 10 Most Common GCC Cancers by Nationality and Sex, 0-75+ years, 2017-2020

National
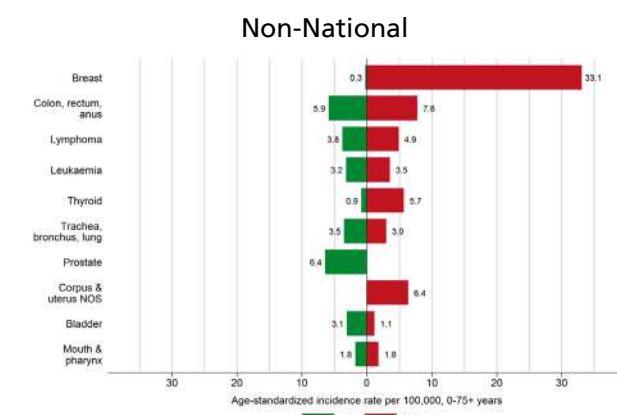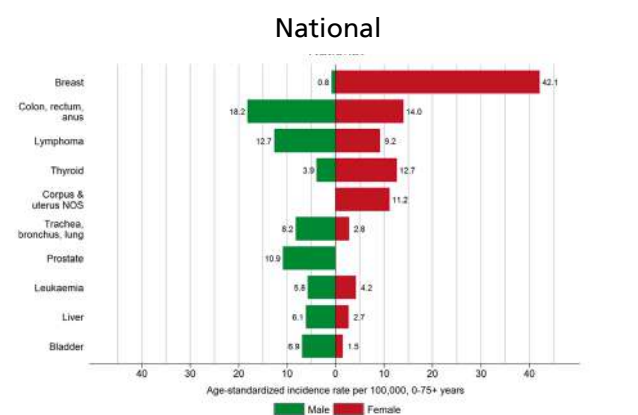
Non-National

Figure 4.8 ASR Per 100.000 of the Top 10 Most Common GCC Cancers by Nationality and Sex, 0-75+ years, 2017-2020

Top 10 Most Common Cancers Among Nationals – Number of Cases							
2013-2016				**2017-2020**			
Male		**Female**		**Male**		**Female**	
site	Count	site	Count	site	Count	site	Count
Colon, Rectum, Anus	4335	Breast	11531	Colon, Rectum, Anus	4949	Breast	13611
Lymphoma	4185	Thyroid	4404	Lymphoma	4387	Thyroid	5059
Prostate	2333	Colon, Rectum, Anus	3607	Prostate	2653	Colon, Rectum, Anus	4080
Leukemia	2144	Lymphoma	3001	Leukemia	2246	Lymphoma	3150
Trachea, Bronchus, Lung	1972	Corpus & Uterus NOS	2298	Trachea, Bronchus, Lung	2098	Corpus & Uterus NOS	3047
Bladder	1828	Leukemia	1593	Bladder	1819	Leukemia	1662
Liver	1633	Ovary & Adnexa	1213	Liver	1568	Ovary & Adnexa	1360
Mouth & Pharynx	1463	Mouth & Pharynx	871	Mouth & Pharynx	1498	Brain & CNS	947
Thyroid	1177	Brain & CNS	772	Thyroid	1400	Mouth & Pharynx	923
Stomach	1145	Liver	750	Kidney & Urinary NOS	1325	Kidney & Urinary NOS	844

Top 10 Most Common Cancers Among Nationals – ASR							
2013-2016				**2017-2020**			
Male		**Female**		**Male**		**Female**	
site	ASR	site	ASR	site	ASR	site	ASR
Colon, Rectum, Anus	18.4	Breast	42.5	Colon, Rectum, Anus	18.9	Breast	42.1
Lymphoma	13.6	Colon, Rectum, Anus	14.9	Lymphoma	12.7	Colon, Rectum, Anus	14.0
Prostate	11.1	Thyroid	13	Prostate	10.9	Thyroid	12.7
Trachea, Bronchus, Lung	8.9	Lymphoma	10.2	Trachea, Bronchus, Lung	8.2	Corpus & Uterus NOS	10.2
Bladder	7.9	Corpus & Uterus NOS	10.2	Bladder	6.9	Lymphoma	9.2
Liver	7.3	Leukemia	4.6	Liver	6.1	Ovary & Adnexa	4.3
Leukemia	6.0	Ovary & Adnexa	4.5	Leukemia	5.8	Leukemia	4.2
Mouth & Pharynx	5.6	Liver	3.4	Mouth & Pharynx	5.1	Mouth & Pharynx	2.9
Stomach	4.9	Mouth & Pharynx	3.4	Kidney & Urinary NOS	4.5	Trachea, Bronchus, Lung	2.7
Kidney & Urinary NOS	4.5	Stomach	3.0	Thyroid	3.9	Liver	2.7

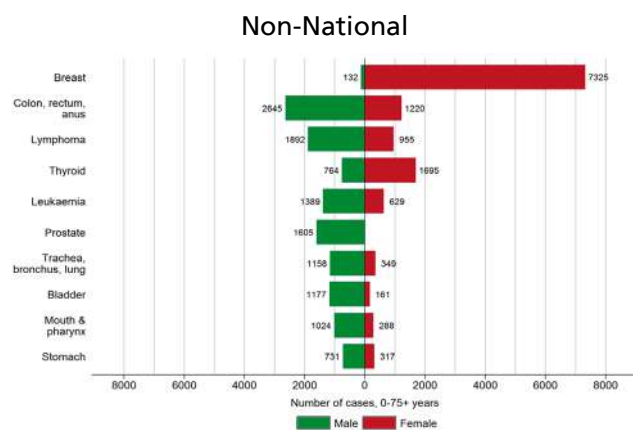| Top 10 Most Common Cancers Among Non-Nationals – Number of Cases							
2013-2016				**2017-2020**			
Male		**Female**		**Male**		**Female**	
site	Count	site	Count	site	Count	site	Count
Colon, Rectum, Anus	2645	Breast	7325	Colon, Rectum, Anus	2679	Breast	7784
Lymphoma	1892	Thyroid	1695	Lymphoma	2000	Thyroid	2060
Prostate	1605	Colon, Rectum, Anus	1220	Leukemia	1638	Colon, Rectum, Anus	1301
Leukemia	1389	Lymphoma	955	Prostate	1536	Corpus & Uterus NOS	1052
Bladder	1177	Corpus & Uterus NOS	902	Trachea, Bronchus, Lung	1196	Lymphoma	951
Trachea, Bronchus, Lung	1158	Cervix	712	Mouth & Pharynx	1161	Cervix	822
Mouth & Pharynx	1024	Ovary & Adnexa	665	Bladder	1029	Leukemia	715
Thyroid	764	Leukemia	629	Kidney & Urinary NOS	840	Ovary & Adnexa	704
Stomach	731	Trachea, Bronchus, Lung	349	Thyroid	837	Trachea, Bronchus, Lung	415
Kidney & Urinary NOS	715	Stomach	317	Brain & CNS	717	Mouth & Pharynx	348

Top 10 Most Common Cancers Among Non-Nationals – ASR							
2013-2016				**2017-2020**			
Male		**Female**		**Male**		**Female**	
site	ASR	site	ASR	site	ASR	site	ASR
Prostate	9.3	Breast	39.4	Prostate	6.4	Breast	33.1
Colon, Rectum, Anus	7.7	Colon, Rectum, Anus	9.1	Colon, Rectum, Anus	5.9	Colon, Rectum, Anus	7.8
Lymphoma	4.7	Corpus & Uterus NOS	7.2	Lymphoma	3.8	Corpus & Uterus NOS	6.4
Trachea, Bronchus, Lung	4.7	Thyroid	6.0	Trachea, Bronchus, Lung	3.5	Thyroid	5.7
Bladder	4.6	Lymphoma	5.8	Leukemia	3.2	Lymphoma	4.9
Leukemia	3.5	Ovary & Adnexa	4.2	Bladder	3.1	Leukemia	3.5
Stomach	2.4	Leukemia	3.7	Mouth & Pharynx	1.8	Ovary & Adnexa	3.2
Liver	2.1	Cervix	3.4	Kidney & Urinary NOS	1.7	Trachea, Bronchus, Lung	3.0
Kidney & Urinary NOS	1.9	Trachea, Bronchus, Lung	3.0	Stomach	1.6	Cervix	2.8
Mouth & Pharynx	1.9	Stomach	2.5	Liver	1.5	Mouth & Pharynx	1.8

Tables 4.1 Number of Cases and ASR Per 100.000 of The Top 10 Most Common Cancers Among Nationals, 0-75+ years, 2013-2020

GCDC
المركز الخليجي للوقاية من الأمراض ومكافحتها
Gulf Center for Disease Prevention and Control

4.4 ASR Time Trend in GCC

From 2013 to 2020, the ASR per 100,000 for all cancers, excluding C44 (non-melanoma cancers of the skin), exhibited contrasting trends between national and non-national populations. Among nationals, both males and females generally showed an increasing trend from 2013 to 2019. Among national males, the ASR per 100,000 increased from 116.43 in 2013 to a peak of 127.1 in 2019, whereas among national females, the ASR increased from 139.48 to 150.11 during the same period, indicating an increase in cancer burden over the years. However, in 2020, the ASR per 100,000 showed a significant decrease for both sexes, with that of males decreasing to 74.09 and that of females to 86.55. This notable decrease is likely attributable to the COVID-19 pandemic, which disrupted healthcare services, delayed diagnoses, and potentially resulted in the underreporting of cancer cases. Conversely, the non-national population showed a consistent decrease in ASR per 100,000 throughout the entire reporting period. In non-national males, the ASR per 100,000 steadily decreased from 66.36 in 2013 to 31.05 in 2020, whereas in non-national females, the ASR per 100,000 decreased from 117.67 to 61.36. Similar to the national population, the most substantial reduction occurred in 2020, further emphasizing the widespread impact of the pandemic on cancer data across both populations [Figures 4.9 and 4.10].

4.5 Comparison of ASR

From 2013 to 2016, the entire GCC region and its individual member states reported notably lower ASRs per 100,000 for both males and females compared to Nordic countries, including Denmark, Norway, Finland, Sweden, and Iceland, available at GLOBOCAN. In GCC countries, the ASR of females was higher than that of males, whereas the opposite was true in Nordic countries. This trend continued and became even more pronounced in 2017–2020, as GCC countries either reported decreasing or stable ASRs, whereas other countries continued to show much higher rates for both sexes [Figures 4.11 and 4.12].
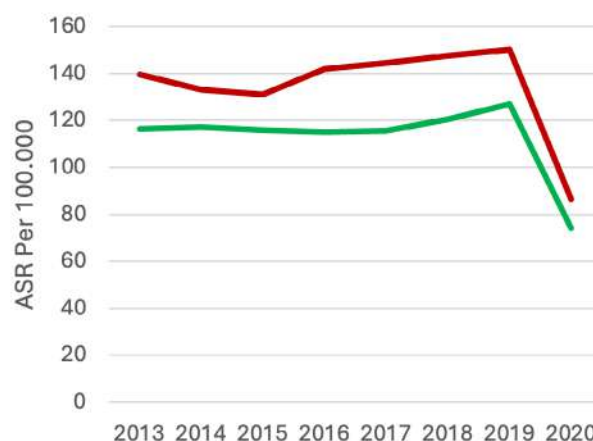
Figure 4.9 Time Trend of ASR for all GCC Cancers by Sex Among National, 2013–2020
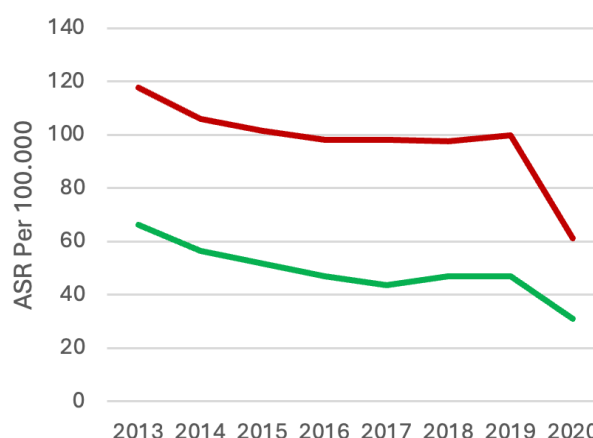
Figure 4.10 Time Trend of ASR for all GCC Cancers by Sex Among Non-National, 2013–2020

4.6 Cumulative Risk for the top 10 Cancers in GCC

Among national males, colorectal cancer exhibited in both periods 2013–2016 and 2017–2020 the highest cumulative risk of incidence before the age of 75 years, followed by prostate cancer. Conversely, among nonnational males, prostate cancer represented the highest risk, followed by colorectal cancer. For both national and non-national females, breast cancer consistently had the highest cumulative risk in both periods, with colorectal cancer ranking second [Figures 4.13–4.16].

4.7 Estimated annual Change

Nearly all EAPCs for the most common cancers in nationals showed positive values between 2013 and 2019, indicating increases. In national females, increases were observed in cancers of the breast; corpus & uterus, NOS; kidney & urinary; thyroid; and pancreas. In national males, the greatest increase was observed in cancers of the breast, testis, and thyroid. In non-national populations, most of the top cancers showed negative EAPC values in both sexes. Among non-national females, the EAPC values of nearly all cancers decreased, except for leukemia, melanoma of the skin, and cancers of the thyroid; brain & central nervous system (CNS); and trachea, bronchus, and lung. In non-national males, the EAPCs of most cancers also decreased, except for that of the testes. The year 2020 was excluded because the COVID-19 pandemic may have affected the estimates [Figures 4.17–4.20].

4.8 Age Specific Incidence Rates

Across all sexes, nationalities, and periods, cancer incidence rates were lower in childhood and early adulthood. As individuals moved to middle and older age, a gradual and more noticeable increase in cancer rates can be observed. This increase was particularly pronounced in the oldest age group. While the overall pattern of increasing incidence with age was consistent for both males and females, this increase tended to start slightly earlier in females than in males [Figures 4.21–4.28].

Figure 4.11 ASR Comparison for all GCC Cancers by Sex, 2013–2016
*ASR Per 100,000 Globocan 2022 (version 1.1) 08.02.2024, IARC – Cancer Incidence among GCC Nationals

Figure 4.12 ASR Comparison for all GCC Cancers by Sex, 2017-2020
*ASR Per 100,000 Globocan 2022 (version 1.1) 08.02.2024, IARC – Cancer Incidence among GCC Nationals

National Male

Cancer	Value
Colon, Rectum, Anus	2.24
Prostate	1.44
Lymphoma	1.41
Trachea, Bronchus, Lung	1.14
Bladder	0.94
Liver	0.92
Mouth & Pharynx	0.64
Stomach	0.58
Kidney & Urinary NOS	0.54
Leukemia	0.54

National Female

Cancer	Value
Breast	4.63
Colon, Rectum, Anus	1.78
Corpus & Uterus NOS	1.31
Thyroid	1.25
Lymphoma	1.1
Ovary & Adnexa	0.53
Leukemia	0.42
Liver	0.42
Mouth & Pharynx	0.39
Trachea, Bronchus, Lung	0.35

Figure 4.13 Cumulative Risk of Leading Cancers Among GCC Nationals, 2013-2016

National Male

Cancer	Value
Colon, Rectum, Anus	2.23
Prostate	1.38
Lymphoma	1.3
Trachea, Bronchus, Lung	1.04
Bladder	0.85
Liver	0.76
Mouth & Pharynx	0.67
Leukemia	0.53
Kidney & Urinary NOS	0.52
Pancreas	0.49

National Female

Cancer	Value
Breast	4.61
Colon, Rectum, Anus	1.67
Corpus & Uterus NOS	1.47
Thyroid	1.21
Lymphoma	0.99
Ovary & Adnexa	0.5
Leukemia	0.39
Liver	0.35
Trachea, Bronchus, Lung	0.34
Mouth & Pharynx	0.33

Figure 4.14 Cumulative Risk of Leading Cancers Among GCC Nationals, 2017-2020

Non-National Male

Cancer	Value
Prostate	1.13
Colon, Rectum, Anus	0.9
Bladder	0.51
Trachea, Bronchus, Lung	0.51
Lymphoma	0.44
Leukemia	0.28
Liver	0.26
Stomach	0.26
Kidney & Urinary NOS	0.23
Mouth & Pharynx	0.21

Non-National Female

Cancer	Value
Breast	4.44
Colon, Rectum, Anus	1.02
Corpus & Uterus NOS	0.93
Lymphoma	0.64
Thyroid	0.64
Ovary & Adnexa	0.46
Trachea, Bronchus, Lung	0.36
Cervix	0.35
Leukemia	0.34
Stomach	0.31

Figure 4.15 Cumulative Risk of Leading Cancers Among GCC Non-Nationals, 2013-2016

Non-National Male

Cancer	Value
Prostate	0.75
Colon, Rectum, Anus	0.69
Trachea, Bronchus, Lung	0.4
Lymphoma	0.37
Bladder	0.34
Leukemia	0.26
Kidney & Urinary NOS	0.19
Mouth & Pharynx	0.19
Stomach	0.18
Liver	0.17

Non-National Female

Cancer	Value
Breast	3.68
Colon, Rectum, Anus	0.87
Corpus & Uterus NOS	0.76
Lymphoma	0.54
Thyroid	0.54
Ovary & Adnexa	0.36
Trachea, Bronchus, Lung	0.34
Leukemia	0.31
Cervix	0.28
Mouth & Pharynx	0.21

Figure 4.16 Cumulative Risk of Leading Cancers Among GCC Non-Nationals, 2017-2020
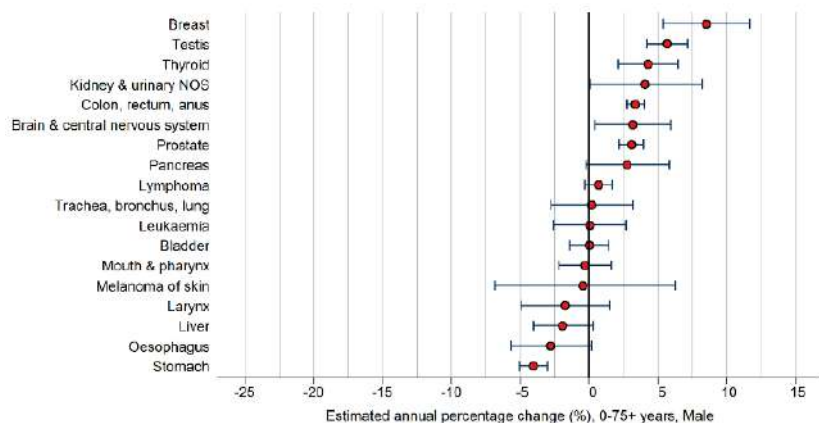
Figure 4.17 Estimated Annual Percentage Change, 0-75+, **Nationals Males** in the GCC Region, 2013-2019
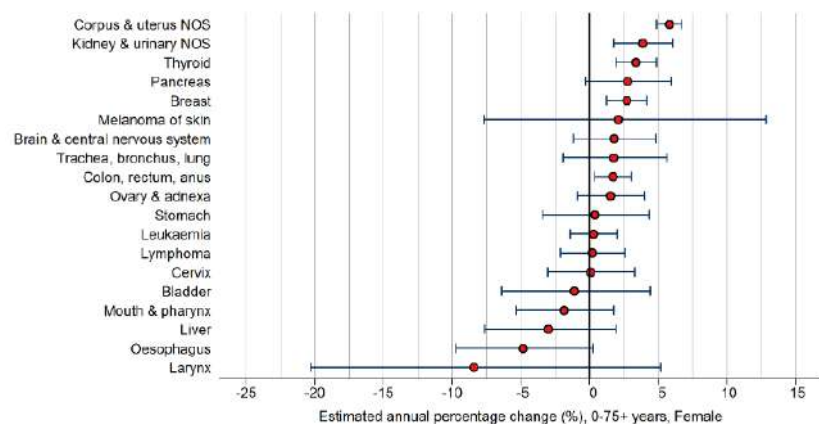
Figure 4.18 Estimated Annual Percentage Change, 0-75+, **Nationals Female** in the GCC Region, 2013-2019
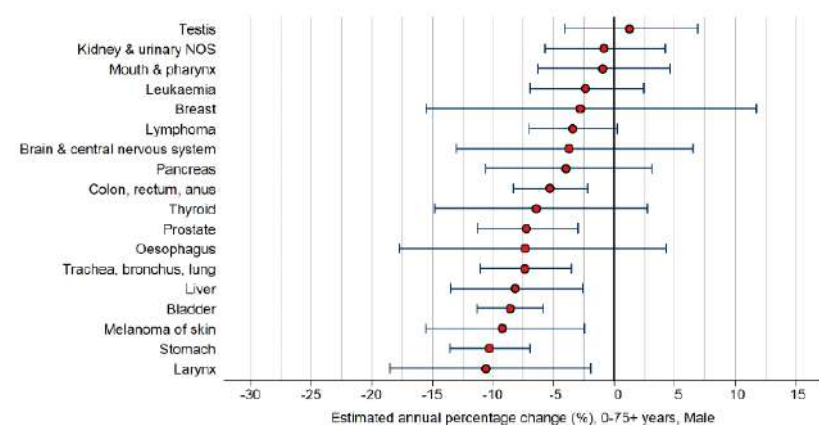
Figure 4.19 Estimated Annual Percentage Change, 0-75+, **Non-Nationals Male** in the GCC Region, 2013-2019
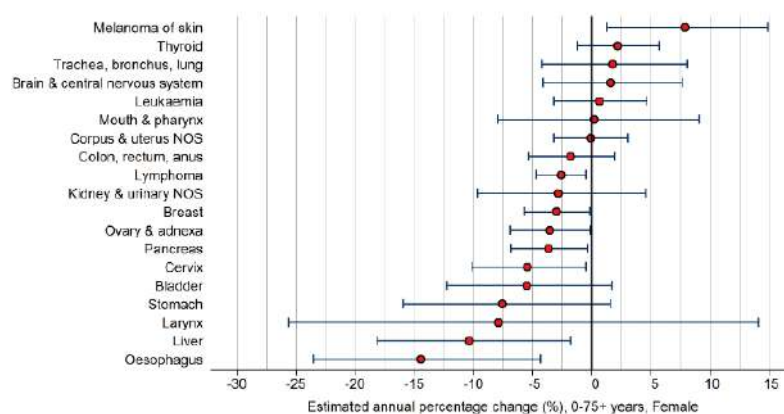
Figure 4.20 Estimated Annual Percentage Change, 0-75+, **Non-Nationals Female** in the GCC Region, 2013-2019
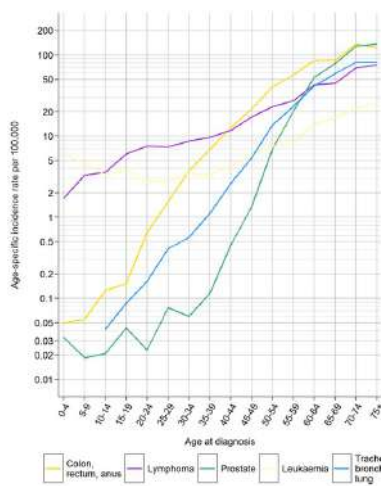
Figure 4.21 Age Specific Incidence Rates Among **GCC Nationals Males** , 2013-2016
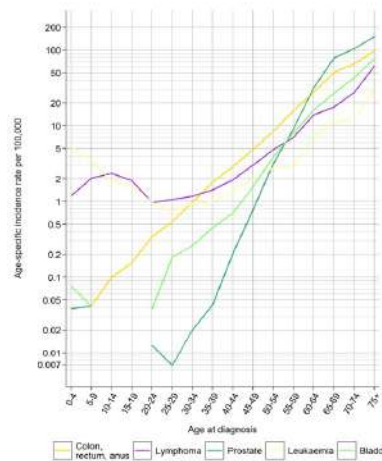
Figure 4.25 Age Specific Incidence Rates Among **GCC Non-Nationals Male**, 2013-2016
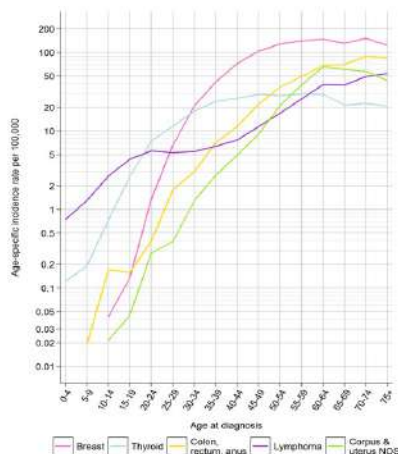
Figure 4.22 Age Specific Incidence Rates Among GCC **Nationals Female**, 2013-2016
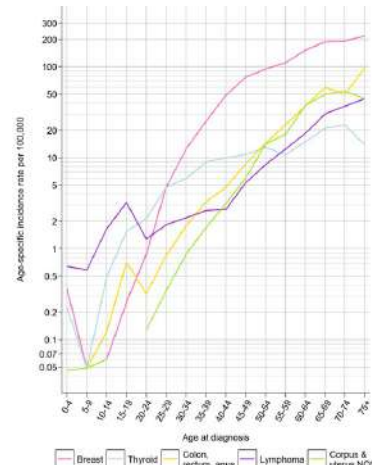
Figure 4.26 Age Specific Incidence Rates Among GCC **Non-Nationals Female**, 2013-2016
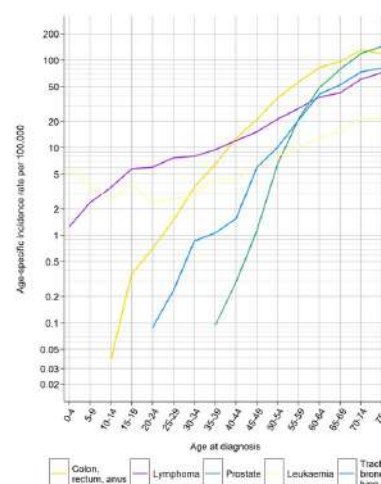
Figure 4.23 Age Specific Incidence Rates Among GCC **Nationals Male**, 2017-2020
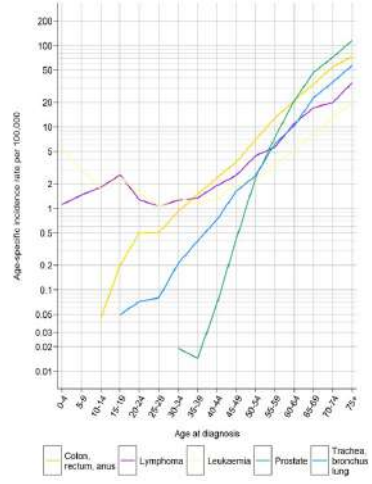
Figure 4.27 Age Specific Incidence Rates Among GCC **Non-Nationals Male**, 2017-2020
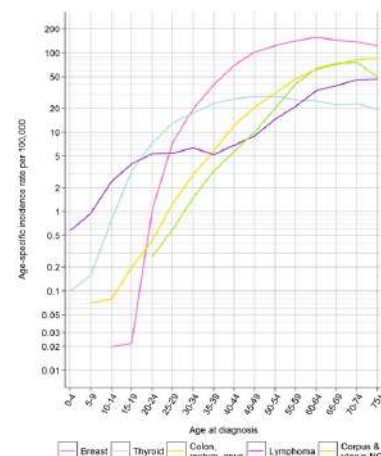
Figure 4.24 Age Specific Incidence Rates Among GCC **Nationals Female**, 2017-2020
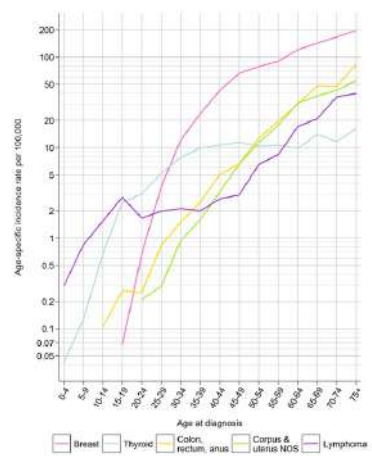
Figure 4.28 Age Specific Incidence Rates Among GCC **Non-Nationals Female**, 2017-2020

Section Three

GCC Most Common Cancers
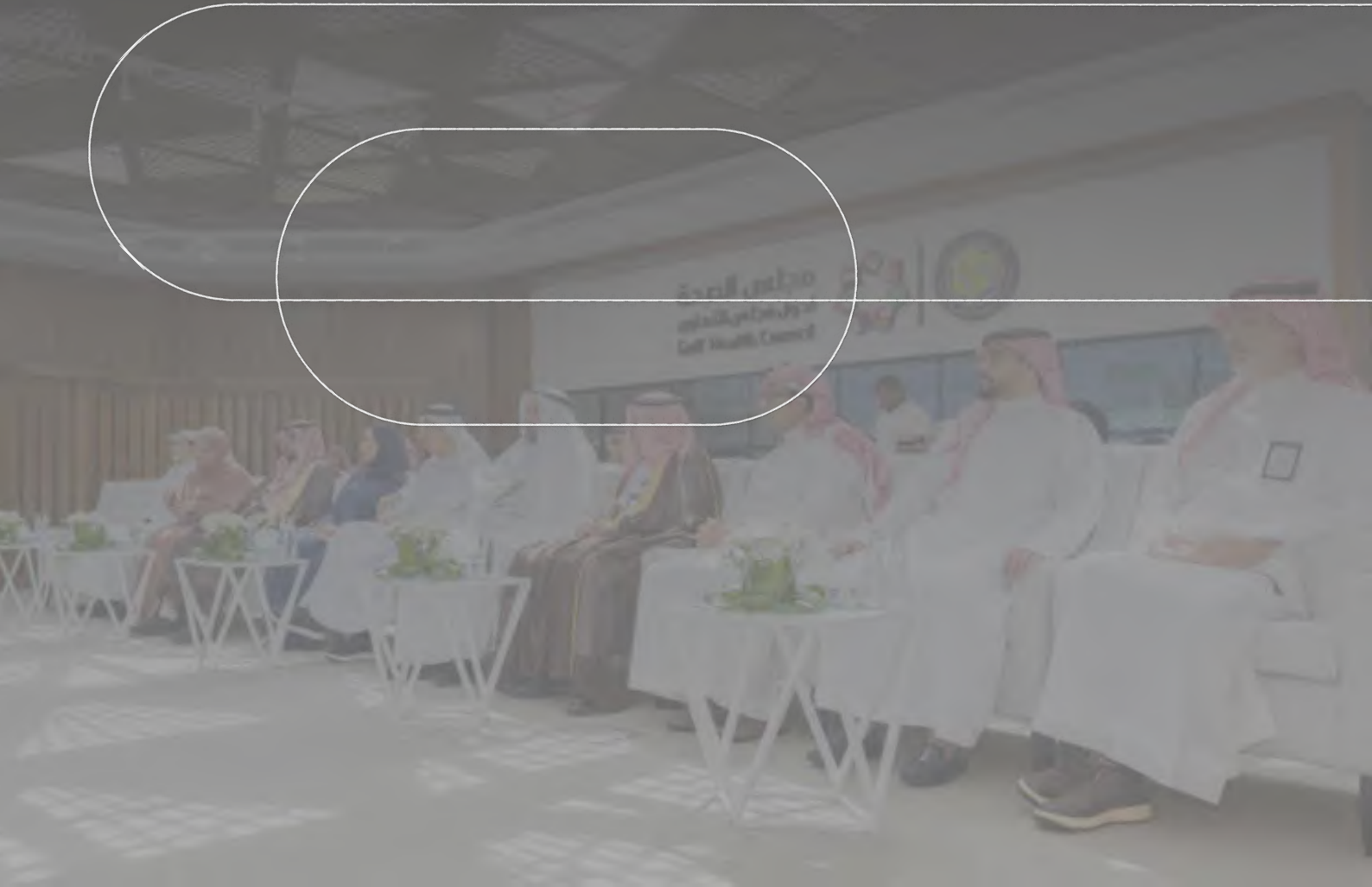
5.1.1 ASR Time Trend
—

From 2013 to 2019, the ASR per 100,000 exhibited for breast cancer cases among national females a generally increasing trend, rising from 49.43 to a peak of 54.47. However, a pronounced decrease was observed in 2020, decreasing significantly to 31.89, which may be attributable to diminished cancer detection during the COVID-19 pandemic. The corresponding trend in nonnational females diverged, with the ASR steadily decreasing from 53.49 in 2013 to 42.73 in 2019. Similar to the cohort of national females, non-national females also showed a substantial decrease in 2020, with the rate dropping to 26.93, likely due to pandemic-related factors [Figure 5.1].

5.1.2 Extent of the disease [SEER]
—

The distribution of SEER staging for breast cancer indicates improvements in early detection over time, particularly among national females. From 2013–2016 to 2017–2020, the proportion of national females diagnosed at the localized stage increased from 35% to 43%, whereas the percentage of cases with unknown stage decreased from 15% to 7%. Among non-national females, there was a similar modest increase in localized-stage diagnoses from 34% to 40%, along with a reduction in cases with unknown staging from 20% to 13%. However, compared with nationals, non-nationals consistently exhibited a lower proportion of early-stage detections and a higher percentage of cases with unknown stage [Figure 5.2].

5.1.3 Comparison of ASR
—

In the periods 2013–2016 and 2017–2020, the GCC region had much lower ASRs per 100,000 for female breast cancer than other countries available in the GLOBOCAN database during the reporting time. The ASR in GCC countries remained relatively stable at 42. All GCC member states, particularly the UAE and Oman, continued to report lower ASRs than the Nordic countries [Figures 5.3 and 5.4].

Figure 5.1 Time Trend of Breast Cancer Cases by Nationality in The GCC Region, 2013-2020

Figure 5.2 SEER Staging Distribution of Breast Cancer Cases by Nationality in The GCC Region, 2013–2020
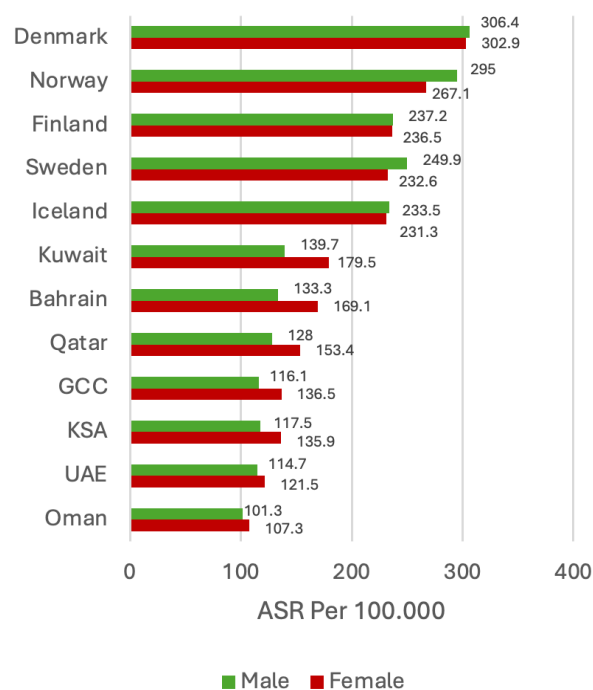

Figure 5.3 ASR Comparison of Breast Cancer Among Females, 2013-2016 *ASR Per 100,000 Globocan 2022 (version 1.1) 08.02.2024, IARC – Cancer Incidence among GCC Nationals
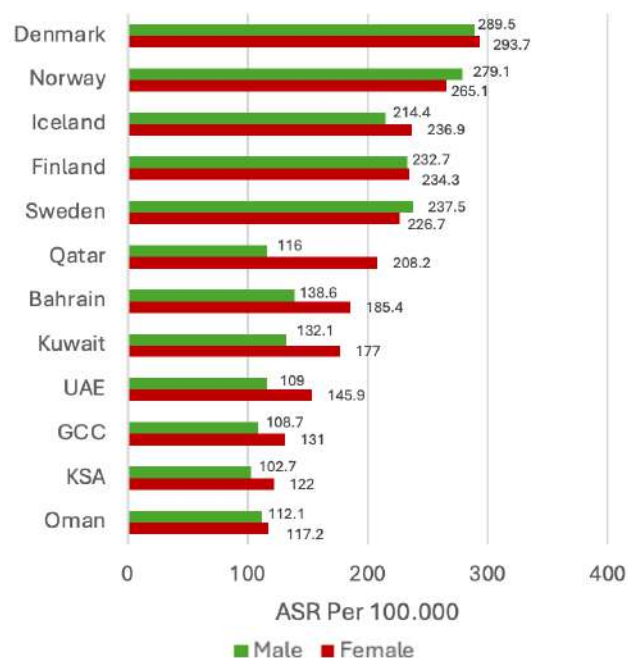
Figure 5.4 ASR Comparison of Breast Cancer Among Females, 2017-2020
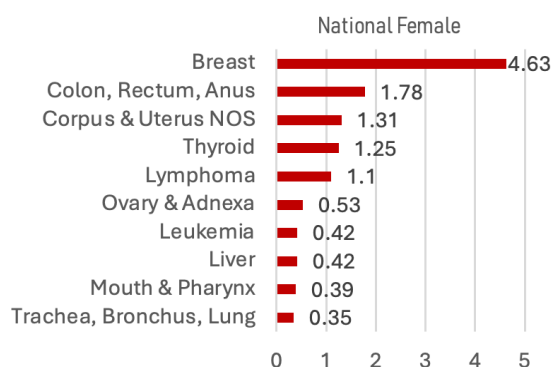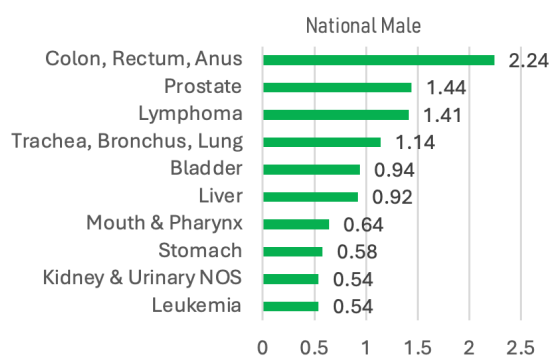*ASR Per 100,000 Globocan 2022 (version 1.1) 08.02.2024, IARC – Cancer Incidence among GCC Nationals

5.1.4 Morphological Distribution

The morphological distribution of breast cancer according to reporting period and nationality demonstrated consistent patterns across both time frames and population groups. Among national females, infiltrating duct carcinoma (8500) was the most prevalent type, accounting for 80% of the cases in 2013–2016 and 78% in 2017–2020. This was followed by lobular carcinoma (8520), representing 7% of the cases in both periods. A slight increase from 2% to 3% was observed in infiltrating duct and lobular carcinoma (8522). For non-national females, infiltrating duct carcinoma (8500) was predominant, constituting 79% of the cases in 2013–2016 and 77% in 2017–2020. This was followed by lobular carcinoma (8520) at 6% in both periods. Notably, malignant neoplasms (8000) and carcinoma, NOS (8010) appeared more frequently in the non-national group than in the national group, maintaining approximately 2–3% across both periods [Table 5.1].

National Female, 2013–2016			National Female, 2017–2020			Non-National Female, 2013–2016			Non-National Female, 2017–2020		
Code	Morphology	%	Code	Morphology	%	Code	Morphology	%	Code	Morphology	%
8500	Infiltrating duct carcinoma, NOS	80.2%	8500	Infiltrating duct carcinoma, NOS	78.5%	8500	Infiltrating duct carcinoma, NOS	78.7%	8500	Infiltrating duct carcinoma, NOS	76.8%
8520	Lobular carcinoma, NOS	6.7%	8520	Lobular carcinoma, NOS	7.1%	8520	Lobular carcinoma, NOS	5.5%	8520	Lobular carcinoma, NOS	6.4%
8522	Infiltrating duct and lobular carcinoma	2.4%	8522	Infiltrating duct and lobular carcinoma	2.7%	8000	Neoplasm, malignant	3.0%	8000	Neoplasm, malignant	3.4%
8010	Carcinoma, NOS	2.0%	8010	Carcinoma, NOS	2.3%	8010	Carcinoma, NOS	2.6%	8522	Infiltrating duct and lobular carcinoma	2.7%
8000	Neoplasm, malignant	1.9%	8000	Neoplasm, malignant	2.0%	8522	Infiltrating duct and lobular carcinoma	2.3%	8010	Carcinoma, NOS	2.3%
8523	Infiltrating duct mixed with other types of carcinoma	1.2%	8501	Comedocarcinoma, NOS	1.4%	8521	Infiltrating ductular carcinoma	1.8%	8523	Infiltrating duct mixed with other types of carcinoma	1.5%
8480	Mucinous adenocarcinoma	0.8%	8523	Infiltrating duct mixed with other types of carcinoma	1.1%	8480	Mucinous adenocarcinoma	1.0%	8480	Mucinous adenocarcinoma	0.9%
8140	Adenocarcinoma, NOS	0.6%	9020	Phyllodes tumour, malignant	0.6%	8523	Infiltrating duct mixed with other types of carcinoma	1.0%	8501	Comedocarcinoma, NOS	0.8%
9020	Phyllodes tumor, malignant	0.6%	8480	Mucinous adenocarcinoma	0.6%	8140	Adenocarcinoma, NOS	0.8%	8230	Solid carcinoma, NOS	0.7%
8510	Medullary carcinoma, NOS	0.5%	8050	Papillary carcinoma, NOS	0.4%	8510	Medullary carcinoma, NOS	0.7%	9020	Phyllodes tumor, malignant	0.6%
Other	Other	3.1%	Other	Other	3.9%	Other	Other	2.6%	Other	Other	3.9%
Total	All	100%	Total	All	100%	Total	All	100%	Total	All	100%

Table 5.1 Morphological Distribution of Breast Cancer in the GCC Region, 2013-2020

5.2 Colorectal Cancer

5.2.1 ASR Time Trend

From 2013 to 2019, the ASRs per 100,000 demonstrated a general upward trend for colorectal cancer in national males and national females, with rates increasing from 19.78 to 24.6 for males and from 17.48 to 18.27 for females. A notable decrease was observed in 2020, with the ASRs decreasing to 13.43 for national males and to 9.72 for national females. Among non-nationals, the ASRs exhibited a more consistent decrease over time. For nonnational males, the rate decreased from 10.65 in 2013 to 7.58 in 2019 and further to 4.64 in 2020. Similarly, nonnational females showed a decrease from 11.65 in 2013 to 10.12 in 2019, subsequently decreasing to 5.62 in 2020. The observed reduction in 2020 across all groups is indicative of the impact of the COVID-19 pandemic on cancer reporting [Figure 5.5].
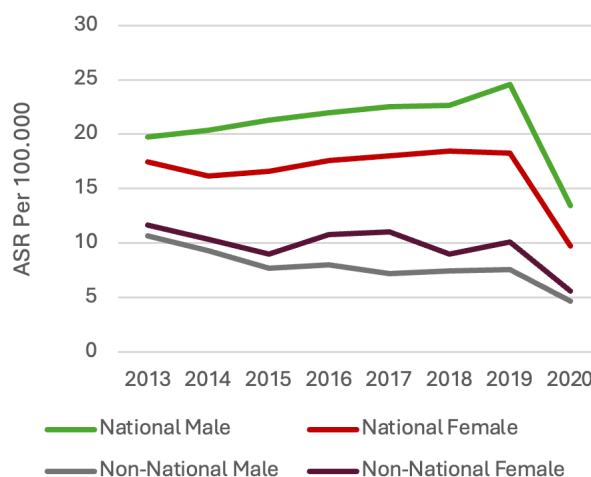
Figure 5.5 Time Trend of Colorectal Cancer Incidence by Nationality in The GCC Region, 2013–2020

5.2.2 Extent of the disease [SEER]

The SEER staging distribution of colorectal cancer across the two periods (2013–2016 and 2017–2020) indicates an improvement in early-stage diagnoses across all demographic groups. Among national males, the proportion of cases diagnosed at the localized stage increased from 25% to 31%, whereas the percentage of cases with unknown stage decreased from 14% to 8%. A similar trend was observed among national females, with the proportion of localized-stage cases rising from 24% to 30% and that of cases with unknown stage decreasing from 15% to 8%. For non-national males, the percentage of localized cases increased from 27% to 29%, whereas that of cases with unknown stage decreased from 20% to 13%. Non-national females exhibited an increase in the percentage of localized-stage cases from 25% to 28%, alongside a reduction in that of unknown-stage cases from 19% to 12%. Overall, the data suggest a progression toward earlier detection of colorectal cancer in the period 2017–2020, accompanied by a decrease in the proportion of cases with unknown stage [Figures 5.6 and 5.7].

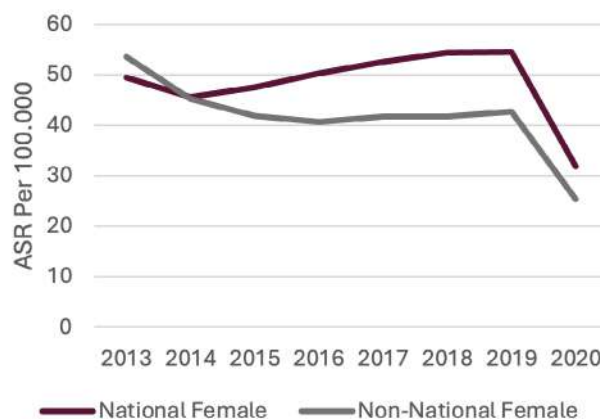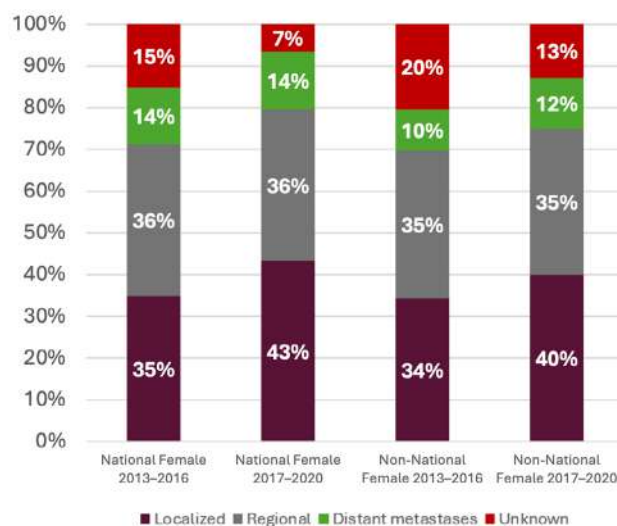Figure 5.6 SEER Staging Distribution of Colorectal Cancer Cases by Nationality in The GCC Region, 2013–2016

Figure 5.7 SEER Staging Distribution of Colorectal Cancer Cases by Nationality in The GCC Region, 2017–2020
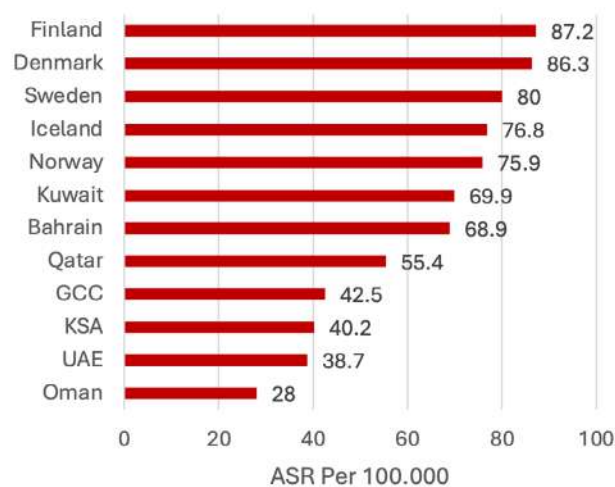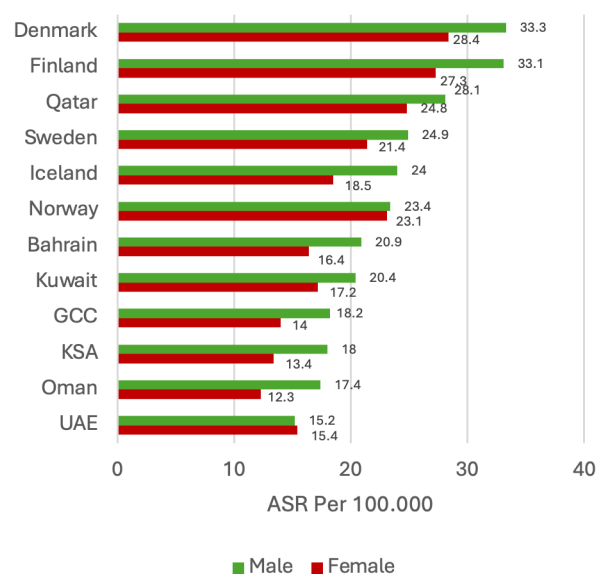
5.2.3 Comparison of ASR

—

In both 2013–2016 and 2017–2020, the ASR per 100,000 for colorectal cancer remained consistently lower in the GCC region and its member countries compared to those in Nordic countries, as reported by GLOBOCAN. The GCC average (females: 14, males: 18) remained relatively stable across both periods. Among the GCC states, Oman and the UAE had the lowest ASRs, whereas Qatar showed the highest ASR for males in 2017–2020. Nordic countries, such as Denmark and Finland, have reported much higher ASRs for both sexes [Figures 5.8 and 5.9].

5.2.4 Morphological Distribution

—

The morphological distribution of colorectal cancer by reporting period and nationality showed a consistent predominance of adenocarcinoma, NOS (8140) across all groups. Among males, it accounted for 79% of the cases in 2013–2016 and increased slightly to 81% in 2017–2020. National females showed a stable pattern, with adenocarcinoma, NOS (8140) consistently representing 81% in both periods. Non-national males and females also had high proportions of adenocarcinoma, NOS, with 75% and 77%, respectively, in 2013–2016, which decreased slightly to 74% and 75%, respectively, in 2017–2020. Mucinous adenocarcinoma (8480) was the second most common type, maintaining a steady share of 6–7% across all groups and periods. Other morphologies—such as signet ring cell carcinoma (8490); carcinoma, NOS (8010); and neuroendocrine carcinoma (8246)—appeared less frequently, generally in the range of 1–3%. Although minor variations in less common morphologies occurred over time, the overall pattern remained stable, with adenocarcinoma, NOS continuing to be the most prevalent across national and non-national populations and time frames [Tables 5.2 and 5.3].

Figure 5.8 ASR Comparison of Colorectal Cancer by Sex, 2013-2016
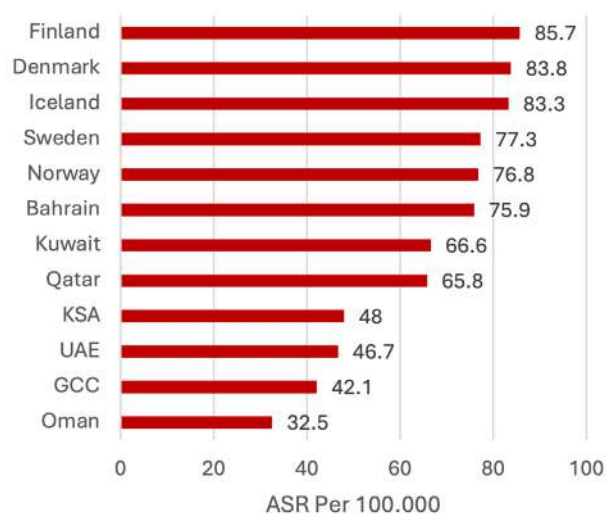*ASR Per 100,000 Globocan 2022 (version 1.1) 08.02.2024, IARC – Cancer Incidence among GCC Nationals

Figure 5.9 ASR Comparison of Colorectal Cancer by Sex, 2017-2020
*ASR Per 100,000 Globocan 2022 (version 1.1) 08.02.2024, IARC – Cancer Incidence among GCC Nationals

National Male			National Female			Non-National Male			Non-National Female		
Code	Morphology	%	Code	Morphology	%	Code	Morphology	%	Code	Morphology	%
8140	Adenocarcinoma, NOS	78.8%	8140	Adenocarcinoma, NOS	81.5%	8140	Adenocarcinoma, NOS	74.7%	8140	Adenocarcinoma, NOS	77.0%
8480	Mucinous adenocarcinoma	6.8%	8480	Mucinous adenocarcinoma	6.1%	8480	Mucinous adenocarcinoma	7.4%	8480	Mucinous adenocarcinoma	6.6%
8000	Neoplasm, malignant	2.0%	8263	Adenocarcinoma in tubulovillous adenoma	1.8%	8490	Signet ring cell carcinoma	2.8%	8000	Neoplasm, malignant	2.7%
8490	Signet ring cell carcinoma	2.0%	8000	Neoplasm, malignant	1.6%	8000	Neoplasm, malignant	2.3%	8240	Neuroendocrine tumor, NOS	1.7%
8010	Carcinoma, NOS	1.8%	8490	Signet ring cell carcinoma	1.6%	8010	Carcinoma, NOS	1.9%	8010	Carcinoma, NOS	1.6%
8263	Adenocarcinoma in tubulovillous adenoma	1.6%	8010	Carcinoma, NOS	1.3%	8144	Adenocarcinoma, intestinal type	1.8%	8490	Signet ring cell carcinoma	1.4%
8261	Adenocarcinoma in villous adenoma	1.0%	8261	Adenocarcinoma in villous adenoma	1.1%	8240	Neuroendocrine tumour, NOS	1.4%	8144	Adenocarcinoma, intestinal type	1.2%
8070	Squamous cell carcinoma, NOS	1.0%	8246	Neuroendocrine carcinoma, NOS	0.8%	8246	Neuroendocrine carcinoma, NOS	1.4%	8070	Squamous cell carcinoma, NOS	1.2%
8246	Neuroendocrine carcinoma, NOS	0.9%	8481	Mucin-producing adenocarcinoma	0.7%	8263	Adenocarcinoma in tubulovillous adenoma	1.2%	8246	Neuroendocrine carcinoma, NOS	1.1%
8481	Mucin-producing adenocarcinoma	0.8%	8070	Squamous cell carcinoma, NOS	0.7%	8070	Squamous cell carcinoma, NOS	0.8%	8263	Adenocarcinoma in tubulovillous adenoma	1.1%
	Other	3.4%		Other	2.8%		Other	4.3%		Other	4.3%
Total	All	100%	Total	All	100%	Total	All	100%	Total	All	100%

Table 5.2 Morphological Distribution of Colorectal Cancer in the GCC Region, 2013-2016

National Male			National Female			Non-National Male			Non-National Female		
Code	Morphology	%	Code	Morphology	%	Code	Morphology	%	Code	Morphology	%
8140	Adenocarcinoma, NOS	81.1%	8140	Adenocarcinoma, NOS	80.7%	8140	Adenocarcinoma, NOS	73.8%	8140	Adenocarcinoma, NOS	75.4%
8480	Mucinous adenocarcinoma	5.7%	8480	Mucinous adenocarcinoma	5.9%	8480	Mucinous adenocarcinoma	7.4%	8480	Mucinous adenocarcinoma	6.3%
8010	Carcinoma, NOS	2.3%	8000	Neoplasm, malignant	2.5%	8490	Signet ring cell carcinoma	3.3%	8000	Neoplasm, malignant	3.8%
8000	Neoplasm, malignant	2.2%	8010	Carcinoma, NOS	2.0%	8000	Neoplasm, malignant	3.0%	8240	Neuroendocrine tumour, NOS	2.2%
8263	Adenocarcinoma in tubulovillous adenoma	1.3%	8263	Adenocarcinoma in tubulovillous adenoma	1.6%	8144	Adenocarcinoma, intestinal type	2.5%	8490	Signet ring cell carcinoma	2.0%
8490	Signet ring cell carcinoma	1.2%	8246	Neuroendocrine carcinoma, NOS	1.2%	8240	Neuroendocrine tumour, NOS	2.2%	8144	Adenocarcinoma, intestinal type	1.9%
8246	Neuroendocrine carcinoma, NOS	1.0%	8240	Neuroendocrine tumour, NOS	1.0%	8010	Carcinoma, NOS	1.5%	8010	Carcinoma, NOS	1.8%
8070	Squamous cell carcinoma, NOS	1.0%	8490	Signet ring cell carcinoma	0.8%	8246	Neuroendocrine carcinoma, NOS	1.5%	8246	Neuroendocrine carcinoma, NOS	1.7%
8240	Neuroendocrine tumour, NOS	0.6%	8261	Adenocarcinoma in villous adenoma	0.7%	8070	Squamous cell carcinoma, NOS	0.8%	8263	Adenocarcinoma in tubulovillous adenoma	1.0%
8210	Adenocarcinoma in adenomatous polyp	0.5%	8070	Squamous cell carcinoma, NOS	0.6%	8263	Adenocarcinoma in tubulovillous adenoma	0.6%	8070	Squamous cell carcinoma, NOS	0.9%
	Other	3.1%		Other	2.9%		Other	3.5%		Other	2.9%
Total	All	100%	Total	All	100%	Total	All	100%	Total	All	100%

Table 5.3 Morphological Distribution of Colorectal Cancer in the GCC Region, 2017-2020

5.3 Thyroid Cancer

5.3.1 ASR Time Trend
—

Between 2013 and 2019, the ASR per 100,000 gradually increased for thyroid cancer in the national male and female populations. In national males, the ASR increased from 3.4 in 2013 to 4.7 in 2019, whereas in the national female cohort, it increased from 14.12 to 16.92 during the same period. A notable decrease was observed in 2020, with the ASR decreasing to 2.8 for national males and 9.23 for national females. Among non-national populations, this trend remained relatively stable until 2019. Non-national males maintained between 2014 and 2019 a low, stable ASR of approximately 1, which decreased to 0.6 in 2020. Similarly, non-national females exhibited steady rates of approximately 7 from 2013 to 2018, with a slight peak at 8.1 in 2019, followed by a decrease to 4.49 in 2020. The decrease observed in 2020 reflects temporary diagnostic delays due to the COVID-19 pandemic, rather than a true reduction in incidence [Figure 5.10].
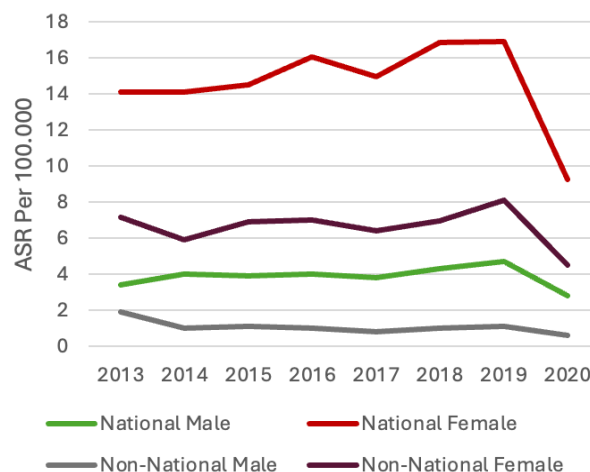
Figure 5.10 Time Trend of Thyroid Cancer Incidence by Nationality in The GCC Region, 2013–2020

5.3.2 Extent of the disease [SEER]
—

The distribution of SEER staging for thyroid cancer across the periods 2013–2016 and 2017–2020 indicated a discernible shift toward earlier-stage diagnoses, accompanied by a reduction in cases with unknown staging across all demographic groups. Among national males, the proportion of cases diagnosed at the localized stage increased from 44% to 52%, whereas the percentage of cases at an unknown stage decreased from 17% to 11%. Among national females, the proportion of localized-stage diagnoses increased from 56% to 64%, with a concurrent decrease in the percentage of unknown stage cases from 18% to 11%. Non-national males also exhibited progression, with the percentage of localized stage cases rising from 44% to 50% and that of unknown stage cases decreasing from 17% to 13%. Similarly, non-national females showed a substantial increase in the percentage of localized-stage diagnoses from 56% to 64% along with a reduced percentage of cases with unknown stage from 21% to 12% [Figures 5.11 and 5.12].
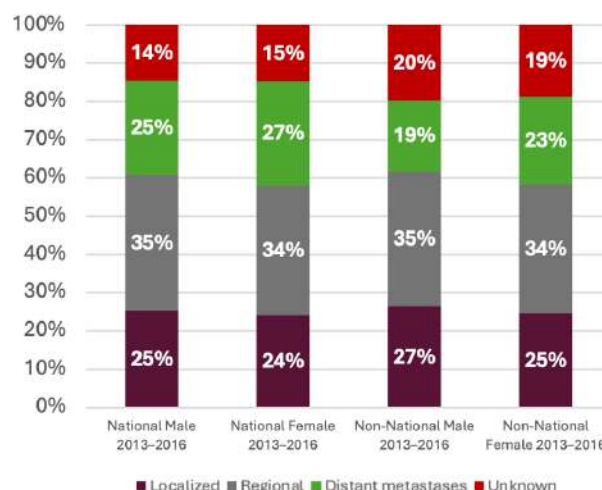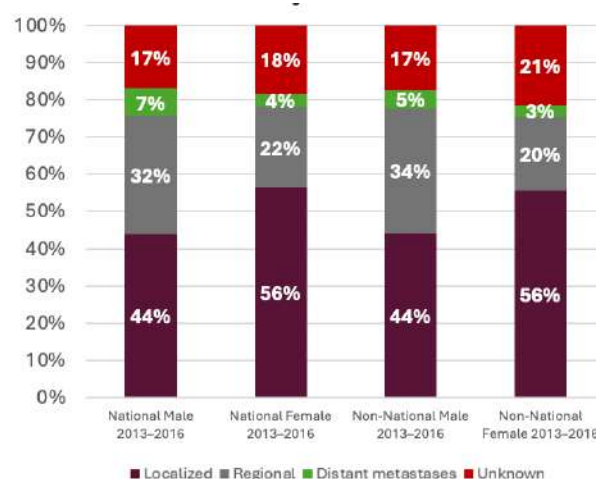

Figure 5.11 SEER Staging Distribution of Thyroid Cancer Cases by Nationality in The GCC Region, 2013–2016
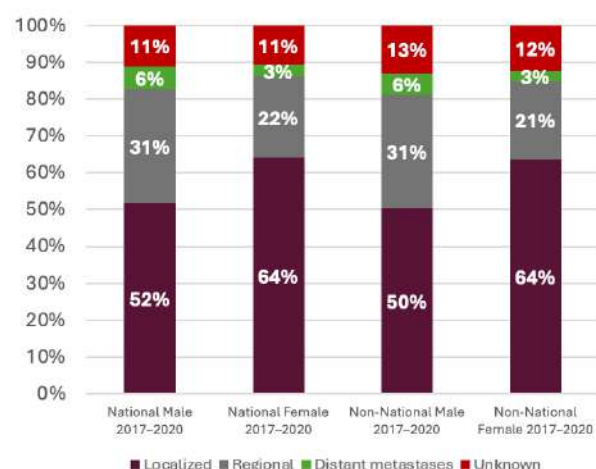
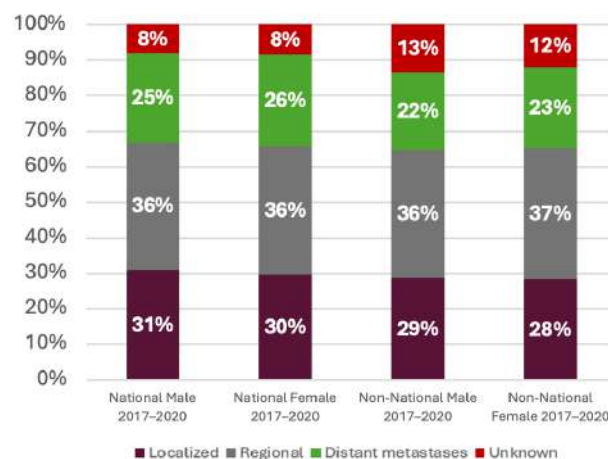Figure 5.12 SEER Staging Distribution of Thyroid Cancer Cases by Nationality in The GCC Region, 2017–2020
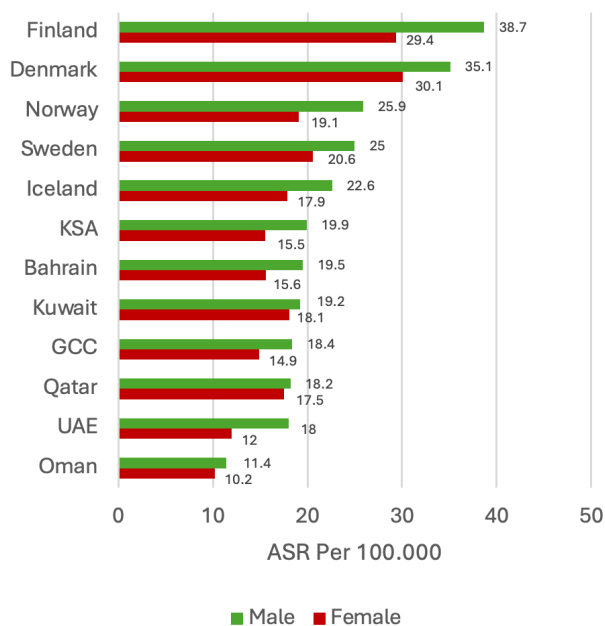
5.3.3 Comparison of ASR

—

In both periods 2013–2016 and 2017–2020, the ASRs per 100,000 were for thyroid cancer generally higher in GCC countries and their member states than in Nordic countries according to GLOBOCAN data, particularly among females. The average ASRs for females and males within the GCC region remained relatively stable, decreasing slightly from 13.0 to 12.7 for females and increasing marginally from 3.6 to 3.8 for males from the first to the second period. Among the GCC member states, the UAE, Qatar, and Oman recorded the highest ASRs in females during the second period, reaching up to 22.9 in the UAE. Conversely, the Nordic nations exhibited consistently lower ASRs for females in both periods, ranging from 6.5 to 10.1. For males, the ASRs in GCC countries were similarly low to those observed in Nordic nations, where the ASRs in males ranged from 2.0 to 3.3. These observed patterns underscore a growing disparity in thyroid cancer incidence between sexes in the GCC region, especially among females [Figures 5.13 and 5.14].

5.3.4 Morphological Distribution

—

The morphological distribution of thyroid cancers by reporting period and nationality showed consistent patterns across all groups, with papillary adenocarcinoma, NOS (8260) being the most common subtype. Among national males, it accounted for 51% of cases in 2013–2016 and increased to 55% in 2017–2020. A similar pattern was found in national females, where this subtype initially represented 48% of the cases, rising slightly to 51% in the second period. Among non-national males, this subtype accounted for 44% in 2013–2016 and increased to 57% in 2017–2020. Likewise, among non-national females, this subtype remained steady at 44% before rising to 51% during the second period [Tables 5.4 and 5.5].

Figure 5.13 ASR Comparison of Thyroid Cancer by Sex, 2013-2016
*ASR Per 100,000 Globocan 2022 (version 1.1) 08.02.2024, IARC – Cancer Incidence among GCC Nationals
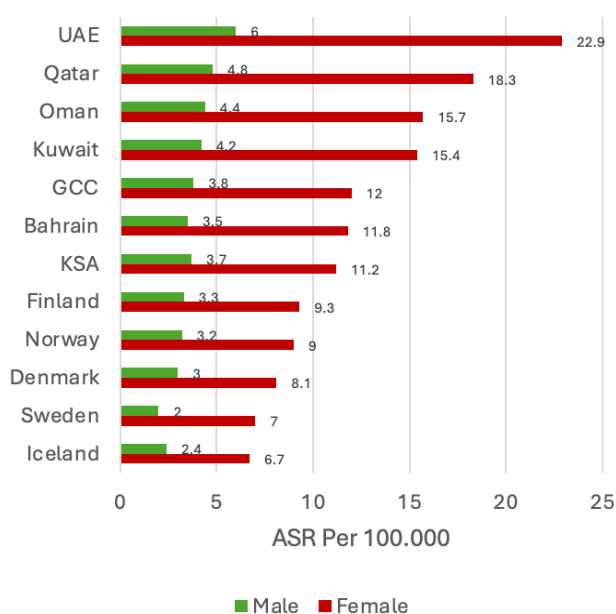
Figure 5.14 ASR Comparison of Thyroid Cancer by Sex, 2017-2020
*ASR Per 100,000 Globocan 2022 (version 1.1) 08.02.2024, IARC – Cancer Incidence among GCC Nationals

National Male			National Female			Non-National Male			Non-National Female		
Code	Morphology	%	Code	Morphology	%	Code	Morphology	%	Code	Morphology	%
8260	Papillary adenocarcinoma, NOS	50.6%	8260	Papillary adenocarcinoma, NOS	47.6%	8260	Papillary adenocarcinoma, NOS	43.8%	8260	Papillary adenocarcinoma, NOS	44.4%
8340	Papillary carcinoma, follicular variant	12.3%	8340	Papillary carcinoma, follicular variant	15.2%	8050	Papillary carcinoma, NOS	17.7%	8340	Papillary carcinoma, follicular variant	15.5%
8341	Papillary microcarcinoma	9.2%	8341	Papillary microcarcinoma	13.5%	8340	Papillary carcinoma, follicular variant	15.7%	8050	Papillary carcinoma, NOS	15.2%
8050	Papillary carcinoma, NOS	8.1%	8050	Papillary carcinoma, NOS	8.5%	8341	Papillary microcarcinoma	6.2%	8341	Papillary microcarcinoma	10.5%
8510	Medullary carcinoma, NOS	3.1%	8330	Follicular carcinoma, NOS	2.6%	8330	Follicular carcinoma, NOS	2.5%	8330	Follicular carcinoma, NOS	3.2%
8343	Papillary carcinoma, encapsulated, of thyroid	2.6%	8343	Papillary carcinoma, encapsulated, of thyroid	2.5%	8010	Carcinoma, NOS	2.2%	8010	Carcinoma, NOS	2.4%
8344	Papillary carcinoma, columnar cell	2.6%	8344	Papillary carcinoma, columnar cell	1.7%	8343	Papillary carcinoma, encapsulated, of thyroid	2.1%	8000	Neoplasm, malignant	1.8%
8330	Follicular carcinoma, NOS	2.2%	8335	Follicular carcinoma, minimally invasive	1.7%	8290	Oxyphilic adenocarcinoma	2.0%	8343	Papillary carcinoma, encapsulated, of thyroid	1.5%
8290	Oxyphilic adenocarcinoma	2.0%	8510	Medullary carcinoma, NOS	1.6%	8140	Adenocarcinoma, NOS	1.4%	8510	Medullary carcinoma, NOS	1.2%
8335	Follicular carcinoma, minimally invasive	1.7%	8290	Oxyphilic adenocarcinoma	1.3%	8510	Medullary carcinoma, NOS	1.4%	8335	Follicular carcinoma, minimally invasive	1.0%
	Other	5.6%		Other	3.8%		Other	5.0%		Other	3.4%
Total	All	100%	Total	All	100%	Total	All	100%	Total	All	100%

Table 5.4 Morphological Distribution of Thyroid Cancer in the GCC Region, 2013-2016

National Male			National Female			Non-National Male			Non-National Female		
Code	Morphology	%	Code	Morphology	%	Code	Morphology	%	Code	Morphology	%
8260	Papillary adenocarcinoma, NOS	54.8%	8260	Papillary adenocarcinoma, NOS	50.6%	8260	Papillary adenocarcinoma, NOS	56.8%	8260	Papillary adenocarcinoma, NOS	50.9%
8050	Papillary carcinoma, NOS	11.3%	8341	Papillary microcarcinoma	12.9%	8050	Papillary carcinoma, NOS	12.7%	8050	Papillary carcinoma, NOS	14.1%
8341	Papillary microcarcinoma	9.2%	8050	Papillary carcinoma, NOS	12.7%	8340	Papillary carcinoma, follicular variant	7.8%	8340	Papillary carcinoma, follicular variant	13.5%
8340	Papillary carcinoma, follicular variant	8.1%	8340	Papillary carcinoma, follicular variant	11.3%	8341	Papillary microcarcinoma	7.6%	8341	Papillary microcarcinoma	10.0%
8010	Carcinoma, NOS	2.1%	8330	Follicular carcinoma, NOS	2.5%	8330	Follicular carcinoma, NOS	3.0%	8000	Neoplasm, malignant	2.9%
8330	Follicular carcinoma, NOS	1.9%	8343	Papillary carcinoma, encapsulated, of thyroid	1.8%	8510	Medullary carcinoma, NOS	2.7%	8330	Follicular carcinoma, NOS	1.9%
8510	Medullary carcinoma, NOS	1.9%	8000	Neoplasm, malignant	1.5%	8000	Neoplasm, malignant	2.5%	8335	Follicular carcinoma, minimally invasive	1.3%
8290	Oxyphilic adenocarcinoma	1.9%	8290	Oxyphilic adenocarcinoma	1.4%	8010	Carcinoma, NOS	1.2%	8343	Papillary carcinoma, encapsulated, of thyroid	1.2%
8000	Neoplasm, malignant	1.6%	8335	Follicular carcinoma, minimally invasive	1.4%	8290	Oxyphilic adenocarcinoma	1.1%	8010	Carcinoma, NOS	1.0%
8343	Papillary carcinoma, encapsulated, of thyroid	1.5%	8010	Carcinoma, NOS	1.0%	8343	Papillary carcinoma, encapsulated, of thyroid	1.0%	8290	Oxyphilic adenocarcinoma	0.7%
	Other	5.9%		Other	2.9%		Other	3.7%		Other	2.5%
Total	All	100%	Total	All	100%	Total	All	100%	Total	All	100%

Table 5.5 Morphological Distribution of Thyroid Cancer in the GCC Region, 2017-2020

5.4.1 ASR Time Trend

▬

From 2013 to 2019, ASRs per 100,000 demonstrated relatively stable trends for leukemia across all nationality and sex groups. Among national males, the ASR ranged from 6.37 to 6.41 during most years, with a temporary decrease to 5.31 in 2016. National females exhibited ASRs ranging from 4.0 to 5.0 during this period. For non-national males, the rates were marginally lower, remaining between 4.42 and 3.3. Non-national females sustained rates of approximately 3.0, with a notable rise to 4.4 in 2019. In 2020, a pronounced decrease was observed across all groups. The ASR decreased from 6.41 to 4.35 among national males and from 4.60 to 3.00 among national females. Among non-nationals, the ASR decreased to 2.60 in males and 3.00 in females. This reduction was presumably attributable to the effects of the COVID-19 pandemic on healthcare accessibility and cancer reporting [Figure 5.15].
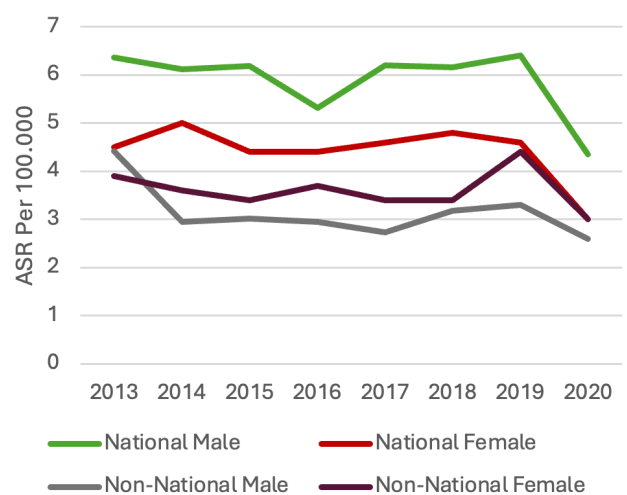
Figure 5.15 Time Trend of Leukemia Incidence by Nationality in The GCC Region, 2013–2020

5.4.2 Comparison of ASR

▬

In both periods 2013–2016 and 2017–2020, the ASR per 100,000 remained for leukemia lower in the GCC region and its member countries than in the Nordic countries listed on GLOBOCAN. The GCC remained relatively stable, with female ASRs changing from 4.6 to 4.2 and male ASRs from 6.0 to 5.8 across the two periods. Within the GCC, Kuwait and the UAE reported the highest female ASRs in 2013–2016, whereas Qatar recorded the lowest. During the second period (2017–2020), Kuwait and Qatar reported the highest female ASRs, whereas KSA and Oman recorded one of the lowest. However, most GCC countries exhibited stable or slightly decreasing rates among males from the first to the second period. In contrast, Nordic countries such as Denmark, Norway, and Iceland consistently recorded much higher ASRs for both sexes. For example, Denmark reached 6.1 for females and 10.0 for males in the latest period. These differences emphasize the persistently lower burden of leukemia in the GCC region for both females and males, compared to the rates observed in the listed Nordic countries [Figures 5.16 and 5.17].
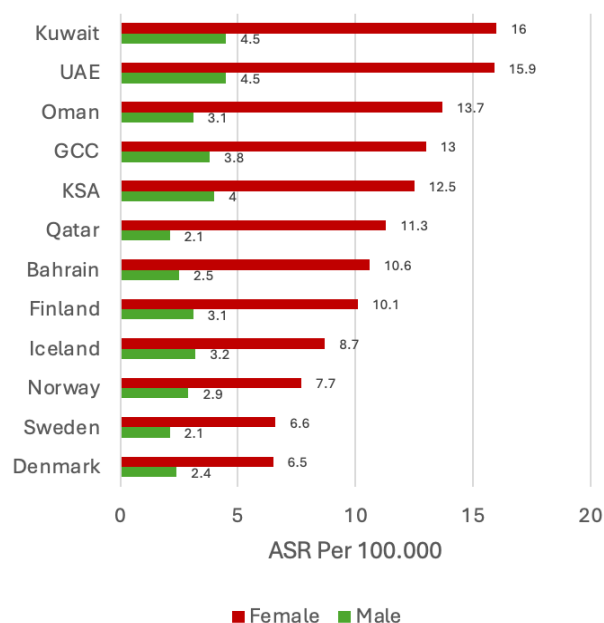

Figure 5.16 ASR Comparison of Leukemia Cancer by Sex, 2013-2016
*ASR Per 100,000 Globocan 2022 (version 1.1) 08.02.2024, IARC – Cancer Incidence among GCC Nationals

5.4.3 Morphological Distribution

The morphological distribution of leukemia across both periods demonstrated shifts in the predominant subtypes according to nationality and sex. In the period 2013–2016, precursor B-cell lymphoblastic leukemia (9836) was identified as the most common subtype among all demographic groups, particularly among males (23%) and females (23%) within the national population. In the subsequent period (2017–2020), acute myeloid leukemia, NOS (9861) emerged as the most frequently observed subtype across all groups, representing 18–20% of both national and non-national cases. Chronic myeloid leukemia (9863) and B-cell chronic lymphocytic leukemia (9823) continued to be prevalent in non-national males at 14% and 10%, respectively, with notable increases reaching 16% and 13%, respectively, in the second period. Additionally, other subtypes, such as precursor lymphoblastic leukemia (9835) and acute promyelocytic leukemia (9866), exhibited stability over time [Tables 5.6 and 5.7].

Figure 5.17 ASR Comparison of Leukemia Cancer by Sex, 2017-2020 *ASR Per 100,000 Globocan 2022 (version 1.1) 08.02.2024, IARC – Cancer Incidence among GCC Nationals

National Male			National Female			Non-National Male			Non-National Female		
Code	Morphology	%	Code	Morphology	%	Code	Morphology	%	Code	Morphology	%
9836	Precursor B-cell lymphoblastic leukemia	23.4%	9836	Precursor B-cell lymphoblastic leukemia	23.2%	9836	Precursor B-cell lymphoblastic leukemia	15.4%	9836	Precursor B-cell lymphoblastic leukemia	23.4%
9861	Acute myeloid leukemia, NOS	14.2%	9861	Acute myeloid leukemia, NOS	19.9%	9861	Acute myeloid leukemia, NOS	15.3%	9861	Acute myeloid leukemia, NOS	13.2%
9863	Chronic myeloid leukemia, NOS	11.4%	9863	Chronic myeloid leukemia, NOS	14.1%	9863	Chronic myeloid leukemia, NOS	14.4%	9863	Chronic myeloid leukemia, NOS	11.4%
9835	Precursor cell lymphoblastic leukemia, NOS	9.8%	9835	Precursor cell lymphoblastic leukemia, NOS	9.2%	9823	B-cell chronic lymphocytic leukemia/small lymphocytic lymphoma	9.9%	9835	Precursor cell lymphoblastic leukemia, NOS	7.8%
9823	B-cell chronic lymphocytic leukemia/small lymphocytic lymphoma	9.3%	9823	B-cell chronic lymphocytic leukemia/small lymphocytic lymphoma	7.1%	9866	Acute promyelocytic leukemia, t(15;17)(q22;q11-12)	6.3%	9823	B-cell chronic lymphocytic leukemia/small lymphocytic lymphoma	7.5%
9837	Precursor T-cell lymphoblastic leukemia	5.8%	9866	Acute promyelocytic leukemia, t(15;17)(q22;q11-12)	4.1%	9835	Precursor cell lymphoblastic leukemia, NOS	5.8%	9801	Acute leukemia, NOS	5.2%
9866	Acute promyelocytic leukemia, t(15;17)(q22;q11-12)	3.6%	9801	Acute leukemia, NOS	3.1%	9837	Precursor T-cell lymphoblastic leukemia	4.2%	9840	Acute erythroid leukemia	4.5%
9800	Leukemia, NOS	2.9%	9891	Acute monocytic leukemia	2.1%	9801	Acute leukemia, NOS	3.7%	9866	Acute promyelocytic leukemia, t(15;17)(q22;q11-12)	4.0%
9801	Acute leukemia, NOS	2.9%	9800	Leukemia, NOS	2.1%	9840	Acute erythroid leukemia	3.2%	9891	Acute monocytic leukemia	2.4%
9826	Burkitt cell leukemia	1.9%	9837	Precursor T-cell lymphoblastic leukemia	1.9%	9875	Chronic myeloid leukemia, BCR/ABL positive	2.3%	9826	Burkitt cell leukemia	2.4%
	Other	14.7%		Other	13.1%		Other	19.5%		Other	18.3%
Total	All	100%	Total	All	100%	Total	All	100%	Total	All	100%

Table 5.6 Morphological Distribution of Thyroid Cancer in the GCC Region, 2013-2016

National Male			National Female			Non-National Male			Non-National Female		
Code	Morphology	%	Code	Morphology	%	Code	Morphology	%	Code	Morphology	%
9861	Acute myeloid leukemia, NOS	18.2%	9861	Acute myeloid leukemia, NOS	19.9%	9861	Acute myeloid leukemia, NOS	17.3%	9861	Acute myeloid leukemia, NOS	20.4%
9836	Precursor B-cell lymphoblastic leukemia	12.9%	9863	Chronic myeloid leukemia, NOS	16.0%	9863	Chronic myeloid leukemia, NOS	16.4%	9836	Precursor B-cell lymphoblastic leukemia	12.3%
9863	Chronic myeloid leukemia, NOS	12.4%	9836	Precursor B-cell lymphoblastic leukemia	14.6%	9823	B-cell chronic lymphocytic leukemia/small lymphocytic lymphoma	13.2%	9863	Chronic myeloid leukemia, NOS	12.2%
9823	B-cell chronic lymphocytic leukemia/small lymphocytic lymphoma	12.3%	9800	Leukemia, NOS	8.5%	9836	Precursor B-cell lymphoblastic leukemia	7.6%	9823	B-cell chronic lymphocytic leukemia/small lymphocytic lymphoma	7.7%
9800	Leukemia, NOS	8.8%	9823	B-cell chronic lymphocytic leukemia/small lymphocytic lymphoma	8.2%	9835	Precursor cell lymphoblastic leukemia, NOS	6.0%	9801	Acute leukemia, NOS	7.3%
9801	Acute leukemia, NOS	5.4%	9835	Precursor cell lymphoblastic leukemia, NOS	5.3%	9801	Acute leukemia, NOS	5.4%	9835	Precursor cell lymphoblastic leukemia, NOS	6.3%
9837	Precursor T-cell lymphoblastic leukemia	5.1%	9801	Acute leukemia, NOS	4.8%	9866	Acute promyelocytic leukemia, t(15;17)(q22;q11-12)	4.7%	9800	Leukemia, NOS	6.2%
9835	Precursor cell lymphoblastic leukemia, NOS	4.9%	9866	Acute promyelocytic leukemia, t(15;17)(q22;q11-12)	3.4%	9837	Precursor T-cell lymphoblastic leukemia	4.5%	9866	Acute promyelocytic leukemia, t(15;17)(q22;q11-12)	4.1%
9826	Burkitt cell leukemia	3.7%	9826	Burkitt cell leukemia	3.2%	9800	Leukemia, NOS	3.7%	9826	Burkitt cell leukemia	3.8%
9866	Acute promyelocytic leukemia, t(15;17)(q22;q11-12)	2.9%	9837	Precursor T-cell lymphoblastic leukemia	3.0%	9875	Chronic myeloid leukemia, BCR/ABL positive	2.7%	9811	B lymphoblastic leukemia/lymphoma, NOS	3.4%
	Other	13.5%		Other	13.1%		Other	18.6%		Other	16.5%
Total	All	100%	Total	All	100%	Total	All	100%	Total	All	100%

Table 5.7 Morphological Distribution of Thyroid Cancer in The GCC Region, 2017-2020

Figure 5.18 Time Trend of Prostate Cancer Incidence by Nationality in The GCC Region, 2013–2020

Figure 5.19 SEER Staging Distribution of Prostate Cancer Cases by Nationality in The GCC Region, 2013–2020
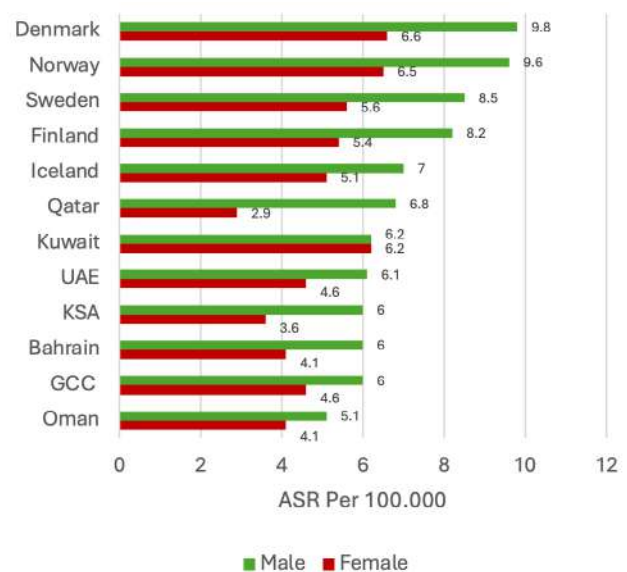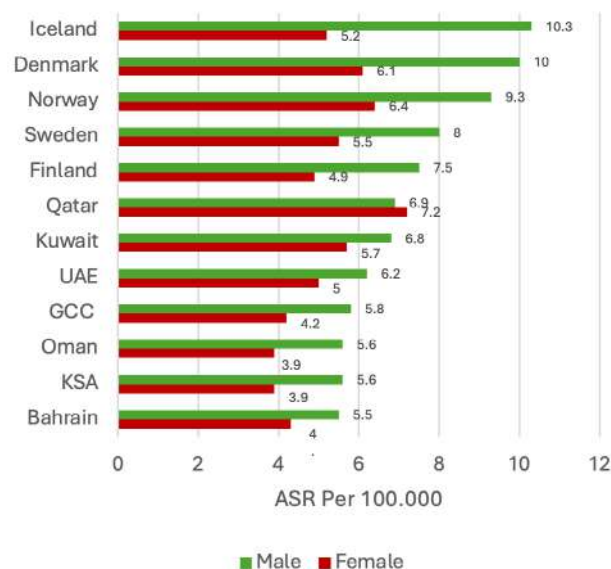

Figure 5.20 ASR Comparison of Prostate Cancer Among Males, 2013-2016
*ASR Per 100,000 Globocan 2022 (version 1.1) 08.02.2024, IARC – Cancer Incidence among GCC Nationals

5.5 Prostate Cancer

5.5.1 ASR Time Trend
—

From 2013 to 2019, the ASRs per 100,000 exhibited an overall increasing trend for prostate cancer among national males, rising from 12.27 in 2013 to a peak of 14.77 in 2019. Conversely, non-national males showed a gradual decrease, with rates decreasing from 12.6 in 2013 to 8.42 in 2019. Significant decreases in ASRs were observed in 2020 for both groups, which is likely attributable to the impact of the COVID-19 pandemic on cancer detection and reporting. The ASR decreased to 7.91 for national males and 4.95 for non-national males, representing the lowest rates recorded throughout the entire period. Overall, while the incidence of prostate cancer increased steadily among nationals before the pandemic, non-nationals demonstrated a consistent decrease, with both groups showing a notable decrease in 2020 [Figure 5.18]

5.5.2 Extent of the disease [SEER]
—

The SEER staging distribution of prostate cancer showed from 2013–2016 to 2017–2020 improvements in early stage diagnosis and a decrease in cases with unknown stage among both national and non-national males. For national males, the proportion of cases diagnosed at the localized stage increased from 39% to 52%, whereas that of cases with distant metastases decreased from 28% to 24%. The percentage of cases with unknown stage also significantly decreased from 24% to 13%. For non-national males, localized-stage diagnoses increased from 36% to 45%, and regional stage cases increased from 12% to 18%. Although the percentage of cases with distant metastases increased slightly from 17% to 19%, the proportion of unknown-stage cases decreased significantly from 35% to 18% [Figure 5.19].

5.5.3 Comparison of ASR

—

During the periods 2013–2016 and 2017–2020, the ASR per 100,000 remained for prostate cancer significantly lower in the GCC region and its member states than in the GLOBOCAN-listed Nordic countries. The average ASR within the GCC region slightly decreased from 11.1 to 10.9 across these periods. Among the GCC member states, the highest rates were during both periods recorded in Qatar and the lowest in KSA. Conversely, Nordic nations consistently reported the highest ASRs [Figures 5.20 and 5.21].

Figure 5.21 ASR Comparison of Prostate Cancer Among Males, 2017-2020
*ASR Per 100,000 Globocan 2022 (version 1.1) 08.02.2024, IARC – Cancer Incidence among GCC Nationals
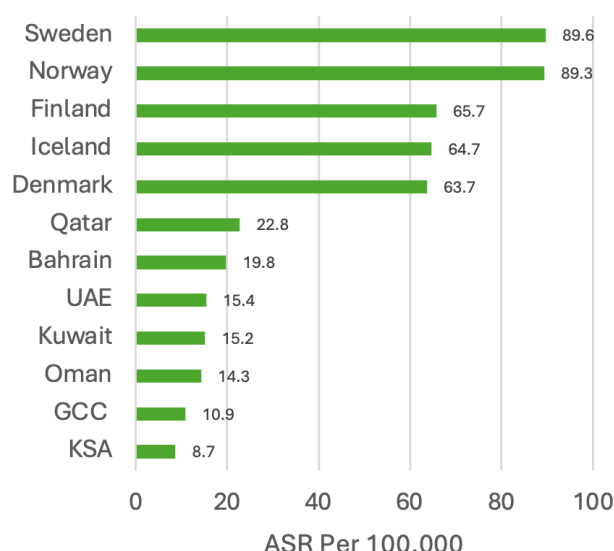
5.5.4 Morphological Distribution

—

The morphological distribution of prostate cancer across the periods 2013–2016 and 2017–2020, as well as by nationality, indicated a consistent predominance of adenocarcinoma, NOS (8140), although its relative proportion has diminished over time. Among national males, adenocarcinoma constituted 85.0% of the cases in 2013–2016, decreasing to 72.6% in 2017–2020. Similarly, among non-national males, the proportion decreased from 89.0% to 64.0%. Conversely, the incidence of acinar cell carcinoma (8550) significantly increased in both groups. Among national males, the incidence increased from 7.4% to 19.4%, whereas among non-national males, 9.1 the incidence increased from 5.5% to 28.6% [Table 5.8]

National_Male 2013-2016			National Male 2017-2020			Non-National_Male 2013-2016			Non-National_Male 2017-2020		
Code	Morphology	%	Code	Morphology	%	Code	Morphology	%	Code	Morphology	%
8140	Adenocarcinoma, NOS	85.0%	8140	Adenocarcinoma, NOS	72.6%	8140	Adenocarcinoma, NOS	89.0%	8140	Adenocarcinoma, NOS	64.0%
8550	Acinar cell carcinoma	7.4%	8550	Acinar cell carcinoma	19.4%	8550	Acinar cell carcinoma	5.5%	8550	Acinar cell carcinoma	28.6%
8000	Neoplasm, malignant	3.5%	8000	Neoplasm, malignant	4.4%	8000	Neoplasm, malignant	2.2%	8000	Neoplasm, malignant	3.6%
8010	Carcinoma, NOS	2.7%	8010	Carcinoma, NOS	2.1%	8010	Carcinoma, NOS	1.9%	8010	Carcinoma, NOS	1.6%
8120	Transitional cell carcinoma, NOS	0.2%	8551	Acinar cell cystadenocarcinoma	0.5%	8551	Acinar cell cystadenocarcinoma	0.4%	8551	Acinar cell cystadenocarcinoma	0.8%
8910	Embryonal rhabdomyosarcoma, NOS	0.2%	8500	Infiltrating duct carcinoma, NOS	0.2%	8001	Tumor cells, malignant	0.1%	8070	Squamous cell carcinoma, NOS	0.3%
8001	Tumor cells, malignant	0.1%	8120	Transitional cell carcinoma, NOS	0.2%	8021	Carcinoma, anaplastic, NOS	0.1%	8120	Transitional cell carcinoma, NOS	0.3%
8500	Infiltrating duct carcinoma, NOS	0.1%	8130	Papillary urothelial carcinoma	0.2%	8041	Small cell carcinoma, NOS	0.1%	8020	Carcinoma, undifferentiated, NOS	0.1%
8050	Papillary carcinoma, NOS	0.1%	8041	Small cell carcinoma, NOS	0.1%	8246	Neuroendocrine carcinoma, NOS	0.1%	8246	Neuroendocrine carcinoma, NOS	0.1%
8260	Papillary adenocarcinoma, NOS	0.1%	8246	Neuroendocrine carcinoma, NOS	0.1%	8310	Clear cell adenocarcinoma, NOS	0.1%	8910	Embryonal rhabdomyosarcoma, NOS	0.1%
	Other	0.6%		Other	0.4%		Other	0.3%		Other	0.5%
Total	All	100%	Total	All	100%	Total	All	100%	Total	All	100%

Table 5.8 Morphological Distribution of Prostate Cancer in the GCC Region, 2013-2020

Section Four

GCC Childhood Cancers
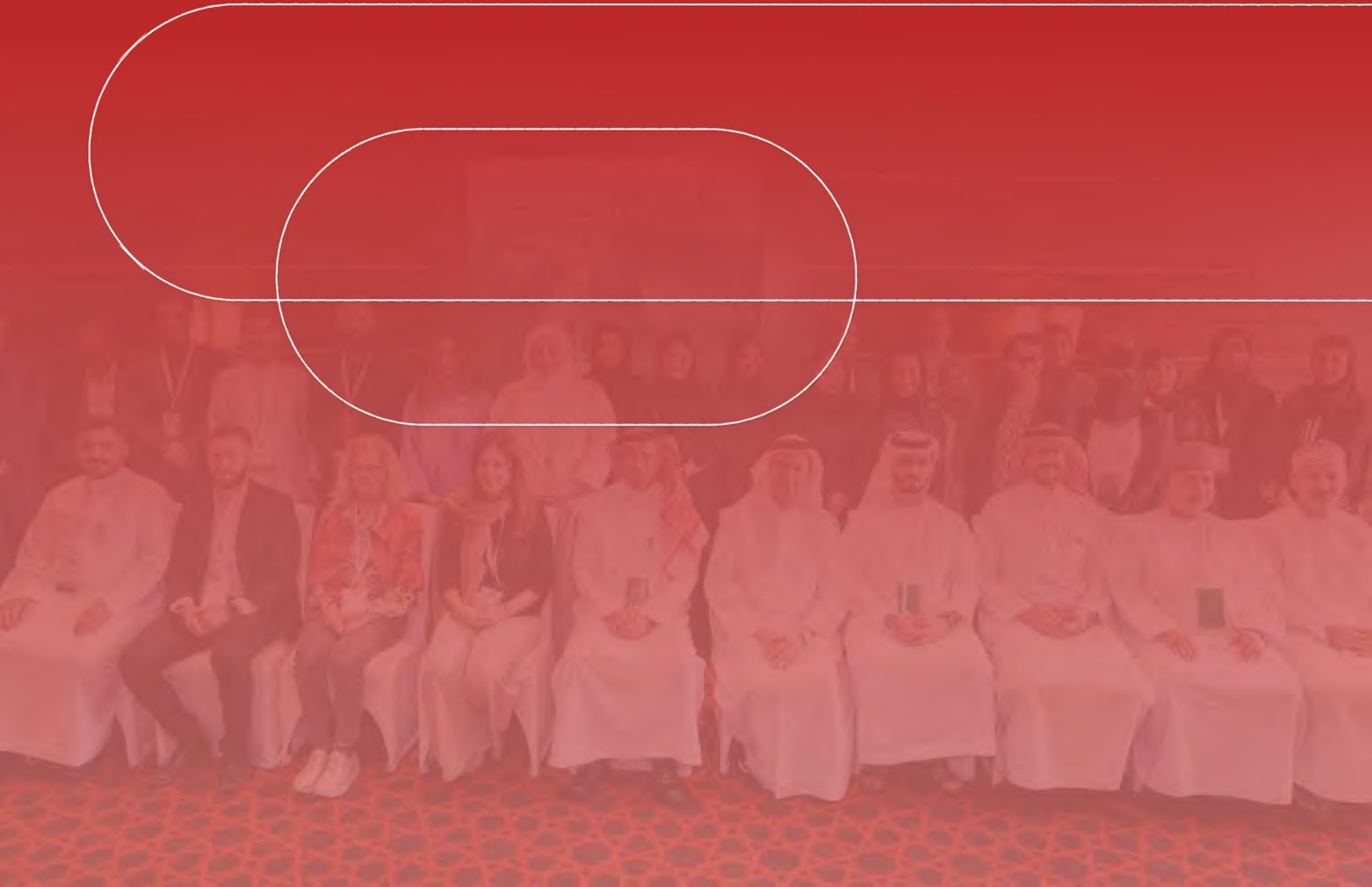
6. Childhood Cancer

6.1 Childhood Cancer Cases [0-14]

From January 2013 to December 2020, 7,676 and 3,001 cancer cases were reported among nationals and non-nationals, respectively. Throughout this period, the number of national cases remained relatively stable, annually fluctuating within a narrow range, with a slight increase reaching a peak in 2019 before decreasing in 2020. Conversely, cases among non-national exhibited a discernible decrease following 2013 and maintained lower, relatively consistent values in subsequent years before further decreasing in 2020. Overall, the number of cases among nationals demonstrated a more stable trend, whereas the case numbers among non-nationals showed an initial decrease followed by a sustained lower level. The reduction observed in 2020 in both groups may be attributed to the impact of the COVID-19 pandemic on healthcare services, as well as cancer detection and reporting [Figure 6.1].

During the period 2013–2016, 3,856 and 1,227 cases of childhood cancers were registered among nationals and non-nationals, respectively. In the subsequent period (2017–2020), the number of cases among nationals slightly decreased to 3,820, whereas that among non-nationals increased to1,259. Although the overall number of cases remained relatively stable across both periods, the slight decrease observed in the second period, particularly among nationals, may be partially attributed to the effects of the COVID-19 pandemic on cancer diagnosis and access to healthcare. In the first period (2013–2016), the majority of national cases occurred in the age bracket 0–4 years (1,772), followed by the age groups 5–9 years (1,081) and 10–14 years (1,003). Among non-nationals during the same interval, 594 cases occurred in the age group of 0–4 years, 347 in that of 5–9 years, and 286 in that of 10–14 years. In the second period (2017–2020), the case numbers among nationals were marginally lower in the brackets of 0–4 (1,742) and 5–9 (1,027) years but slightly higher in that of 10–14 years(1,051). The case numbers among non-nationals exhibited a similar trend, with 590 cases in the age group of 0–4 years, 369 in that of 5–9 years, and 300 in that of 10–14 years [Figure 6.2].
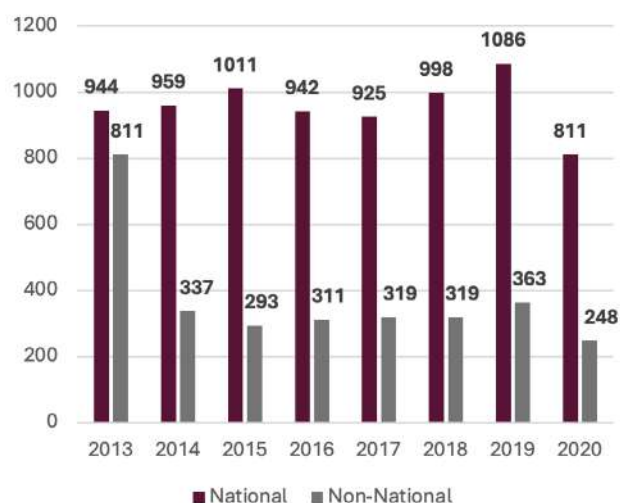
Figure 6.1 Annual Number of Childhood Cancer Cases by Nationality in the GCC Region, 2013–2020
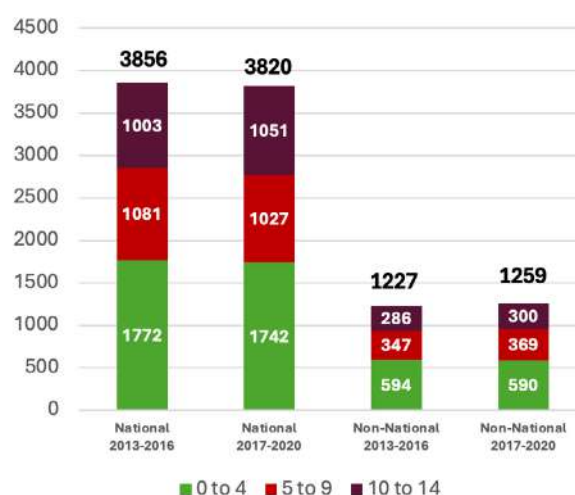
Figure 6.2 Childhood Cancer Cases by Age Group and Nationality in the GCC Region, 2013–2020
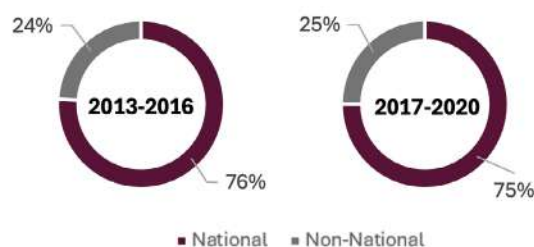
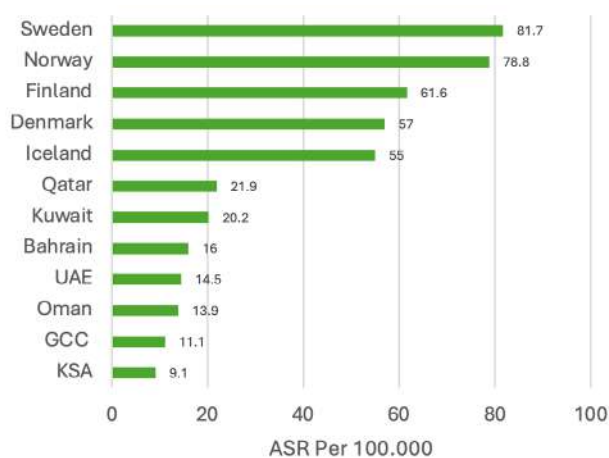Figure 6.3 Distribution of Childhood Cancer Cases by Nationality in the GCC Region, 2013–2020

First Period, 2013–2016

National 43% / 57%

Non-National 45% / 55%

Second Period, 2017–2020

National 45% / 55%

Non-National 45% / 55%

■ Female ■ Male
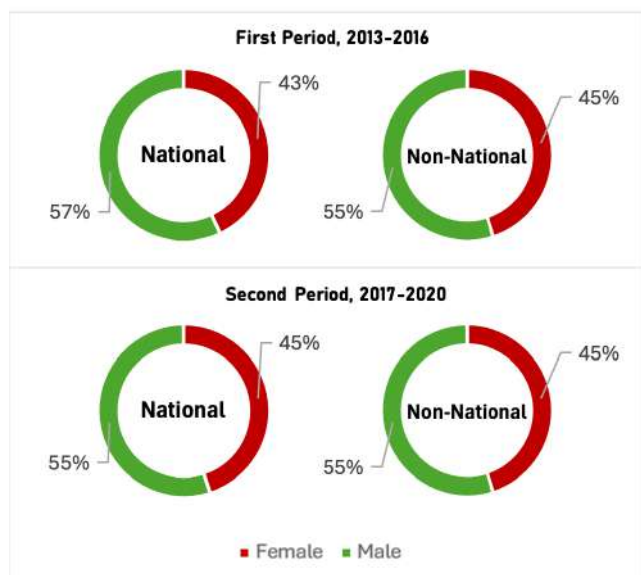
Figure 6.4 Distribution of Childhood Cancer Cases by Sex and Nationality in the GCC Region, 2013–2020

■ Non-National ■ National
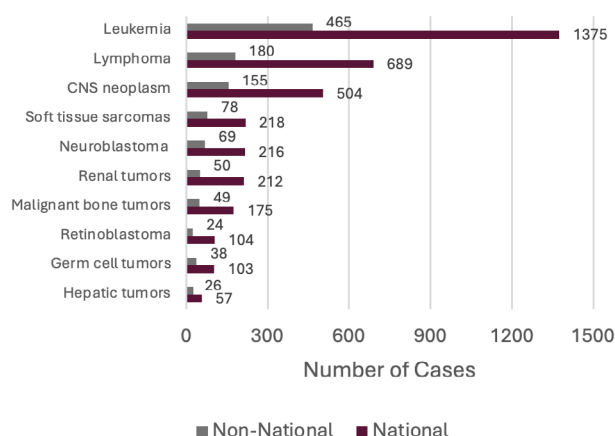
Figure 6.5 Number of Leading Childhood Cancer Cases by ICCC3 per Nationality in the GCC Region, 2013–2016

■ Non-National ■ National
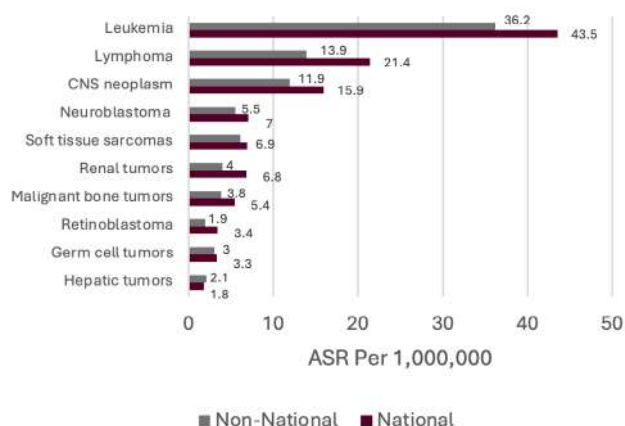
Figure 6.6 ASR of Leading Childhood Cancers by ICCC3 per Nationality in the GCC Region, 2013–2016

Regarding the distribution of nationality, nationals constituted 76% of all childhood cancer cases between 2013 and 2016 and 75% between 2017 and 2020 Conversely, non-nationals accounted for 24% and 25%, respectively. Males represented a higher proportion of cases in all groups and time frames. Among the nationals, males accounted for 57% in 2013–2016, which decreased slightly to 55% in 2017–2020. Among non-nationals, the male-to-female ratio remained stable across both periods at 55% males and 45% females [Figures 6.3 and 6.4].

6.2 The Most Common Childhood Cancer

Between Between 2013 and 2016, leukemia was the most prevalent cancer in both childhood groups, with 465 cases (ASR 36.2 per 1 million) among non-national children and 1,375 cases (ASR 43.5 per 1 million) among national children. This cancer type was followed by lymphoma, which accounted for 180 cases (ASR 13.9 per 1 million) in non-nationals and 689 cases (ASR 21.4 per 1 million) in nationals, and CNS neoplasms, comprising 155 cases (ASR 11.9 per 1 million) in non-nationals and 504 cases (ASR 15.9 per 1 million) in nationals. In the period 2017– 2020, leukemia continued to be the most frequently diagnosed childhood cancer, with 478 cases (ASR 34.6 per 1 million) among non-nationals and 1,275 cases (ASR 37.8 per 1 million) among nationals. Lymphomas and CNS neoplasms followed, with 165 and 164 cases (both ASR 11.0 per 1 million) in non-nationals and 617 and 568 cases (ASR 17.7 and 16.6 per 1 million) in nationals, respectively [Figures 6.5–6.8].

6.3 ASR Time Trend of Childhood Cancer

Between 2013 and 2020, the ASRs per million exhibited for childhood cancers fluctuating trends in both national and non-national populations. For nationals, the ASR values ranged from 111.6 to 127.3 per million before experiencing a sharp decrease to 93.9 in 2020. This abrupt reduction may be attributed to disruptions in healthcare access and reporting processes due to the COVID-19 pandemic.

Similarly, non-nationals showed variable ASR levels, with peaks of 106.7 in 2019 and lower rates recorded in 2015, gradually increasing to 106.0 in 2019 before decreasing to 70.9 in 2020. Overall, the ASR for both groups followed a general pattern of fluctuation, with a significant decrease in 2020, likely reflecting the impact of the pandemic [Figure 6.9].

6.4 Extent of the disease [SEER] of Childhood Cancer

The SEER staging distribution of childhood CNS neoplasms across the two periods (2013–2016 and 2017–2020) demonstrates clear patterns according to nationality and sex. Among national males, most cases were diagnosed at the localized stage, increasing from 57% to 67%, whereas the proportion of regional cases remained stable (14–13%),

and that of cases with distant metastases remained low (8–9%). The proportion of cases with unknown stage decreased from 21% to 11%. National females showed a similar pattern, with the percentage of localized-stage cases increasing from 56% to 63%, that of regional-stage cases stable at 14%, and that of unknown-stage cases decreasing from 23% to 15%. In non-national males, the percentage of cases with localized stage decreased from 54% to 46%, whereas that of unknown-stage cases increased markedly from 33% to 47%. Among non-national females, the percentage of localized diagnoses decreased from 51% to 29%, that of regional cases increased from 8% to 14%, and that of unknown-stage cases increased sharply from 33% to 49%. These findings suggest a continued predominance of localized staging at diagnosis among
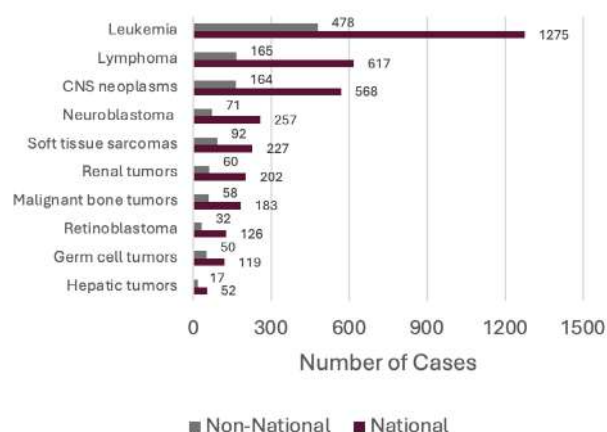
Figure 6.7 Number of Leading Childhood Cancer Cases by ICCC3 per Nationality in the GCC Region, 2017-2020
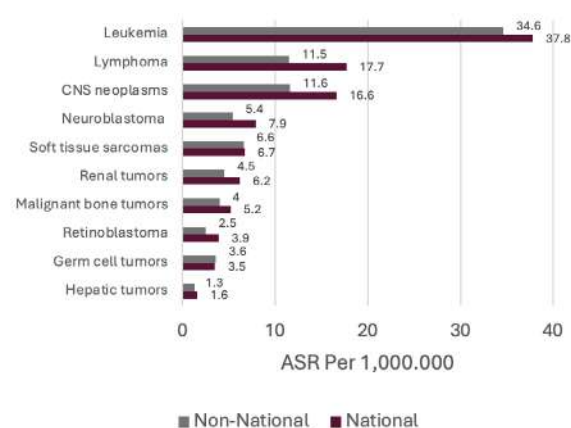
Figure 6.8 ASR of Leading Childhood Cancers by ICCC3 per Nationality in the GCC Region, 2017–2020
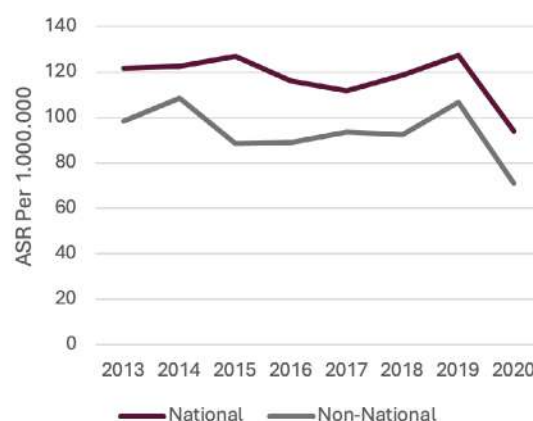
Figure 6.9 Trend of ASR for All Childhood Cancers by Nationality in the GCC Region, 2013–2020
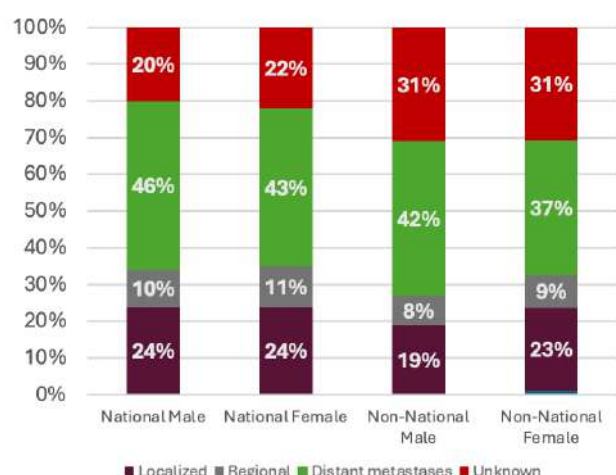
Figure 6.10 SEER Staging of Childhood Cancers by Nationality in the GCC Region, 2013–2016
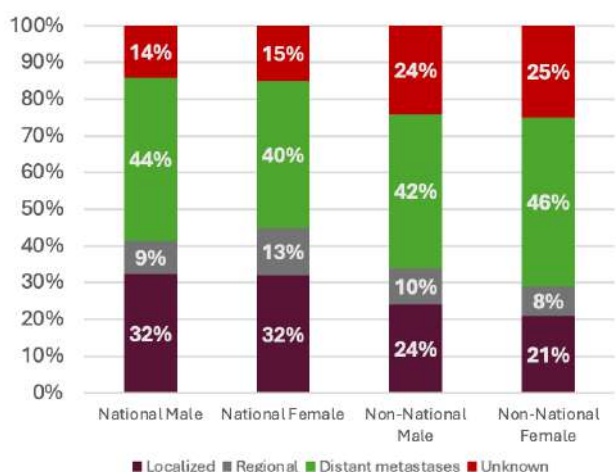
Figure 6.11 SEER Staging of Childhood Cancers by Nationality in the GCC Region, 2017–2020

nationals, whereas challenges related to unknown staging persist within non-national groups [Figures 6.17 and 6.18].

6.5 Morphological Distribution of Childhood Cancer

Throughout both periods, precursor B-cell lymphoblastic leukemia (9836) was identified as the predominant childhood malignancy across sex and nationality groups. In the period 2013–2016, this leukemia diagnosis accounted for 16% of cases in national males, 18% in national females, and 18–20% in non-nationals. In the subsequent period (2017–2020), the proportion of this leukemia type slightly decreased to 9–13%, yet it remained the most frequently diagnosed morphology within all subgroups. Neuroblastoma (9500) and medulloblastoma (9470) consistently ranked among the leading diagnoses throughout both periods. Neuroblastoma was notably prevalent among non-national males and females, whereas medulloblastoma was more prevalent in national males. Precursor cell lymphoblastic leukemia, NOS (9835) also featured in the top 5 diagnoses, although with marginally lower percentages compared to precursor B-cell lymphoblastic leukemia. In the second period, 2017–2020, acute myeloid leukemia (9861) and leukemia, NOS (9800) became increasingly prominent, particularly among national males and females. Concurrently, Hodgkin lymphoma (9663 and 9650) and aneurysmal bone cysts (9260) consistently appeared within the top 10 diagnoses across groups. The proportion of cases classified as "Other" was notably elevated, particularly during the years 2017–2020. This shift may partly reflect diagnostic improvements and registry coding practices, rather than a true epidemiological transformation [Tables 6.1 and 6.2].

National Male			National Female			Non-National Male			Non-National Female		
Code	Morphology	%	Code	Morphology	%	Code	Morphology	%	Code	Morphology	%
9836	Precursor B-cell lymphoblastic leukemia	16.2%	9836	Precursor B-cell lymphoblastic leukemia	17.6%	9836	Precursor B-cell lymphoblastic leukemia	18.1%	9836	Precursor B-cell lymphoblastic leukemia	19.6%
9835	Precursor cell lymphoblastic leukemia. NOS	5.8%	8960	Nephroblastoma, NOS	6.0%	9500	Neuroblastoma, NOS	5.0%	9835	Precursor cell lymphoblastic leukemia. NOS	5.4%
9470	Medulloblastoma, NOS	5.1%	9500	Neuroblastoma, NOS	5.7%	9687	Burkitt lymphoma, NOS	4.9%	9500	Neuroblastoma, NOS	5.4%
9500	Neuroblastoma, NOS	4.4%	9835	Precursor cell lymphoblastic leukemia. NOS	5.6%	9835	Precursor cell lymphoblastic leukemia. NOS	4.4%	8960	Nephroblastoma, NOS	5.2%
8960	Nephroblastoma, NOS	4.3%	9663	Hodgkin lymphoma, nodular sclerosis, NOS	4.3%	9861	Acute myeloid leukemia, NOS	3.1%	9861	Acute myeloid leukemia, NOS	3.1%
9663	Hodgkin lymphoma, nodular sclerosis, NOS	4.0%	9861	Acute myeloid leukemia, NOS	4.0%	9470	Medulloblastoma, NOS	2.9%	9380	Glioma, malignant	2.9%
9861	Acute myeloid leukemia, NOS	3.4%	9470	Medulloblastoma, NOS	4.0%	9837	Precursor T-cell lymphoblastic leukemia	2.8%	9663	Hodgkin lymphoma, nodular sclerosis, NOS	2.7%
9837	Precursor T-cell lymphoblastic leukemia	3.2%	9260	Aneurysmal bone cyst	2.3%	9260	Aneurysmal bone cyst	2.5%	9470	Medulloblastoma, NOS	2.7%
9687	Burkitt lymphoma, NOS	3.0%	9510	Retinoblastoma	2.3%	8910	Embryonal rhabdomyosarcoma, NOS	2.4%	9260	Aneurysmal bone cyst	2.5%
9260	Aneurysmal bone cyst	3.0%	9180	Osteosarcoma, NOS	1.7%	8960	Nephroblastoma, NOS	2.4%	9510	Retinoblastoma	2.0%
	Other	47.8%		Other	46.4%		Other	51.5%		Other	48.5%
Total	All	100%	Total	All	100%	Total	All	100%	Total	All	100%

Table 6.1 Morphological distribution of all childhood cancers in the GCC Region, 2013-2016

National Male			National Female			Non-National Male			Non-National Female		
Code	Morphology	%	Code	Morphology	%	Code	Morphology	%	Code	Morphology	%
9836	Precursor B-cell lymphoblastic leukemia	8.7%	9836	Precursor B-cell lymphoblastic leukemia	10.9%	9836	Precursor B-cell lymphoblastic leukemia	12.6%	9836	Precursor B-cell lymphoblastic leukemia	12.0%
9500	Neuroblastoma, NOS	5.5%	9500	Neuroblastoma, NOS	6.3%	9835	Precursor cell lymphoblastic leukemia. NOS	4.7%	9500	Neuroblastoma, NOS	5.9%
9470	Medulloblastoma, NOS	5.3%	8960	Nephroblastoma, NOS	6.1%	9500	Neuroblastoma, NOS	4.4%	8960	Nephroblastoma, NOS	5.6%
9800	Leukemia, NOS	4.6%	9861	Acute myeloid leukemia, NOS	4.0%	9811	B lymphoblastic leukemia/lymphoma, NOS	3.5%	9835	Precursor cell lymphoblastic leukemia. NOS	4.9%
9861	Acute myeloid leukemia, NOS	4.3%	9800	Leukemia, NOS	3.9%	9801	Acute leukemia. NOS	3.2%	9801	Acute leukemia. NOS	4.1%
8960	Nephroblastoma, NOS	3.8%	9380	Glioma, malignant	3.7%	9510	Retinoblastoma	2.9%	9861	Acute myeloid leukemia, NOS	3.6%
9650	Hodgkin lymphoma, NOS	3.5%	9835	Precursor cell lymphoblastic leukemia. NOS	3.6%	9470	Medulloblastoma, NOS	2.9%	9380	Glioma, malignant	3.4%
9801	Acute leukemia. NOS	3.4%	9260	Aneurysmal bone cyst	3.2%	9687	Burkitt lymphoma, NOS	2.8%	8000	Tumor, malignant, NOS	3.2%
9663	Hodgkin lymphoma, nodular sclerosis, NOS	3.2%	9663	Hodgkin lymphoma, nodular sclerosis, NOS	2.9%	8910	Embryonal rhabdomyosarcoma, NOS	2.8%	9811	B lymphoblastic leukemia/lymphoma, NOS	2.5%
9837	Precursor T-cell lymphoblastic leukemia	3.0%	9470	Medulloblastoma, NOS	2.9%	8960	Nephroblastoma, NOS	2.8%	9800	Leukemia, NOS	2.5%
	Other	54.8%		Other	52.5%		Other	57.2%		Other	52.3%
Total	All	100%	Total	All	100%	Total	All	100%	Total	All	100%

Table 6.2 Morphological distribution of all childhood cancers in the GCC Region, 2017-2020

6.6 Most Common Childhood Cancer

6.6.1 Leukemia

6.6.1.1 ASR Time Trend

Between 2013 and 2019, the ASRs per million exhibited for childhood leukemias annual variations among both national and non-national populations. In the national group, the ASR fluctuated from a high of 46.8 in 2015 to 37.1 in 2016, with the lowest ASR recorded in 2020 with a value of 33.2. Conversely, among non-national groups, the ASR varied from 30.2 to 38.4, with a peak of 43.7 observed in 2014. Throughout most of this period, the rates showed no discernible upward or downward trend; instead, they remained within a moderate range, indicating relative stability overall. However, a notable decrease was observed in 2020 in both nationalities. This decrease may be attributed to the impact of the COVID19 pandemic, which likely disrupted the cancer detection and reporting processes, thereby contributing to the observed reduction in incidence rates across both national and non-national childhood populations [Figure 6.12].
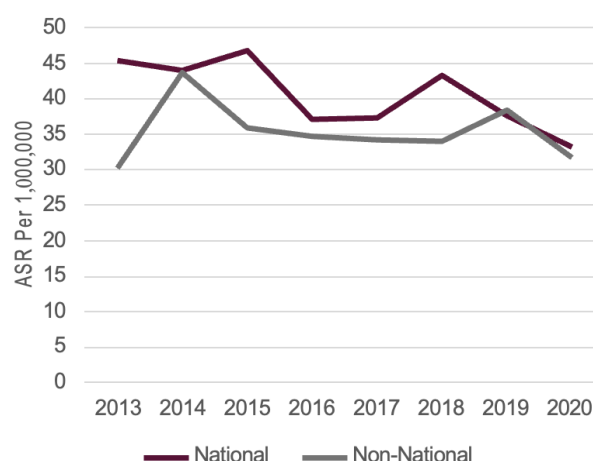
Figure 6.12 Time Trend of Childhood Leukemia Cases by Nationality in the GCC Region, 2013–2020

6.6.1.2 Morphological Distribution

The morphological distribution of childhood leukemia consistently remained predominantly characterized by precursor B-cell lymphoblastic leukemia (9836) across both periods and all demographic groups. In the period 2013–2016, this subtype constituted 45% of the cases among national males, 49% among national females, and 47% among non-national males, with a peak of 53% among non-national females. Although it remained the most prevalent subtype in the period 2017–2020, its proportion decreased , ranging from 26% to 34% across the various groups. Concurrently, other subtypes—such as precursor cell lymphoblastic leukemia, NOS (9835); acute myeloid leukemia, NOS (9861); and leukemia, NOS (9800)—accounted for a larger proportion in the second period. [Tables 6.3 and 6.4].

National Male			National Female			Non-National Male			Non-National Female		
Code	Morphology	%	Code	Morphology	%	Code	Morphology	%	Code	Morphology	%
9836	Precursor B-cell lymphoblastic leukemia	45.5%	9836	Precursor B-cell lymphoblastic leukemia	49.3%	9836	Precursor B-cell lymphoblastic leukemia	47.1%	9836	Precursor B-cell lymphoblastic leukemia	53.4%
9835	Precursor cell lymphoblastic leukemia, NOS	16.3%	9835	Precursor cell lymphoblastic leukemia, NOS	15.7%	9835	Precursor cell lymphoblastic leukemia, NOS	11.5%	9835	Precursor cell lymphoblastic leukemia, NOS	14.7%
9861	Acute myeloid leukemia, NOS	9.6%	9861	Acute myeloid leukemia, NOS	11.3%	9861	Acute myeloid leukemia, NOS	8.0%	9861	Acute myeloid leukemia, NOS	8.3%
9837	Precursor T-cell lymphoblastic leukemia	8.9%	9801	Acute leukemia, NOS	3.7%	9837	Precursor T-cell lymphoblastic leukemia	7.3%	9837	Precursor T-cell lymphoblastic leukemia	3.9%
9826	Burkitt cell leukemia	2.8%	9837	Precursor T-cell lymphoblastic leukemia	2.7%	9801	Acute leukemia, NOS	3.4%	9826	Burkitt cell leukemia	3.9%
9801	Acute leukemia, NOS	2.2%	9866	Acute promyelocytic leukemia, t(15;17)(q22;q11-12)	2.0%	9826	Burkitt cell leukemia	2.7%	9801	Acute leukemia, NOS	2.9%
9866	Acute promyelocytic leukemia, t(15;17)(q22;q11-12)	1.5%	9826	Burkitt cell leukemia	2.0%	9840	Acute erythroid leukemia	2.3%	9863	Chronic myeloid leukemia, NOS	1.5%
9863	Chronic myeloid leukemia, NOS	1.4%	9946	Juvenile myelomonocytic leukemia, NOS	2.0%	9820	Lymphoid leukemia, NOS	1.9%	9800	Leukemia, NOS	1.5%
9800	Leukemia, NOS	1.1%	9910	Acute megakaryoblastic leukemia	1.2%	9863	Chronic myeloid leukemia, NOS	1.5%	9820	Lymphoid leukemia, NOS	1.5%
9891	Acute monocytic leukemia	1.1%	9863	Chronic myeloid leukemia, NOS	1.2%	9800	Leukemia, NOS	1.1%	9840	Acute erythroid leukemia	1.0%
Other		9.5%	Other		8.8%	Other		13.0%	Other		7.4%
Total	All	100%	Total	All	100%	Total	All	100%	Total	All	100%

Table 6.3 Morphological Distribution of childhood Leukemia Cancer in the GCC Region, 2013-2016

National Male			National Female			Non-National Male			Non-National Female		
Code	Morphology	%	Code	Morphology	%	Code	Morphology	%	Code	Morphology	%
9836	Precursor B-cell lymphoblastic leukemia	25.7%	9836	Precursor B-cell lymphoblastic leukemia	33.5%	9836	Precursor B-cell lymphoblastic leukemia	33.5%	9836	Precursor B-cell lymphoblastic leukemia	32.1%
9800	Leukemia, NOS	13.6%	9861	Acute myeloid leukemia, NOS	12.3%	9835	Precursor cell lymphoblastic leukemia, NOS	12.5%	9835	Precursor cell lymphoblastic leukemia, NOS	13.1%
9861	Acute myeloid leukemia, NOS	12.6%	9800	Leukemia, NOS	11.9%	9811	B lymphoblastic leukemia/lymphoma, NOS	9.3%	9801	Acute leukemia, NOS	10.9%
9801	Acute leukemia, NOS	10.0%	9835	Precursor cell lymphoblastic leukemia, NOS	11.2%	9801	Acute leukemia, NOS	8.6%	9861	Acute myeloid leukemia, NOS	9.5%
9837	Precursor T-cell lymphoblastic leukemia	8.8%	9801	Acute leukemia, NOS	7.4%	9861	Acute myeloid leukemia, NOS	7.0%	9811	B lymphoblastic leukemia/lymphoma, NOS	6.8%
9835	Precursor cell lymphoblastic leukemia, NOS	8.5%	9837	Precursor T-cell lymphoblastic leukemia	5.0%	9837	Precursor T-cell lymphoblastic leukemia	7.0%	9800	Leukemia, NOS	6.8%
9826	Burkitt cell leukemia	6.9%	9826	Burkitt cell leukemia	4.9%	9800	Leukemia, NOS	5.4%	9826	Burkitt cell leukemia	5.9%
9823	B-cell chronic lymphocytic leukemia/small lymphocytic lymphoma	3.6%	9823	B-cell chronic lymphocytic leukemia/small lymphocytic lymphoma	2.7%	9826	Burkitt cell leukemia	3.9%	9837	Precursor T-cell lymphoblastic leukemia	2.7%
9811	B lymphoblastic leukemia/lymphoma, NOS	2.2%	9811	B lymphoblastic leukemia/lymphoma, NOS	1.8%	9823	B-cell chronic lymphocytic leukemia/small lymphocytic lymphoma	3.1%	9866	Acute promyelocytic leukemia, t(15;17)(q22;q11-12)	1.8%
9866	Acute promyelocytic leukemia, t(15;17)(q22;q11-12)	1.0%	9866	Acute promyelocytic leukemia, t(15;17)(q22;q11-12)	0.9%	9863	Chronic myeloid leukemia, NOS	2.3%	9820	Lymphoid leukemia, NOS	1.4%
Other		7.1%	Other		8.5%	Other		7.4%	Other		9.0%
Total	All	100%	Total	All	100%	Total	All	100%	Total	All	100%

Table 6.4 Morphological Distribution of childhood Leukemia Cancer in the GCC Region, 2017-2020

6.6.2 Lymphoma

6.6.2.1 ASR Time Trend

Between 2013 and 2020, ASRs per million demonstrated for childhood lymphomas significant annual fluctuations across both national and non-national populations. Among nationals, the ASR reached a peak of 24.4 in 2015, while remaining within the range of 18.2 to 22.3 in the other years, with a decrease from 19.4 in 2019 to 14.3 in 2020. Conversely, in the non-national group, the rates remained relatively stable and lower than those of nationals from 2013 to 2017, ranging from 10.0 to 14.0, then decreasing gradually from 2017 to 2020 and ending at 8.7. In both groups, the ASRs reached the lowest levels in 2020, potentially reflecting the impact of the COVID-19 pandemic on cancer diagnosis and reporting protocols [Figure 6.13].

6.6.2.2 Extent of the disease [SEER]

The distribution of SEER staging for childhood lymphoma during the periods 2013–2016 and 2017–2020 reflects the evolving patterns in diagnostic stages based on nationality and sex. For national males, the proportion of cases presenting with distant metastases slightly decreased from 43% to 40%, whereas the percentage of diagnoses at localized stages increased from 28% to 34% and that at regional cases increased from 13% to 15%. The proportion of cases with unknown stage decreased from 16% to 11%. Among national females, the proportion of distant-stages diagnoses increased from 34% to 41%, with those of localized and regional stages shifting from 24% to 28% and from 18% to 17%, respectively, whereas the percentage of cases with unknown stage decreased from 23% to 14%. In non-national males, the percentage of distant metastasis cases increased modestly from 64% to 69%, with that of localized-stage cases rising from 7% to 9%, that of regional cases remaining stable at 3%, and that of unknown-stage cases dropping from 27% to 19%. Among non-national females, the proportion of cases diagnosed at a distant stage increased from 57% to 65%. The percentages of localized and regional stages

Figure 6.13 Time Trend of Childhood Lymphoma Cases by Nationality in the GCC Region, 2013–2020
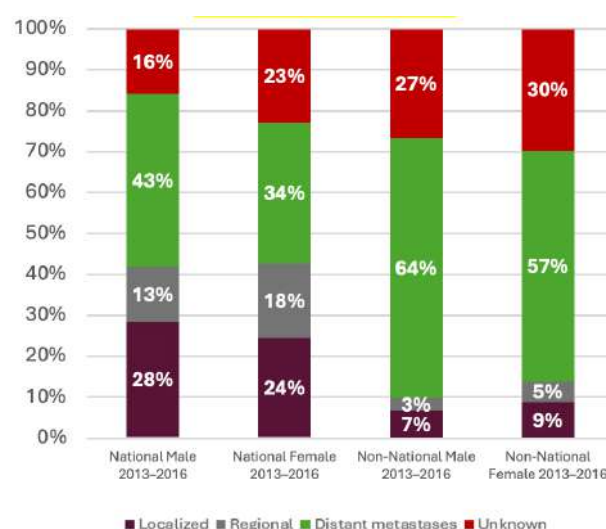
Figure 6.14 SEER Staging of Childhood Lymphoma Cases by Nationality in the GCC Region, 2013–2016
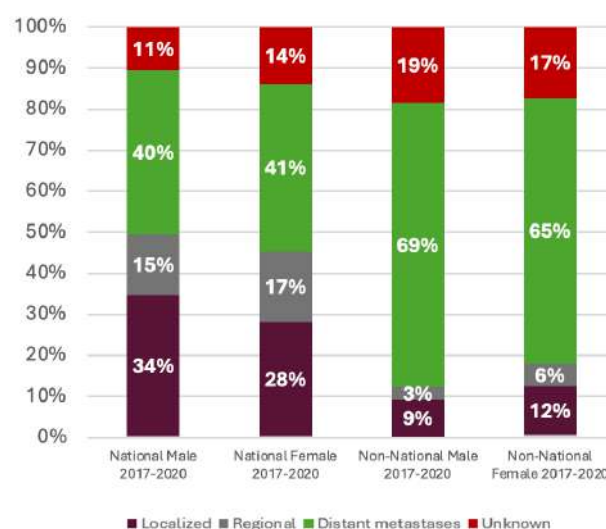
Figure 6.15 SEER Staging of Childhood Lymphoma Cases by Nationality in the GCC Region, 2017–2020

المركز الخليجي للوقاية من الأمراض ومكافحتها
Gulf Center for Disease Prevention and Control

remained relatively stable, increasing from 9% to 12% and 5% to 6%, respectively, whereas the proportion of unknown-stage cases decreased markedly from 30% to 17%. These trends imply improvements in documentation practices and shifts in stage distribution, although a considerable proportion of cases, particularly among non-national females, continue to be reported in advanced stages [Figures 6.14 and 6.15].

6.6.2.3 Morphological Distribution

The morphological distribution of childhood lymphomas across both periods highlights shifts in the leading subtypes according to nationality and sex. In 2013–2016, Hodgkin lymphoma, nodular sclerosis (9663) was the most common subtype among nationals, comprising 19% of cases in males, 30% in national females, and 28% in non-national females, whereas Burkitt lymphoma (9687) was the most frequent type in non-national males (26%). In the period 2017–2020, Hodgkin lymphoma, NOS (9650) and Hodgkin lymphoma, nodular sclerosis (9663) remained the most prevalent types among nationals (up to 24%), whereas Burkitt lymphoma (9687) and Hodgkin lymphoma, nodular sclerosis (9663) dominated among non-nationals (up to 23%). Other subtypes, such as diffuse large B-cell lymphoma (9680), Hodgkin lymphoma, mixed cellularity (9652), and mycosis fungoides (9700), also persisted across both periods and all groups [Tables 6.5 and 6.6].

	National Male			National Female			Non-National Male			Non-National Female	
Code	Morphology	%	Code	Morphology	%	Code	Morphology	%	Code	Morphology	%
9663	Hodgkin lymphoma, nodular sclerosis, NOS	19.2%	9663	Hodgkin lymphoma, nodular sclerosis, NOS	30.2%	9687	Burkitt lymphoma, NOS	26.0%	9663	Hodgkin lymphoma, nodular sclerosis, NOS	28.3%
9687	Burkitt lymphoma, NOS	14.5%	9687	Burkitt lymphoma, NOS	11.1%	9663	Hodgkin lymphoma, nodular sclerosis, NOS	12.6%	9650	Hodgkin lymphoma, NOS	18.9%
9650	Hodgkin lymphoma, NOS	10.6%	9650	Hodgkin lymphoma, NOS	9.4%	9680	Diffuse large B-cell lymphoma, NOS	12.6%	9687	Burkitt lymphoma, NOS	11.3%
9652	Hodgkin lymphoma, mixed cellularity, NOS	10.6%	9652	Hodgkin lymphoma, mixed cellularity, NOS	8.1%	9652	Hodgkin lymphoma, mixed cellularity, NOS	7.9%	9590	Malignant lymphoma, NOS	5.7%
9659	Hodgkin lymphoma, nodular lymphocyte predominant	7.3%	9680	Diffuse large B-cell lymphoma, NOS	6.0%	9650	Hodgkin lymphoma, NOS	7.1%	9680	Diffuse large B-cell lymphoma, NOS	5.7%
9680	Diffuse large B-cell lymphoma, NOS	7.3%	9754	Langerhans cell histiocytosis, disseminated	5.5%	9590	Malignant lymphoma, NOS	4.7%	9652	Hodgkin lymphoma, mixed cellularity, NOS	3.8%
9729	Precursor T-cell lymphoblastic lymphoma	4.2%	9728	Precursor B-cell lymphoblastic lymphoma	3.8%	9591	Malignant lymphoma, non-Hodgkin, NOS	4.7%	9591	Malignant lymphoma, non-Hodgkin, NOS	3.8%
9754	Langerhans cell histiocytosis, disseminated	4.2%	9659	Hodgkin lymphoma, nodular lymphocyte predominant	3.4%	9729	Precursor T-cell lymphoblastic lymphoma	4.7%	9728	Precursor B-cell lymphoblastic lymphoma	3.8%
9700	Mycosis fungoides	3.1%	9591	Malignant lymphoma, non-Hodgkin, NOS	3.4%	9751	Langerhans cell histiocytosis, disseminated	3.9%	9702	Mature T-cell lymphoma, NOS	3.8%
9728	Precursor B-cell lymphoblastic lymphoma	3.1%	9700	Mycosis fungoides	3.4%	9665	Hodgkin lymphoma, nodular sclerosis, grade 1	2.4%	9729	Precursor T-cell lymphoblastic lymphoma	3.8%
Other		16.1%	Other		15.7%	Other	Langerhans cell histiocytosis, disseminated	13.4%	Other		11.3%
Total	All	100%	Total	All	100%	Total	All	100%	Total	All	100%

Table 6.5 Morphological Distribution of childhood Lymphoma Cancer in the GCC Region, 2013-2016

	National Male			National Female			Non-National Male			Non-National Female	
Code	Morphology	%	Code	Morphology	%	Code	Morphology	%	Code	Morphology	%
9650	Hodgkin lymphoma, NOS	18.1%	9663	Hodgkin lymphoma, nodular sclerosis, NOS	23.9%	9687	Burkitt lymphoma, NOS	17.6%	9663	Hodgkin lymphoma, nodular sclerosis, NOS	22.8%
9663	Hodgkin lymphoma, nodular sclerosis, NOS	16.7%	9650	Hodgkin lymphoma, NOS	22.5%	9650	Hodgkin lymphoma, NOS	14.8%	9650	Hodgkin lymphoma, NOS	21.1%
9687	Burkitt lymphoma, NOS	15.0%	9687	Burkitt lymphoma, NOS	8.1%	9663	Hodgkin lymphoma, nodular sclerosis, NOS	13.9%	9687	Burkitt lymphoma, NOS	15.8%
9652	Hodgkin lymphoma, mixed cellularity, NOS	8.8%	9680	Diffuse large B-cell lymphoma, NOS	8.1%	9652	Hodgkin lymphoma, mixed cellularity, NOS	9.3%	9680	Diffuse large B-cell lymphoma, NOS	10.5%
9659	Hodgkin lymphoma, nodular lymphocyte predominant	8.1%	9700	Mycosis fungoides	6.7%	9591	Malignant lymphoma, non-Hodgkin, NOS	6.5%	9751	Langerhans cell histiocytosis, disseminated	5.3%
9680	Diffuse large B-cell lymphoma, NOS	7.1%	9652	Hodgkin lymphoma, mixed cellularity, NOS	5.7%	9680	Diffuse large B-cell lymphoma, NOS	4.6%	9729	Precursor T-cell lymphoblastic lymphoma	3.5%
9729	Precursor T-cell lymphoblastic lymphoma	3.4%	9591	Malignant lymphoma, non-Hodgkin, NOS	3.8%	9659	Hodgkin lymphoma, nodular lymphocyte predominant	3.7%	9750	Malignant histiocytosis	3.5%
9728	Precursor B-cell lymphoblastic lymphoma	3.2%	9590	Malignant lymphoma, NOS	3.3%	9700	Mycosis fungoides	2.8%	9700	Mycosis fungoides	3.5%
9653	Hodgkin lymphoma, lymphocyte depletion, NOS	2.7%	9659	Hodgkin lymphoma, nodular lymphocyte predominant	2.9%	9590	Malignant lymphoma, NOS	2.8%	9652	Hodgkin lymphoma, mixed cellularity, NOS	1.8%
9700	Mycosis fungoides	2.5%	9754	Langerhans cell histiocytosis, disseminated	1.4%	9728	Precursor B-cell lymphoblastic lymphoma	2.8%	9591	Malignant lymphoma, non-Hodgkin, NOS	1.8%
Other		14.5%	Other		13.4%	Other		21.3%	Other		10.5%
Total	All	100%	Total	All	100%	Total	All	100%	Total	All	100%

Table 6.6 Morphological Distribution of childhood Lymphoma Cancer in the GCC Region, 2017-2020

6.6.3.1 ASR Time Trend

Between 2013 and 2020, the ASRs per million varied annually for childhood CNS neoplasms among both national and non-national populations. Among nationals, the ASR ranged from a minimum of 12.1 in 2017 to a maximum of 22.1 in 2019, with most years falling within the range of 14–18 per million. Conversely, the ASR for non-nationals generally decreased from 13.9 in 2013 to 8.5 in 2020, except for a brief increase to 14.6 in 2019 and 13.5 in 2018. Overall, no consistent upward or downward trend existed; however, both groups showed lower rates in 2020, which was potentially attributable to the impacts of the pandemic [Figure 6.16].

6.6.3.2 Extent of the disease [SEER]

The SEER staging distribution of childhood CNS neoplasms across the two periods (2013–2016 and 2017–2020) demonstrates clear patterns according to nationality and sex. Among national males, most cases were diagnosed at the localized stage, increasing from 57% to 67%, whereas the proportion of regional cases remained stable (14–13%), and that of cases with distant metastases remained low (8–9%). The proportion of cases with unknown stage decreased from 21% to 11%. National females showed a similar pattern, with the percentage of localized-stage cases increasing from 56% to 63%, that of regional-stage cases stable at 14%, and that of unknown-stage cases decreasing from 23% to 15%. In non-national males, the percentage of cases with localized stage decreased from 54% to 46%, whereas that of unknown-stage cases increased markedly from 33% to 47%. Among non-national females, the percentage of localized diagnoses decreased from 51% to 29%, that of regional cases increased from 8% to 14%, and that of unknown-stage cases increased sharply from 33% to

Figure 6.16 Time Trend of Childhood CNS Neoplasms by Nationality in the GCC Region, 2013–2020
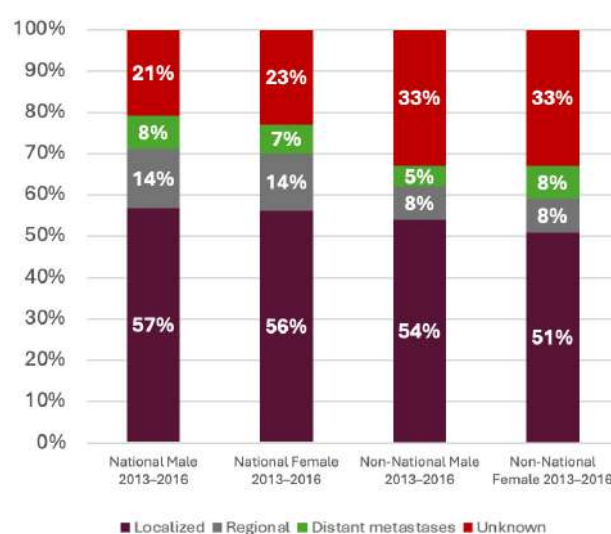
Figure 6.17 Extent of The Disease, SEER Staging of childhood CNS Neoplasms Cancer Cases by Nationality, 2013-2016
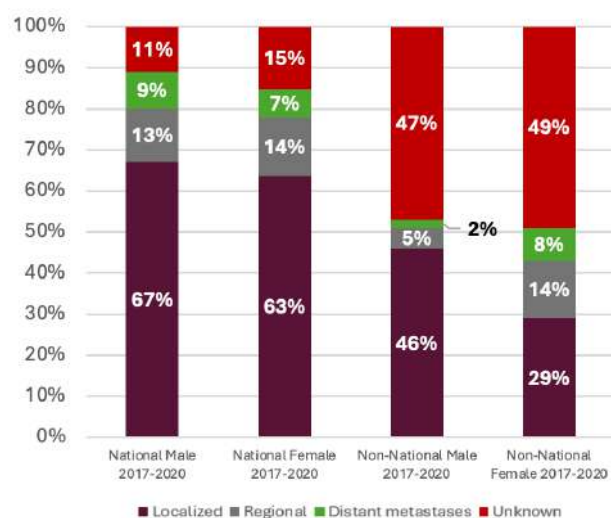
Figure 6.18 SEER Staging of Childhood CNS Neoplasms by Nationality in the GCC Region, 2017–2020

49%. These findings suggest a continued predominance of localized staging at diagnosis among nationals, whereas challenges related to unknown staging persist within non-national groups [Figures 6.17 and 6.18].

6.6.3.3 Morphological Distribution

The morphological distribution of childhood central nervous system (CNS) neoplasms across both periods underscores shifts in predominant subtypes according to nationality and sex. During 2013–2016, medulloblastoma (9470) was recognized as the most prevalent diagnosis, constituting 38% of cases among national males and 32% among national females. It also remained the leading subtype among non-national males, accounting for 25%, whereas the most common diagnosis among non-national females was glioma (9830), representing 21%. From 2017–2020, both medulloblastoma (9470) and malignant glioma (9380) continued to be predominant, although the proportion of medulloblastoma experienced a slight decline to 34% among national males, 24% among non-national males, and 21% among national females. Among non-national females, glioma retained its status as the most common diagnosis at 25%. Other frequently observed subtypes included astrocytoma (9400), ependymoma (9391/9392), and glioblastoma (9440), with malignant glioma (9380) notably prominent among females. A broader spectrum of rare histologies persisted across both periods. [Table 6.7,6.8]

National Male			National Female			Non-National Male			Non-National Female		
Code	Morphology	%	Code	Morphology	%	Code	Morphology	%	Code	Morphology	%
9470	Medulloblastoma, NOS	37.7%	9470	Medulloblastoma, NOS	31.9%	9470	Medulloblastoma, NOS	25.3%	9380	Glioma, malignant	21.1%
9380	Glioma, malignant	11.8%	9380	Glioma, malignant	13.0%	9400	Astrocytoma, NOS	10.1%	9470	Medulloblastoma, NOS	19.7%
9391	Ependymoma, NOS	7.4%	9392	Ependymoma, anaplastic	10.1%	9380	Glioma, malignant	8.9%	9473	CNS embryonal tumor, NOS	11.8%
9440	Glioblastoma, NOS	7.1%	9400	Astrocytoma, NOS	8.7%	9392	Ependymoma, anaplastic	8.9%	9392	Ependymoma, anaplastic	7.9%
9400	Astrocytoma, NOS	6.7%	9440	Glioblastoma, NOS	8.2%	9440	Glioblastoma, NOS	6.3%	9440	Glioblastoma, NOS	7.9%
9392	Ependymoma, anaplastic	5.7%	9391	Ependymoma, NOS	4.3%	9391	Ependymoma, NOS	5.1%	9391	Ependymoma, NOS	6.6%
9471	Desmoplastic nodular medulloblastoma	4.0%	9473	CNS embryonal tumor, NOS	4.3%	9471	Desmoplastic nodular medulloblastoma	5.1%	9421	Pilocytic astrocytoma	6.6%
9508	Atypical teratoid/rhabdoid tumor	3.7%	9508	Atypical teratoid/rhabdoid tumor	3.4%	8000	Neoplasm, malignant	3.8%	9400	Astrocytoma, NOS	3.9%
9474	Large cell medulloblastoma	2.4%	9471	Desmoplastic nodular medulloblastoma	2.9%	9390	Choroid plexus carcinoma	3.8%	9390	Choroid plexus carcinoma	2.6%
9390	Choroid plexus carcinoma	2.0%	9424	Pleomorphic xanthoastrocytoma, NOS	2.4%	9421	Pilocytic astrocytoma	3.8%	9425	Pilomyxoid astrocytoma	2.6%
Other		11.4%	Other		10.6%	Other		19.0%	Other		9.2%
Total	All	100%	Total	All	100%	Total	All	100%	Total	All	100%

Table 6.7 Morphological Distribution of childhood CNS Neoplasm Cancer in the GCC Region, 2013-2016

National Male			National Female			Non-National Male			Non-National Female		
Code	Morphology	%	Code	Morphology	%	Code	Morphology	%	Code	Morphology	%
9470	Medulloblastoma, NOS	33.9%	9380	Glioma, malignant	26.5%	9470	Medulloblastoma, NOS	23.5%	9380	Glioma, malignant	25.3%
9380	Glioma, malignant	17.6%	9470	Medulloblastoma, NOS	20.6%	9380	Glioma, malignant	15.3%	9470	Medulloblastoma, NOS	13.9%
9400	Astrocytoma, NOS	9.4%	9392	Ependymoma, anaplastic	7.6%	9400	Astrocytoma, NOS	10.6%	9392	Ependymoma, anaplastic	8.9%
8000	Neoplasm, malignant	7.0%	9400	Astrocytoma, NOS	7.6%	9392	Ependymoma, anaplastic	8.2%	9440	Glioblastoma, NOS	7.6%
9440	Glioblastoma, NOS	4.2%	8000	Neoplasm, malignant	6.3%	9421	Pilocytic astrocytoma	7.1%	8000	Neoplasm, malignant	7.6%
9391	Ependymoma, NOS	3.9%	9440	Glioblastoma, NOS	6.3%	9391	Ependymoma, NOS	5.9%	9400	Astrocytoma, NOS	6.3%
9420	Fibrillary astrocytoma	3.9%	9391	Ependymoma, NOS	5.5%	9440	Glioblastoma, NOS	5.9%	9421	Pilocytic astrocytoma	3.8%
9392	Ependymoma, anaplastic	3.6%	9471	Desmoplastic nodular medulloblastoma	2.5%	8000	Neoplasm, malignant	5.9%	9474	Large cell medulloblastoma	2.5%
9508	Atypical teratoid/rhabdoid tumor	2.7%	9362	Pineoblastoma	2.5%	9471	Desmoplastic nodular medulloblastoma	4.7%	9391	Ependymoma, NOS	2.5%
9401	Astrocytoma, anaplastic, NOS	2.1%	9421	Pilocytic astrocytoma	2.1%	9362	Pineoblastoma	2.4%	9401	Astrocytoma, anaplastic, NOS	2.5%
Other		11.5%	Other		12.6%	Other		10.6%	Other		19.0%
Total	All	100%	Total	All	100%	Total	All	100%	Total	All	100%

Table 6.8 Morphological Distribution of childhood CNS Neoplasm Cancer in the GCC Region, 2017-2020

Section Five

Data Quality

7.1 Primary Site Uncertain

The percentage of cases registered with an unspecified or uncertain primary site (C80.9) was 2.48% in males and 2.12% in females in the period 2013–2016 and 2.14% in males and 1.6% in females in the period 2017–2020 among nationals. For non-nationals, the percentages were 2.7% in males and 1.9% in females in the period 2014–2016 and 2.24% in males and 1.47% in females for the subsequent period (2017–2020).

7.2 Age unknown

During the first period (2013–2016), 28 cases with unknown age were recorded among nationals, with the patient age unknown for 18 males and 10 females. In the subsequent period (2017–2020), 23 cases were documented in nationals, comprising 10 males and 13 females. For non-national cases, 8 instances were recorded in the period 2013–2016 (3 males and 5 females) and 23 cases in the period 2017–2020 (10 males and 13 females).

7.3 Basis of Diagnosis by site

Ideally, the percentage of morphologically verified (MV) cases should be maximized, whereas the proportion of cases registered as DCO should be minimized. The number of clinical diagnoses should also be minimized. Nevertheless, exceptions are anticipated for specific cancers, such as those of the liver, pancreas, brain, and CNS, where histological confirmation is less prevalent owing to prevailing clinical practices. Regarding the Gulf Cancer Registry, most cases across both populations and periods met these quality standards [Tables 7.1–7.4].

8. Challenges and Opportunities

8.1 Challenges

Several significant challenges and limitations were encountered during the preparation of this report. First, the TNM stages are not included in this report due to discrepancies in staging systems and reporting methodologies among countries which may prevent the accurate comparison and alignment of staging data.

Another challenge is acquiring detailed population data disaggregated by sex, age, and nationality. Although such information was accessible for four countries, population estimates by nationality were derived through inverted indirect calculations for the remaining two, which may have influenced the accuracy of the findings. Overall, the quality of data for non-national populations was generally lower than that for national populations. This discrepancy may have been influenced by factors such as differences in access to healthcare, mobility, continuity of care, and reporting consistency. Furthermore, the availability and quality of mortality data varied considerably across GCC. nations, thereby constraining their ability to deliver comprehensive survival and mortality statistics. This report is also subject to limitations arising from the small number of cases in certain subgroups, especially in smaller GCC countries, especially when the data were disaggregated by nationality, sex, cancer site, and reporting period. Small numerators can cause substantial fluctuations in ASRs andrankings, which may overstate apparent changes that are not reflective of actual shifts in cancer risk.

8.2 Opportunities

—

Currently, the procedure entails collecting National Cancer Registry data from GCC countries and then working to unify and harmonize these data. Nonetheless, a more efficacious approach would be to advocate and facilitate the adoption of a unified and harmonized system across all GCC countries from the outset. Implementing common standards and definitions during the data collection phase might minimize discrepancies, simplify data integration, and markedly enhance the quality and comparability of the data.

8.3 Future Needs: Priority Areas

—

One key area requiring attention is the collection and integration of accurate mortality data within cancer registries. Although incidence data provide valuable insights into the burden of cancer, comprehensive mortality data are essential for understanding the survival outcomes and the true impact of cancer on populations. Moreover, information on migration, which may significantly affect the survival analysis, is currently not available and should be incorporated into the data collection process. Strengthening the availability and quality of mortality data and improving the completeness of data for non-nationals will enhance the ability to monitor trends, evaluate the effectiveness of interventions, and inform national and regional cancer control strategies. Additionally, ensuring the timely recovery of both national and non-national data and implementing an annual systematic collection process are crucial for improving data quality and supporting more accurate cancer survival and impact assessments.

Cancer site	ICD-10	No. Cases	% total	Basis of diagnosis		
				% DCO	% Clinical	% M.V
Mouth & pharynx	C00-14	2,334	3.8	0.7	0.3	99.1
Oesophagus	C15	611	1.0	3.6	1.5	94.9
Stomach	C16	1,881	3.1	1.4	1.0	97.6
Colon, rectum, anus	C18-21	7,942	13.0	1.3	0.6	98.1
Liver	C22	2,383	3.9	6.6	39.9	53.5
Pancreas	C25	1,428	2.3	4.3	9.6	86.1
Larynx	C32	485	0.8	1.2	0.8	97.9
Trachea, bronchus, lung	C33-34	2,648	4.3	3.6	2.6	93.7
Melanoma of skin	C43	156	0.3	0.0	1.3	98.7
Breast	C50	11,723	19.2	0.8	0.3	98.9
Cervix	C53	747	1.2	0.9	0.1	98.9
Corpus & uterus NOS	C54-55	2,298	3.8	0.7	0.3	98.9
Ovary & adnexa	C56	1,213	2.0	1.8	1.3	96.9
Prostate	C61	2,333	3.8	1.7	1.7	96.6
Testis	C62	582	1.0	0.2	0.3	99.5
Kidney & urinary NOS	C64-66,68	1,828	3.0	1.3	2.1	96.6
Bladder	C67	2,232	3.6	1.7	0.8	97.5
Brain & central nervous system	C70-72	1,858	3.0	3.4	7.9	88.8
Thyroid	C73	5,581	9.1	0.2	0.0	99.7
Lymphoma	C81-85,90,88,96	7,186	11.7	0.5	0.3	99.2
Leukemia	C91-95	3,737	6.1	2.0	0.3	97.8
All Sites	All	61,186	100.0	1.5	2.6	95.9

Table 7.1 Basis of Diagnosis by Site for Nationals in the GCC Region, 2013-2016

Cancer site	ICD-10	No. Cases	% total	Basis of diagnosis		
				% DCO	% Clinical	% M.V
Mouth & pharynx	C00-14	2,421	3.5	0.2	0.4	99.3
Oesophagus	C15	583	0.9	0.3	0.5	99.1
Stomach	C16	1,836	2.7	1.1	0.7	98.2
Colon, rectum, anus	C18-21	9,029	13.2	0.7	0.5	98.9
Liver	C22	2,294	3.4	4.4	32.3	63.3
Pancreas	C25	1,711	2.5	2.9	5.6	91.5
Larynx	C32	461	0.7	0.7	0.9	98.5
Trachea, bronchus, lung	C33-34	2,878	4.2	1.9	2.3	95.8
Melanoma of skin	C43	146	0.2	0.0	0.7	99.3
Breast	C50	13,848	20.2	0.2	0.4	99.3
Cervix	C53	835	1.2	0.5	0.5	99.0
Corpus & uterus NOS	C54-55	3,047	4.5	0.4	0.6	99.0
Ovary & adnexa	C56	1,360	2.0	0.4	2.8	96.8
Prostate	C61	2,653	3.9	0.7	2.0	97.2
Testis	C62	745	1.1	0.1	0.8	99.1
Kidney & urinary NOS	C64-66,68	2,169	3.2	0.6	2.2	97.2
Bladder	C67	2,220	3.2	0.7	0.5	98.8
Brain & central nervous system	C70-72	2,247	3.3	1.3	5.8	92.9
Thyroid	C73	6,459	9.4	0.1	0.2	99.7
Lymphoma	C81-85,90,88,96	7,537	11.0	0.2	0.4	99.4
Leukemia	C91-95	3,908	5.7	0.7	0.6	98.7
All Sites	All	68,387	100.0	0.7	2.1	97.2

Table 7.2 Basis of Diagnosis by site for Nationals in the GCC Region, 2017-2020

Cancer site	ICD-10	No. Cases	% total	Basis of diagnosis		
				% DCO	% Clinical	% M.V
Mouth & pharynx	C00-14	1,312	4.1	1.0	0.2	98.8
Oesophagus	C15	282	0.9	1.4	1.4	97.2
Stomach	C16	1,048	3.3	1.3	0.6	98.1
Colon, rectum, anus	C18-21	3,865	12.0	0.9	0.3	98.8
Liver	C22	776	2.4	7.0	29.3	63.8
Pancreas	C25	565	1.8	5.5	7.6	86.9
Larynx	C32	305	0.9	0.3	1.0	98.7
Trachea, bronchus, lung	C33-34	1,507	4.7	3.7	2.7	93.6
Melanoma of skin	C43	237	0.7	0.0	1.7	98.3
Breast	C50	7,457	23.1	1.1	0.3	98.6
Cervix	C53	712	2.2	0.4	0.4	99.2
Corpus & uterus NOS	C54-55	902	2.8	0.7	0.6	98.8
Ovary & adnexa	C56	665	2.1	2.9	1.7	95.5
Prostate	C61	1,605	5.0	0.7	0.8	98.5
Testis	C62	385	1.2	0.3	0.3	99.5
Kidney & urinary NOS	C64-66,68	964	3.0	1.0	1.0	97.9
Bladder	C67	1,338	4.2	0.6	0.2	99.2
Brain & central nervous system	C70-72	979	3.0	2.6	5.4	92.0
Thyroid	C73	2,459	7.6	0.3	0.1	99.6
Lymphoma	C81-85,90,88,96	2,847	8.8	0.4	0.8	98.7
Leukemia	C91-95	2,018	6.3	1.3	0.0	98.7
All Sites	**All**	**32,228**	**100.0**	**1.3**	**1.5**	**97.2**

Table 7.3 Basis of Diagnosis by site for Non-Nationals in the GCC Region, 2013-2016

Cancer site	ICD-10	No. Cases	% total	Basis of diagnosis		
				% DCO	% Clinical	% M.V
Mouth & pharynx	C00-14	1,509	4.4	0.1	0.7	99.3
Oesophagus	C15	227	0.7	1.3	1.8	96.9
Stomach	C16	968	2.8	0.7	1.0	98.2
Colon, rectum, anus	C18-21	3,980	11.6	0.5	0.7	98.8
Liver	C22	709	2.1	5.2	36.1	58.7
Pancreas	C25	674	2.0	3.6	7.7	88.7
Larynx	C32	229	0.7	0.0	1.3	98.7
Trachea, bronchus, lung	C33-34	1,611	4.7	1.9	3.5	94.5
Melanoma of skin	C43	313	0.9	0.0	1.3	98.7
Breast	C50	7,918	23.2	0.2	0.8	99.0
Cervix	C53	822	2.4	0.6	0.4	99.0
Corpus & uterus NOS	C54-55	1,052	3.1	0.3	0.8	99.0
Ovary & adnexa	C56	704	2.1	0.6	4.3	95.2
Prostate	C61	1,536	4.5	0.5	1.4	98.2
Testis	C62	397	1.2	0.0	1.3	98.7
Kidney & urinary NOS	C64-66,68	1,103	3.2	0.4	3.2	96.5
Bladder	C67	1,173	3.4	0.9	1.3	97.8
Brain & central nervous system	C70-72	1,063	3.1	2.1	5.4	92.6
Thyroid	C73	2,897	8.5	0.0	0.2	99.8
Lymphoma	C81-85,90,88,96	2,951	8.6	0.1	1.2	98.8
Leukemia	C91-95	2,353	6.9	0.8	0.7	98.4
All Sites	**All**	**34,189**	**100.0**	**0.6**	**2.1**	**97.3**

Table 7.4 Basis of Diagnosis by site for Non-Nationals in the GCC Region, 2017-2020

Section Seven

Arabic Executive Summary

ينقســـم هـذا التقريـر إلى فترتيـن زمنيتين رئيسـيتين: الفترة الأولى من عـام 2013 حتـى 2016، والفترة الثانية من عـام 2017 حتى 2020. كمـا يتـم تحليل كل فترة حسـب الجنسـية والجنس، مما يوفـر رؤية واضحة وشـاملة للاتجاهات والاختلافات بيـن المجموعـات السـكانية المختلفـة، ويتيح إجراء تحليل أكثـر تفصيلًا وعمقًا للفروقات السـكانية.
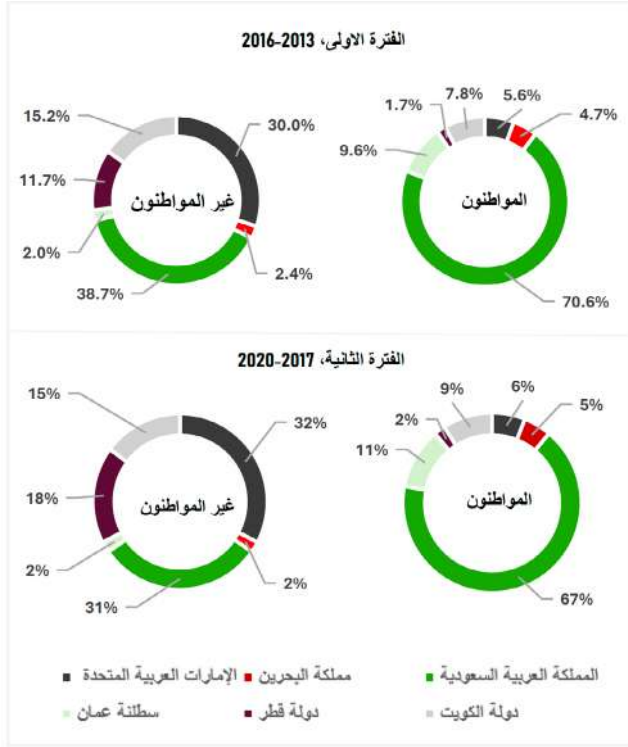
شكل 15.1 توزيع نسبي لحالات السرطان بدول مجلس التعاون خلال الفترة 2013-2020

خلال الفترة من يناير 2013 حتى ديسمبر 2020، باستثناء الحالات المصنفة تحت C44)سرطان الجلد(، بلغ إجمالي عدد المرضى الجدد من المواطنين المشخصين بالسرطان 141639حالة، في حين بلغ عدد الحالات بين غير المواطنين 72431حالة. بين عامي 2013و2019، أظهرت الحالات بين المواطنين وغير المواطنين اتجاهًا تصاعديًا مستمرًا في عدد الحالات الـمُبلغ عنها. فقد ارتفعت حالات المواطنين من 15966حالة في عام 2013 إلى 21892 حالة في عام 2019، بمعدلات نمو سنوي تراوحت بين 1% إلى 8%. وبالمثل، ارتفعت حالات غير المواطنين من 8295 إلى 10,106 خلال نفس الفترة، مع زيادات سنوية تراوحت بين 0% إلى 5%. إلا أنه في عام 2020، شهد كلا المجموعتين انخفاضًا حادًا في عدد الحالات، حيث انخفضت حالات المواطنين بنسبة 39%، وحالات غير المواطنين بنسبة 27%. وُيرجح أن يكون هذا الانخفاض الكبير ناتجًا عن تأثير جائحة كوفيد-19التي قد تكون تسببت في تعطيل الخدمات الصحية أو برامج الفحص أو عمليات التبليغ عن الحالات. خلال الفترة من 2013إلى 2016، كان 45% من الحالات بين المواطنين من الذكور مقابل 55% من الإناث، بينما بين غير المواطنين كان 52% من الذكور و48% من الإناث. أما في الفترة من 2017 إلى 2020، فبلغت نسبة الذكور بين المواطنين 44% مقابل 56% من الإناث، وبين غير المواطنين كان التوزيع متساويًا تقريبًا بواقع 50% لكل من الذكور والإناث. خلال الفترتين، استحوذت المملكة العربية السعودية على النسبة الأكبر من حالات السرطان بين المواطنين)من 71% إلى 67%(وعلى نسبة كبيرة بين غير المواطنين)من 39% إلى 31%(. وتأتي دولة الإمارات العربية المتحدة في المرتبة الثانية من حيث عدد الحالات بين غير المواطن ين، مع زيادة طفيفة من 30% في الفترة الأولى إلى 32% في الفترة الثانية، في حين ارتفعت نسبة قطر من 12% إلى 18%. أما بقية الدول مثل البحرين والكويت وعمان، فقد بقيت النسب فيها مستقرة نسبيًا في كلتا الفترتين وبين كلتا الفئتين السكانيتين.

جدول 15.1

السنة	الإمارات العربية المتحدة ذكور العدد	المعدل	إناث العدد	المعدل	ممكلة البحرين ذكور العدد	المعدل	إناث العدد	المعدل	المملكة العربية السعودية ذكور العدد	المعدل	إناث العدد	المعدل	سلطنة عمان ذكور العدد	المعدل	إناث العدد	المعدل	دولة قطر ذكور العدد	المعدل	إناث العدد	المعدل	دولة الكويت ذكور العدد	المعدل	إناث العدد	المعدل	مجلس دول التعاون ذكور العدد	المعدل	إناث العدد	المعدل
2013	338	100.5	497	111.2	319	138.1	399	161.42	5229	122.33	6362	144.42	657	85.47	727	98.57	102	99.59	152	147.37	513	152.64	671	166.23	7158	116.43	8808	139.48
2014	397	116.3	535	119.6	341	139.2	488	185.51	5292	118.19	6128	132.88	756	107.06	755	99.12	142	152.71	159	154.95	449	126.29	758	172.9	7377	117.07	8823	133.21
2015	430	123.1	598	130.4	316	127.4	469	169.89	5445	114.97	6128	126.24	791	104.74	890	111.12	121	120.5	138	127.99	568	151.25	874	189.95	7671	115.79	9097	131.14
2016	405	118.6	573	124.7	345	129.26	457	159.07	5525	114.61	7141	140.46	856	109.25	1001	118.61	138	138.61	190	182.76	550	131	938	186.39	7819	114.97	10300	141.78
2017	415	109.4	665	141	374	135.51	500	171.91	5619	112.05	7516	142.51	900	115.44	1020	115.81	180	183.34	254	217.2	579	133.12	932	179.94	8067	115.53	10887	144.37
2018	461	98.1	700	181.9	341	117.92	534	171	6333	122.19	7943	143.71	864	110.75	1107	120.51	164	162.21	221	180.84	631	138.06	991	181.67	8794	120.61	11496	147.67
2019	430	107.5	666	130.9	464	153.03	605	188.62	6827	125.81	8520	146.36	959	116.88	1199	125.5	200	191.49	269	285.77	674	140.56	1079	191.36	9554	127.1	12338	150.11
2020	542	123.4	754	139.9	479	148.14	686	206.84	3188	54.76	3915	61.93	927	107.02	1063	107.78	150	139.41	228	175.2	589	117.51	929	156.56	5875	74.09	7575	86.55

جدول 15.1 توزيع حالات السرطان المسجلة للمواطنين بدول مجلس التعاون خلال الفترة 2013-2020

جدول 15.2

السنة	الإمارات العربية المتحدة ذكور العدد	المعدل	إناث العدد	المعدل	ممكلة البحرين ذكور العدد	المعدل	إناث العدد	المعدل	المملكة العربية السعودية ذكور العدد	المعدل	إناث العدد	المعدل	سلطنة عمان ذكور العدد	المعدل	إناث العدد	المعدل	دولة قطر ذكور العدد	النسبة	إناث العدد	المعدل	دولة الكويت ذكور العدد	المعدل	إناث العدد	المعدل	مجلس دول التعاون ذكور العدد	المعدل	إناث العدد	المعدل
2013	1220	66.1	1350	114.9	81	64.15	92	78.83	1736	58.56	1625	132.52	55	38.3	69	72.2	501	84.4	322	155.64	638	109.7	606	134.82	4231	66.36	4064	117.67
2014	1172	58.6	1392	102.5	92	24.29	120	71.09	1726	52.49	1634	118.46	62	37.45	88	62.11	603	98.4	420	201.46	691	73.74	668	104.72	4346	56.43	4322	106.03
2015	1242	62.1	1346	101.1	81	34.42	123	76.26	1740	41.94	1636	104.47	75	41.18	142	115.24	627	101.67	446	176.45	723	67.79	714	120.36	4488	51.69	4407	101.45
2016	1306	66.6	1511	114.4	78	36.43	108	70.14	1762	37.28	1700	105.07	101	67.96	140	86.53	697	94.12	403	151.45	755	53.32	720	100.94	4699	46.89	4582	98.04
2017	1349	54.7	1524	108.4	93	41.03	74	66.61	1784	32.31	1763	101.54	70	42.05	122	70.71	857	137.74	652	265.38	719	45.52	746	92.37	4872	43.52	4881	98.29
2018	1333	66.5	1549	102.1	77	37.34	110	79	1870	38.3	1900	110.11	71	33.58	122	55.82	920	150.92	692	270.64	678	38.08	738	88.73	4949	46.91	5111	97.53
2019	1338	69.5	1661	103.9	66	30.29	96	64.47	1711	40.79	1737	105.53	82	29.84	123	79.87	1010	158.69	841	265.05	679	37.24	762	80.12	4886	46.93	5220	99.92
2020	1563	82.6	1796	120.6	93	43.25	115	87.9	376	8.32	377	17.78	95	19.68	95	44.87	909	107.39	627	168.98	617	33.71	710	73.64	3653	31.05	3720	61.36

جدول 15.2 توزيع حالات السرطان المسجلة لغير المواطنون بدول مجلس التعاون خلال الفترة 2013- 2020

بيـن الفترتيـن 2013-2016 و2017-2020، بقيـت أكثـر أنـواع السـرطان شـيوعًا متقاربـة لـدى كل مـن المواطنيـن وغير المواطنين حسـب الجنس عند المواطنين الذكور, تصدّر سـرطان القولون والمسـتقيم والشـرج القائمة في كلا الفترتين, حيـث ارتفـع عدد الحـالات مـن 4335 إلى 4949 حالة مع ثبات معدل العمر المعياري عند 18. يليه سـرطان اللمفاوي الذي زادت حالاتـه مـن 4185 إلـى 4387 حالـة مع انخفاض طفيف في المعدل مـن 13.6 إلى 12.7. ثم سـرطان البروسـتات الـذي ارتفـع مـن 2333 إلى 2653 حالة مـع انخفاض طفيف فـي المعدل مـن 11.1 إلى10.9. كما ظلّت سـرطانات ابيضـاض الـدم والقصبة الهوائيـة والشـعب الهوائيـة والرئة ضمن الأنواع الخمسـة الأكثـر شـيوعًا, مع تغيّر بسـيط في الترتيـب. أمـا لدى المواطنـات الإناث، فقد حافظ سـرطان الثدي على الصـدارة، حيث ارتفع عدد الحـالات من 11531 إلى 13611 حالة مع اسـتقرار في المعدل 42. تبعه سـرطان الغـدة الدرقية الذي ارتفع من 4404 إلـى 5059 حالة مع انخفاض طفيـف فـي المعـدل مـن 13 إلى 12.7. وجاء سـرطان القولون والمسـتقيم والشـرج ثالثا بزيادة عدد الحـالات من 3607 إلـى 4080 حالـة واسـتقرار المعدل 14. كما واصلت سـرطانات اللمفاوي وجسـم الرحم غيـر محدد ظهورهـا بين الأنواع الأكثر انتشارا.

بالنسـبة لغير المواطنين، ظل سـرطان القولون والمسـتقيم والشـرج الأكثر شـيوعًا بيـن الذكور، مع ارتفـاع عدد الحالات مـن 2645 إلـى 2679 حالة وانخفاض المعدل من 7.7 إلى 5.9. يليه سـرطان اللمفاوي الذي ارتفـع من 1892 إلى 2000 حالـة مـع تراجـع في المعدل من 4.7 إلى 3.8. بينما جاء سـرطان البروسـتات ثالثًا من 1605 إلى 1536 حالة مع انخفاض المعدل مـن 9.3 إلـى 6.4. كما بقيت سـرطانات ابيضاض الـدم والمثانـة والقصبة الهوائيـة والشـعب الهوائيـة والرئة ضمـن الأنـواع الأكثـر شـيوعًا. أمـا الإناث غير المواطنات، فقد تصدّر سـرطان الثـدى القائمة فى كلتـا الفترتين من 7325 إلـى 7784 حالة مع انخفاض المعدل من 39.4 إلى 33.1. يليه سـرطان الغـدة الدرقية الذي ارتفع مـن 1695 إلى 2060 حالـة مـع انخفاض طفيف المعدل من 6 إلى 5.7. وسـرطان القولون والمسـتقيم والشـرج جاء ثالثا مـن 1220 إلى 1301 حالـة مـع تراجـع المعدل مـن 9.1 إلى 7.8. كما اسـتمر ظهور سـرطانات جسـم الرحم غير محـدد واللمفاوي بيـن الأنواع الأكثر شـيوعًا.

2013-2016						2017-2020					
ذكور			إناث			ذكور			إناث		
مكان الإصابة	العدد	المعدل	مكان الإصابة	العدد	المعدل	مكان الإصابة	العدد	المعدل	مكان الإصابة	العدد	المعدل
سرطان القولون والمستقيم والشرج	4335	18.4	سرطان الثدي	11531	42.5	سرطان القولون والمستقيم والشرج	4949	18.2	سرطان الثدي	13611	42.1
سرطان المفاوي	4185	13.6	سرطان الغدة الدرقية	4404	13	سرطان المفاوي	4387	12.7	سرطان الغدة الدرقية	5059	12.7
سرطان البروستات	2333	11.1	سرطان القولون والمستقيم والشرج	3607	14.9	سرطان البروستات	2653	10.9	سرطان المفاوي	4080	14
سرطان ابيضاض الدم	2144	6	سرطان اللمفاوي	3001	10.2	سرطان ابيضاض الدم	2246	5.8	سرطان جسم الرحم، غير محدد	3150	9.2
سرطان القصبة الهوائية والشعب الهوائية والرئة	1972	8.9	سرطان جسم الرحم، غير محدد	2298	10.2	سرطان القصبة الهوائية والشعب الهوائية والرئة	2098	8.2	سرطان جسم الرحم، غير محدد	3047	11.2

جدول 15.3 توزيع حالات السرطان الأكثر شيوعا حسب الجنس للمواطنين بدول مجلس التعاون خلال الفترة 2013- 2020

2013-2016						2017-2020					
ذكور			إناث			ذكور			إناث		
مكان الإصابة	العدد	المعدل	مكان الإصابة	العدد	المعدل	مكان الإصابة	العدد	المعدل	مكان الإصابة	العدد	المعدل
سرطان القولون والمستقيم والشرج	2645	7.7	سرطان الثدي	7325	39.4	سرطان القولون والمستقيم والشرج	2679	5.9	سرطان الثدي	7784	33.1
سرطان المفاوي	1892	4.7	سرطان الغدة الدرقية	1695	6	سرطان المفاوي	2000	3.8	سرطان الغدة الدرقية	2060	5.7
سرطان البروستات	1605	9.3	سرطان القولون والمستقيم والشرج	1220	9.1	سرطان ابيضاض الدم	1638	3.2	سرطان القولون والمستقيم والشرج	1301	7.8
سرطان ابيضاض الدم	1389	3.5	سرطان اللمفاوي	955	5.8	سرطان البروستات	1536	6.4	سرطان جسم الرحم، غير محدد	1052	6.4
سرطان المثانة	1177	4.6	سرطان جسم الرحم، غير محدد	902	7.2	سرطان القصبة الهوائية والشعب الهوائية والرئة	1196	3.5	سرطان المفاوي	951	4.9

جدول 15.4 توزيع حالات السرطان الأكثر شيوعا حسب الجنس للغير المواطنون بدول مجلس التعاون خلال الفترة 2013 - 2020

15.2 أكثر أنواع السرطان شيوعًا في الأمارات العربية المتحدة

بيــن الفترتيــن 2013-2016 و2017-2020. بقيـت أكثـر أنـواع السـرطان شـيوعًا متقاربـة لـدى كل مــن المواطنيــن وغير المواطنيــن حسـب الجنس.

عنـد المواطنين الذكور، تصـدّر سـرطان القولون والمسـتقيم والشـرج القائمة فـي كلا الفترتين، حيـث ارتفع عدد الحالات مـن 229 إلـى 249 حالة مع انخفاض معـدل العمر المعياري مـن 18 إلـى 15.2. يليه اللمفـاوي الـذي زادت حالاته من 182 إلـى 234 مـع ارتفـاع فـي المعـدل مـن 10.5 إلـى 12. ثم سـرطان البروسـتات الذي ارتفع مـن 169 حالة إلى 224 حالـة مـع زيـادة المعدل من 14.5 إلـى 15.4. كما ظلّت سـرطانات القصبة الهوائية والشـعب الهوائيـة والرئة وابيضاض الـدم ضمـن الأنـواع الخمسـة الأكثـر شـيوعًا. مع تغيّر طفيف فـي الترتيـب. أما لـدى المواطنـات الإنـاث. فقـد حافظ سـرطان النـدي علـى الصـدارة. حيث ارتفع عدد الحـالات من 690 إلـى 874 حالة مع ارتفاع المعدل مـن 38.7 إلى 46.7. تبعـه سـرطان الغـدة الدرقية الذي ارتفـع مـن 337 إلى 506 حالة وزاد المعدل من 15.9 إلى 22.9. وجاء سـرطان القولون والمسـتقيم ثالثـا بزيـادة عـدد الحالات مـن 210 إلـى 270 حالة، مـع انخفـاض المعـدل مـن 12 إلى 15.4. كمـا واصلت سـرطانات اللمفـاوي وجسـم الرحم غيـر محدد ظهورها بيـن الأنواع الأكثر انتشـارًا.

بالنسـبة لغيـر المواطنين. ظل سـرطان القولون والمسـتقيم والشـرج الأكثر شـيوعًا بيـن الذكور. مع ارتفاع عدد الحالات مـن 717 إلـى 826 حالة ارتفـاع في المعدل مـن 8.4 إلى 9.3. يليه اللمفـاوي الذي زاد من 512 إلـى 618 حالة مع تقريبا اسـتقرار في المعـدل من 5.3 إلـى 5.2. بينمـا اسـتقرت نسـب سـرطان البروسـتات تقريبًا عند 500 حالة إلى 495 حالة مع تقريبا اسـتقرار المعدل من 10.1 إلى 10.4. وسـجّل كل من سـرطان الدم وسـرطان القصية الهوائية والشـعب الهوائية والرئـة حضـورًا ضمـن القائمـة أيضًـا. أما الإناث غيـر المواطنات. فقد تصدّر سـرطان النـدي القائمة في كلتا الفترتين مـن 2,318 حالة إلـى 2,641 حالة مـع تقريبا إسـتقرار في المعدل مـن 40 إلى 39.9. يليه سـرطان الغدة الدرقية الذي ارتفـع عـدد حالاتـه من 664 إلـى 926 حالة مع زيادة المعدل من 8 إلى 9.1. وسـرطان القولون والمسـتقيم جـاء ثالثًا من 393 إلـى 410 حالة مع انخفاض المعدل من 9.2 إلى 8. كما اسـتمر ظهور سـرطانات جسـم الرحم غير محـدد واللمفاوي بيـن الأنـواع الأكثر شـيوعًا.مع انخفاض طفيف المعـدل مـن 6 إلى 5.7 ا . وسـرطان القولون والمسـتقيم والشـرج جاء ثالثـا مـن 1220 إلـى 1301 حالة مع تراجـع المعدل من 9.1 إلى 7.8. كما اسـتمر ظهور سـرطانات جسم الرحم غير محدد واللمفـاوي بين الأنواع الأكثر شـيوعا.

	2013-2016						2017-2020				
ذكور			**إناث**			**ذكور**			**إناث**		
مكان الإصابة	العدد	المعدل	مكان الإصابة	العدد	المعدل	مكان الإصابة	العدد	المعدل	مكان الإصابة	العدد	المعدل
سرطان القولون والمستقيم والشرج	229	18	سرطان الثدي	690	38.7	سرطان القولون والمستقيم والشرج	249	15.2	سرطان الثدي	874	46.7
سرطان اللمفاوي	182	10.5	سرطان الغدة الدرقية	337	15.9	سرطان اللمفاوي	234	12	سرطان الغدة الدرقية	506	22.9
سرطان البروستات	169	14.5	سرطان القولون والمستقيم والشرج	210	12	سرطان البروستات	224	15.4	سرطان القولون والمستقيم والشرج	270	15.4
سرطان القصبة الهوائية والشعب الهوائية والرئة	133	10.9	سرطان اللمفاوي	138	7.2	سرطان ابيضاض الدم	136	6.2	سرطان اللمفاوي	177	9
سرطان ابيضاض الدم	122	6.1	سرطان جسم الرحم، غير محدد	129	8	سرطان القصبة الهوائية والشعب الهوائية والرئة	133	8.7	سرطان جسم الرحم، غير محدد	174	11

جدول 15.5 توزيع حالات السرطان الأكثر شيوعا حسب الجنس للمواطنين في الأمارات العربية المتحدة خلال الفترة 2013- 2020

	2013-2016						2017-2020				
ذكور			**إناث**			**ذكور**			**إناث**		
مكان الإصابة	العدد	المعدل	مكان الإصابة	العدد	المعدل	مكان الإصابة	العدد	المعدل	مكان الإصابة	العدد	المعدل
سرطان القولون والمستقيم والشرج	717	8.4	سرطان الثدي	2318	40	سرطان القولون والمستقيم والشرج	826	9.3	سرطان الثدي	2641	39.9
سرطان اللمفاوي	512	5.3	سرطان الغدة الدرقية	664	8	سرطان اللمفاوي	618	5.2	سرطان الغدة الدرقية	926	9.1
سرطان البروستات	500	10.1	سرطان القولون والمستقيم والشرج	393	9.2	سرطان ابيضاض الدم	530	4.6	سرطان القولون والمستقيم والشرج	410	8
سرطان ابيضاض الدم	469	4.2	سرطان جسم الرحم، غير محدد	302	7.2	سرطان البروستات	495	10.4	سرطان جسم الرحم، غير محدد	334	7.3
سرطان القصبة الهوائية والشعب الهوائية والرئة	319	5.1	سرطان اللمفاوي	269	5.5	سرطان الغدة الدرقية	359	1.6	سرطان اللمفاوي	304	5.3

جدول 15.6 توزيع حالات السرطان الأكثر شيوعا حسب الجنس للغير المواطنون في الأمارات العربية المتحدة خلال الفترة 2013 - 2020

بيــن الفترتيــن 2013-2016 و2017-2020، بقيــت أكثــر أنــواع الســرطان شــيوعاً متقاربة لــدى كل مــن المواطنيــن وغير المواطنيــن حســب الجنس.

عنــد المواطنين الذكور، تصدّر ســرطان القولون والمســتقيم والشرج القائمة فــي كلا الفترتين، حيــث ارتفع عدد الحالات مــن 189 إلــى 248 حالــة بمعــدل عمر معيــاري مــن 19.5 إلى 20.9، يليــه اللمفاوي الــذي زادت حالاته مــن 147 إلى 174 حالــة مــع ارتفــاع في المعــدل من 12.8 إلى 13.6، ثم ســرطان البروســتات الــذي ارتفع مــن 140 حالة إلــى 219 حالة مع زيــادة فــي المعدل مــن 16 إلــى 19.8. كما ظلّت ســرطانات القصبة الهوائية والشــعب الهوائية والرئة والمثانة ضمن الأنــواع الخمســة الأكثــر شــيوعًا، مــع تغيّر طفيف فــي الترتيب. أمــا لــدى المواطنات الإنــاث، فقد حافظ ســرطان الثدي علــى الصــدارة، حيــث ارتفع عدد الحالات مــن 754 إلى 969 حالة بمعدل عمر معياري من 68.9 إلى 75.9، تبعه ســرطان جســم الرحم غيــر محدد مــع زيادة من 117 إلــى 196 حالة وارتفاع في المعدل مــن 12.1 إلى 16، وجاء ســرطان القولون والمســتقيم ثالثًــا بزيــادة من 160 إلى 195 حالة وارتفاع في المعدل مــن 15.6 إلى 16.4. كما واصلت ســرطانات الغدة الدرقيــة واللمفاوي ظهورها بين الأنواع الأكثر انتشــارًا.

بالنســبة لغيــر المواطنين، ظل ســرطان القولون والمســتقيم والشــرج الأكثر شــيوعا بيــن الذكور، مع زيادة طفيفة في الحالات مــن 53 إلــى 54 احالة وارتفــاع في المعدل مــن 4.8 إلــى 7.6، يليــه ابيضاض الدم مــع انخفاض الحالات من 37 إلــى 34 حالة وتراجع المعدل مــن 3.9 إلى 2.3، ثم ســرطان الدمــاغ والجهاز العصبــي المركزي، وســرطان اللمفاوي وســرطان البروســتات ضمــن القائمة الأكثر شــيوعًا. أمــا الإناث غيــر المواطنات، فقد تصدّر ســرطان الثــدي القائمة في كلتــا الفترتيــن مــن 162 حالة إلى 155 حالة مــع ثبات المعــدل تقريبًا من 22.7 إلى 22.5، يليه ســرطان جســم عنق الرحم مــن 45 إلــى 41 حالــة مــع استقرار المعدل فــي 4.3، ثم ســرطان الغدة الدرقيــة من 40 إلــى 37 حالة مع ثبات المعدل تقريبًــا مــن 3.9 إلــى 4. كما اســتمر ظهور ســرطانات اللمفاوي والقولون والمســتقيم بين الأنواع الأكثر شــيوعًا.

	2013-2016						2017-2020					
	ذكور			إناث			ذكور			إناث		
	مكان الإصابة	العدد	المعدل	مكان الإصابة	العدد	المعدل	مكان الإصابة	العدد	المعدل	مكان الإصابة	العدد	المعدل
	سرطان القولون والمستقيم والشرج	189	19.5	سرطان الثدي	754	68.9	سرطان القولون والمستقيم والشرج	248	20.9	سرطان الثدي	969	75.9
	سرطان اللمفاوي	147	12.8	سرطان القولون والمستقيم والشرج	160	15.6	سرطان البروستات	219	19.8	سرطان جسم الرحم، غير محدد	196	16
	سرطان القصبة الهوائية والشعب الهوائية والرئة	146	16	سرطان الغدة الدرقية	125	10.6	سرطان اللمفاوي	174	13.6	سرطان القولون والمستقيم والشرج	195	16.4
	سرطان البروستات	140	16	سرطان جسم الرحم، غير محدد	117	12.1	سرطان القصبة الهوائية والشعب الهوائية والرئة	153	13.3	سرطان الغدة الدرقية	161	11.8
	سرطان المثانة	127	13.7	سرطان اللمفاوي	106	9.1	سرطان المثانة	142	12.5	سرطان اللمفاوي	133	10.2

جدول 15.7 توزيع حالات السرطان الأكثر شيوعا حسب الجنس للمواطنين في مملكة البحرين خلال الفترة 2013- 2020

	2013-2016						2017-2020					
	ذكور			إناث			ذكور			إناث		
	مكان الإصابة	العدد	المعدل	مكان الإصابة	العدد	المعدل	مكان الإصابة	العدد	المعدل	مكان الإصابة	العدد	المعدل
	سرطان القولون والمستقيم والشرج	53	4.8	سرطان الثدي	162	22.7	سرطان القولون والمستقيم والشرج	54	7.6	سرطان الثدي	155	22.5
	سرطان ابيضاض الدم	37	3.9	سرطان عنق الرحم	45	4.3	سرطان ابيضاض الدم	34	2.3	سرطان جسم الرحم، غير محدد	41	4.3
	سرطان الدماغ والجهاز العصبي المركزي	29	1.2	سرطان الغدة الدرقية	40	3.9	سرطان الغدة الدرقية	34	2.6	سرطان الغدة الدرقية	37	4
	سرطان اللمفاوي	26	2.1	سرطان القولون والمستقيم والشرج	28	4.3	سرطان المثانة	26	4.7	سرطان جسم الرحم، غير محدد	24	4.3
	سرطان البروستات	26	5.7	سرطان جسم الرحم، غير محدد	27	6.5	سرطان البروستات	21	4.6	سرطان اللمفاوي	19	6.2

جدول 15.8 توزيع حالات السرطان الأكثر شيوعا حسب الجنس للغير المواطنون في مملكة البحرين خلال الفترة 2013- 2020

خلال الفترتين 2013–2016 و2017–2020، استمر سرطان القولون والمستقيم والشرج في تصدر إصابات الذكور المواطنين، حيث ارتفع عدد الحالات من 3260 إلى 3451 حالة مع انخفاض طفيف في المعدل من 19.9 إلى 18. يليه سرطان اللمفاوي الذي حافظ على استقراره تقريبًا مع 3100 حالة و3119 حالة وارتفاع بسيط في المعدل من 14.1 إلى 14.2، ثم سرطان ابيضاض الدم الذي ارتفع من 1543 إلى 1594 حالة مع انخفاض في المعدل من 6 إلى 5.6. كما ظلّت سرطانات البروستات والقصبة الهوائية والشعب الهوائية والرئة ضمن الأنواع الأكثر شيوعًا، مع تغيرات طفيفة في الترتيب. أما لدى المواطنات الإناث، فقد بقي سرطان الثدي الأكثر شيوعًا بفارق واضح حيث ارتفع عدد الحالات من 7729 إلى 8775 حالة مع تراجع في المعدل من 40.2 إلى 38، تبعه سرطان الغدة الدرقية الذي زادت حالاته من 3027 إلى 3176 مع انخفاض في المعدل من 12.5 إلى 11.2، وجاء سرطان القولون والمستقيم ثالثًا بارتفاع عدد الحالات من 2578 إلى 2739 مع تراجع المعدل من 15.5 إلى 13.4. كما ظهرت سرطانات اللمفاوي وجسم الرحم غير محدد ضمن الخمسة الأوائل.

بالنسبة لغير المواطنين، بقي سرطان القولون والمستقيم والشرج في المركز الأول بين الذكور مع انخفاض عدد الحالات من 1147 إلى 1017 وتراجع المعدل من 7.2 إلى 5، تلاه سرطان اللمفاوي من 762 إلى 607 حالة مع تراجع في المعدل من 3.8 إلى 2.6، في حين جاءت سرطانات المثانة والبروستات وسرطان القصبة الهوائية والشعب الهوائية والرئة ضمن الأنواع الأكثر شيوعًا. أما الإناث غير المواطنات، فقد تصدر سرطان الثدي القائمة في كلتا الفترتين مع انخفاض عدد الحالات من 2859 إلى 2508 حالة وتراجع المعدل من 44.5 إلى 32.2، يليه سرطان الغدة الدرقية من 546 إلى 455 حالة وانخفاض المعدل من 5.8 إلى 3.8، وسرطان القولون والمستقيم من 487 إلى 440 حالة مع تراجع المعدل من 9.9 إلى 7.9. كما استمر ظهور سرطانات جسم الرحم غير محدد واللمفاوي ضمن الأنواع الأكثر شيوعًا.

2013-2016						2017-2020					
ذكور			إناث			ذكور			إناث		
مكان الإصابة	العدد	المعدل	مكان الإصابة	العدد	المعدل	مكان الإصابة	العدد	المعدل	مكان الإصابة	العدد	المعدل
سرطان القولون والمستقيم والشرج	3260	19.9	سرطان الثدي	7729	40.2	سرطان القولون والمستقيم والشرج	3451	18	سرطان الثدي	8775	38
سرطان اللمفاوي	3100	14.1	سرطان الغدة الدرقية	3027	12.5	سرطان اللمفاوي	3119	14.2	سرطان الغدة الدرقية	3176	11.2
سرطان ابيضاض الدم	1543	6	سرطان القولون والمستقيم والشرج	2578	15.5	سرطان القولون والمستقيم والشرج	1594	5.6	سرطان اللمفاوي	2739	13.4
سرطان البروستات	1347	9.1	سرطان اللمفاوي	2197	10.7	سرطان البروستات	1491	8.7	سرطان اللمفاوي	2175	8.8
سرطان القصبة الهوائية والشعب الهوائية والرئة	1265	8.2	سرطان جسم الرحم، غير محدد	1646	10.8	سرطان القصبة الهوائية والشعب الهوائية والرئة	1294	7.1	سرطان جسم الرحم، غير محدد	2067	10.9

جدول 15.9 توزيع حالات السرطان الأكثر شيوعا حسب الجنس للمواطنين في المملكة العربية السعودية خلال الفترة 2013- 2020

2013-2016						2017-2020					
ذكور			إناث			ذكور			إناث		
مكان الإصابة	العدد	المعدل	مكان الإصابة	العدد	المعدل	مكان الإصابة	العدد	المعدل	مكان الإصابة	العدد	المعدل
سرطان القولون والمستقيم والشرج	1147	7.2	سرطان الثدي	2859	44.5	سرطان القولون والمستقيم والشرج	1017	5	سرطان الثدي	2508	32.2
سرطان اللمفاوي	762	3.8	سرطان الغدة الدرقية	546	5.8	سرطان اللمفاوي	607	2.6	سرطان الغدة الدرقية	455	3.8
سرطان المثانة	610	5.2	سرطان القولون والمستقيم والشرج	487	9.9	سرطان البروستات	434	4.2	سرطان جسم الرحم، غير محدد	440	7.9
سرطان البروستات	506	6.2	سرطان اللمفاوي	373	6.2	سرطان الفم والبلعوم	397	1.6	سرطان جسم الرحم، غير محدد	307	5.4
سرطان القصبة الهوائية والشعب الهوائية والرئة	443	3.8	سرطان جسم الرحم، غير محدد	336	8	سرطان المثانة	386	2.4	سرطان اللمفاوي	289	3.8

جدول 15.10 توزيع حالات السرطان الأكثر شيوعا حسب الجنس للغير المواطنون في المملكة العربية السعودية خلال الفترة 2013- 2020

بيـن عامـي 2013–2016 و2017–2020، كان سـرطان اللمفـاوي هـو الأكثـر شـيوعًا بين الذكـور المواطنيـن فـي الفترة الأولــى بعـدد حـالات 408 ومعدل 12، بينما تصدر سـرطان القولـون والمسـتقيم والشـرج فـي الفترة الثانيـة مع ارتفاع الحـالات مـن 325 إلـى 526 حالة وزيادة المعـدل من 11.4 إلـى 17.4. تلاه فـي الفترة الثانية سـرطان اللمفـاوي الذي زادت حالاتـه مـن 290 إلـى 466 وارتفـع المعـدل مـن 9.1 إلـى 12.7، ثم جـاء سـرطان البروسـتات الذي ارتفـع من 360 إلـى 384 حالـة مـع ارتفـاع المعـدل مـن 13.9 إلـى 14.3. كما ظلت سـرطانات ابيضـاض الـدم والمعدة، وكذلـك القصبة الهوائيـة والشـعب الهوائيـة والرئة، ضمـن الأنواع الأكثر شـيوعًا. أما لدى المواطنـات الإنـاث، فقد حافظ سـرطان الثدي علـى الصـدارة حيـث ارتفـع عدد الحـالات مـن 871 إلـى 1213 مع زيادة في المعـدل من 28 إلـى 32.5، تلاه سـرطان الغـدة الدرقيـة مـن 519 إلى 725 حالة مـع ارتفاع في المعدل مـن 13.7 إلى 15.7، وجاء سـرطان القولون والمسـتقيم والشـرج فـي المرتبـة الثالثة مع زيادة مـن 284 إلى 401 حالة وارتفاع المعدل من 10.2 إلى 12.4. كما ظهرت سـرطانات اللمفـاوي وجسـم الرحـم غير محدد بيـن الأنواع الأكثر شـيوعًا.

بالنسـبة لغير المواطنين، بقي سـرطان القولون والمسـتقيم والشـرج الأكثر شـيوعًا بيـن الذكـور فـي الفترتين حيث بلغ عـدد الحـالات 46 فـي الأولى و43 فـي الثانية مـع زيادة في المعدل مـن 3.8 إلى 3.9، تلاه سـرطان ابيضاض الدم الذي ارتفـع عـدد حالاتـه مـن 31 إلى 48 مع زيادة في المعـدل من 4.1 إلى 4.6، ثم سـرطان البروسـتات الـذي ارتفع من 37 إلـى 24 حالـة مـع تراجـع المعدل من 10.8 إلى 5.9. كما اسـتمر ظهور سـرطانات اللمفاوي والمثانة والفـم والبلعوم بين الأنـواع الأكثر شـيوعًا. أما الإنـاث غيـر المواطنات، فقد تصدر سـرطان الثـدي القائمة مع ثبـات في عدد الحـالات تقريبًا مـن 192 إلـى 234 واحتفـاظ المعـدل بنسـبة 27.8 في كلتـا الفترتين، يليه سـرطان الغـدة الدرقية من 35 إلـى 45 حالة مـع ارتفـاع المعـدل من 2.8 إلى 3.2، وسـرطان القولون والمسـتقيم والشـرج مـن 23 إلى 26 حالة مـع تغير طفيف في المعـدل من 6.7 إلى 3.9. كما ظلت سـرطانات اللمفاوي وعنـق الرحم والمبيض والملحقات ضمن الأنواع الأكثر شـيوعًا.

2013-2016						2017-2020					
ذكور			إناث			ذكور			إناث		
مكان الإصابة	المعدل	العدد	مكان الإصابة	المعدل	العدد	مكان الإصابة	المعدل	العدد	مكان الإصابة	المعدل	العدد
سرطان اللمفاوي	12	408	سرطان الثدي	28	871	سرطان القولون والمستقيم والشرج	17.4	526	سرطان الثدي	32.5	1213
سرطان البروستات	13.9	360	سرطان الغدة الدرقية	13.7	519	سرطان اللمفاوي	12.7	466	سرطان الغدة الدرقية	15.7	725
سرطان القولون والمستقيم والشرج	11.4	325	سرطان اللمفاوي	9.1	290	سرطان البروستات	13.3	384	سرطان القولون والمستقيم والشرج	12.4	401
سرطان ابيضاض الدم	5.1	218	سرطان القولون والمستقيم والشرج	10.2	284	سرطان ابيضاض الدم	5.6	252	سرطان اللمفاوي	8.6	329
سرطان المعدة	7.6	213	سرطان ابيضاض الدم	4.1	164	سرطان القصبة الهوائية والشعب الهوائية والرئة	8.5	231	سرطان جسم الرحم، غير محدد	5.5	181

جدول 15.11 توزيع حالات السرطان الأكثر شيوعا حسب الجنس للمواطنين في سلطنة عمان خلال الفترة 2013- 2020

2013-2016						2017-2020					
ذكور			إناث			ذكور			إناث		
مكان الإصابة	المعدل	العدد	مكان الإصابة	المعدل	العدد	مكان الإصابة	المعدل	العدد	مكان الإصابة	المعدل	العدد
سرطان القولون والمستقيم والشرج	3.8	46	سرطان الثدي	27.8	192	سرطان ابيضاض الدم	4.6	48	سرطان الثدي	27.8	234
سرطان البروستات	10.8	37	سرطان الغدة الدرقية	2.8	35	سرطان القولون والمستقيم والشرج	3.9	43	سرطان الغدة الدرقية	3.2	45
سرطان ابيضاض الدم	4.1	31	سرطان اللمفاوي	5.2	25	سرطان اللمفاوي	2.6	37	سرطان القولون والمستقيم والشرج	3.9	26
سرطان اللمفاوي	5.8	28	سرطان القولون والمستقيم والشرج	6.7	23	سرطان البروستات	5.9	24	سرطان عنق الرحم	2.1	21
سرطان المثانة	5.6	20	سرطان المبيض والملحقات	4.1	20	سرطان الفم والبلعوم	1.3	21	سرطان المبيض والملحقات	2.6	20

جدول 15.12 توزيع حالات السرطان الأكثر شيوعا حسب الجنس للغير في سلطنة عمان خلال الفترة 2013- 2020

خلال الفترتين 2013–2016 و2017–2020، كان سرطان البروستات هو الأكثر شيوعًا بين الذكور المواطنين في الفترة الأولى بعدد 72 حالة ومعدل 21.9، بينما تصدر سرطان القولون والمستقيم والشرج القائمة في الفترة الثانية مع ارتفاع الحالات من 65 إلى 107 حالة وزيادة المعدل من 18.2 إلى 28.1. جاء بعده سرطان البروستات في الفترة الثانية بعدد 82 حالة وارتفاع في المعدل الى 22.8، تلاه اللمفاوي الذي زادت حالاته من 56 إلى 79 وارتفاع المعدل من 12.2 إلى 15.9، كما ظهرت سرطانات الرئة والكبد ضمن الأنواع الأكثر شيوعًا. أما لدى المواطنات الإناث، فقد بقي سرطان الثدي الأكثر شيوعًا حيث ارتفع عدد الحالات من 231 إلى 308 حالة مع زيادة في المعدل من 55.4 إلى 65.8، يليه سرطان القولون والمستقيم من 71 إلى 110 حالة وارتفاع المعدل من 17.5 إلى 24.8، ثم جسم الرحم غير محدد والغدة الدرقية واللمفاوي.

بالنسبة لغير المواطنين، ظل سرطان القولون والمستقيم والشرج الأكثر شيوعًا بين الذكور حيث ارتفع عدد الحالات من 300 إلى 394 حالة مع زيادة في المعدل من 11 إلى 15.4، تلاه البروستات من 280 إلى 342 حالة مع زيادة المعدل من 23.8 إلى 40.7، ثم اللمفاوي الذي ارتفعت حالاته من 251 إلى 368 مع زيادة المعدل من 9.2 إلى 14.1. كما ظهرت سرطانات ابيضاض الدم والفم والبلعوم ضمن الأنواع الأكثر شيوعًا. أما الإناث غير المواطنات، فقد حافظ سرطان الثدي على الصدارة مع ارتفاع عدد الحالات من 665 إلى 1071 وزيادة المعدل من 63 إلى 94.8، يليه سرطان الغدة الدرقية من 130 إلى 304 حالة مع تغير المعدل من 5.9 إلى 16.6، وسرطان القولون والمستقيم من 117 إلى 187 حالة مع ارتفاع المعدل من 15.5 إلى23.7. كما استمر ظهور سرطانات جسم الرحم غير محدد واللمفاوي ضمن الأنواع الأكثر شيوعًا.

2013-2016						2017-2020					
ذكور			إناث			ذكور			إناث		
مكان الإصابة	العدد	المعدل	مكان الإصابة	العدد	المعدل	مكان الإصابة	العدد	المعدل	مكان الإصابة	العدد	المعدل
سرطان البروستات	72	21.9	سرطان الثدي	231	55.4	سرطان القولون والمستقيم والشرج	107	28.1	سرطان الثدي	308	65.8
سرطان القولون والمستقيم والشرج	65	18.2	سرطان القولون والمستقيم والشرج	71	17.5	سرطان البروستات	82	22.8	سرطان القولون والمستقيم والشرج	110	24.8
سرطان اللمفاوي	56	12.2	سرطان جسم الرحم، غير محدد	57	15.5	سرطان اللمفاوي	79	15.9	سرطان الغدة الدرقية	103	18.3
سرطان القصبة الهوائية والشعب الهوائية والرئة	44	11.8	سرطان الغدة الدرقية	50	11.3	سرطان القصبة الهوائية والشعب الهوائية والرئة	63	16.3	سرطان جسم الرحم، غير محدد	86	20.7
سرطان ابيضاض الدم	33	6.8	سرطان اللمفاوي	36	7.9	سرطان الكبد	44	11.7	سرطان اللمفاوي	60	11.7

جدول 15.13 توزيع حالات السرطان الأكثر شيوعا حسب الجنس للمواطنين في دولة قطر خلال الفترة 2013-2020

2013-2016						2017-2020					
ذكور			إناث			ذكور			إناث		
مكان الإصابة	العدد	المعدل	مكان الإصابة	العدد	المعدل	مكان الإصابة	العدد	المعدل	مكان الإصابة	العدد	المعدل
سرطان القولون والمستقيم والشرج	300	11	سرطان الثدي	665	63	سرطان القولون والمستقيم والشرج	394	15.4	سرطان الثدي	1071	94.8
سرطان البروستات	280	23.8	سرطان الغدة الدرقية	130	5.9	سرطان اللمفاوي	368	14.1	سرطان الغدة الدرقية	304	16.6
سرطان اللمفاوي	251	9.2	سرطان القولون والمستقيم والشرج	117	15.5	سرطان ابيضاض الدم	357	9.7	سرطان القولون والمستقيم والشرج	187	23.7
سرطان ابيضاض الدم	216	6	سرطان اللمفاوي	99	9	سرطان البروستات	342	40.7	سرطان جسم الرحم، غير محدد	178	29
سرطان الفم والبلعوم	171	3.2	سرطان جسم الرحم، غير محدد	88	14.4	سرطان الفم و البلعوم	252	4.8	سرطان اللمفاوي	158	15.2

جدول 15.14 توزيع حالات السرطان الأكثر شيوعا حسب الجنس لغير المواطنون في دولة قطر خلال الفترة 2013-2020

بيـن الفترتيـن 2013-2016 و2017-2020، تصـدر سـرطان اللمفـاوي قائمة الذكـور المواطنين في الفتـرة الأولى بعدد 292 حالـة ومعـدل عمر معياري 16.5، بينمـا احتل سـرطان القولون والمسـتقيم والشـرج الصدارة في الفتـرة الثانية بعدد 368 حالـة وارتفاع في المعدل مـن 19.2 إلى 20.4. جاء بعده اللمفـاوي في الفتـرة الثانية بعـدد 315 حالة ومعدل 15.2، ثم سـرطان البروسـتات الذي سجل 245 حالـة في الفتـرة الأولـى و243 في الثانيـة مع انخفاض في المعدل من 20.2 إلى 15.2. كمـا ظهـرت سـرطانات القصبـة الهوائيـة والشـعب الهوائيـة والرئـة وابيضاض الـدم والمثانة ضمـن الأنـواع الأكثـر شـيوعًا. أمـا لـدى المواطنات الإنـاث، فقد حافظ سـرطان الثـدي على الصدارة حيـث ارتفع عدد الحـالات من 1256 إلـى 1472 حالـة مـع تراجع في المعدل مـن 69.9 إلى 66.6، يليه سـرطان الغدة الدرقية من 346 إلـى 388 حالة مع ثبات المعـدل تقريبًا عند 16، وسـرطان القولون والمسـتقيم مـن 304 إلى 365 حالة مـع ارتفاع المعدل مـن 18.1 إلى 17.2. كما واصلت سـرطانات جسـم الرحم غير محـدد واللمفـاوي الظهـور بين الأنواع الأكثر شـيوعًا.

بالنسـبة لغير المواطنين، ظل سـرطان القولون والمسـتقيم والشـرج الأكثر شـيوعًا بيـن الذكـور حيث تراجـع عدد الحالات مـن 382 إلـى 345 حالـة مع انخفاض فـي المعدل من 9 إلى 4، يليـه اللمفـاوي الذي ارتفع عدد حالاتـه من 313 إلى 336 حالـة مـع انخفاض المعدل مـن 6.4 إلـى 4.6، ثـم ابيضاض الـدم الذي ارتفع من 268 إلـى 303 حالة مع تراجـع المعدل مـن 5.7 إلى 4.8. كما ظهرت سـرطانات البروسـتات والقصبة الهوائية والشـعب الهوائيـة والرئة وعنـق الرحم بين الأنواع الأكثـر شـيوعًا. أمـا الإنـاث غير المواطنـات، فقد تصدر سـرطان الثـدي القائمة في الفترتيـن من 1129 حالة إلى 1175 حالـة مـع انخفاض المعدل مـن 41.7 إلـى 27.2، يليـه سـرطان الغدة الدرقيـة من 280 إلـى 293 حالة مع ثبـات المعدل عنـد 6.2، وسـرطان القولـون والمسـتقيم مـن 172 إلـى 197 حالة مع انخفاض المعدل مـن 9.5 إلـى 6.8. كما ظهرت سـرطان جسـم الرحم غيـر محـدد وعنق الرحـم ضمن الأنواع الأكثر شـيوعًا.

2013-2016						2017-2020					
ذكور			إناث			ذكور			إناث		
مكان الإصابة	العدد	المعدل	مكان الإصابة	العدد	المعدل	مكان الإصابة	العدد	المعدل	مكان الإصابة	العدد	المعدل
سرطان اللمفاوي	292	16.6	سرطان الثدي	1256	69.9	سرطان القولون والمستقيم والشرج	368	20.4	سرطان الثدي	1472	66.6
سرطان القولون والمستقيم والشرج	267	19.2	سرطان الغدة الدرقية	346	16	سرطان اللمفاوي	315	15.2	سرطان الغدة الدرقية	388	15.4
سرطان البروستات	245	20.2	سرطان القولون والمستقيم والشرج	304	18.1	سرطان البروستات	243	15.2	سرطان القولون والمستقيم والشرج	365	17.2
سرطان القصبة الهوائية والشعب الهوائية والرئة	190	14.9	سرطان اللمفاوي	234	11.8	سرطان القصبة الهوائية والشعب الهوائية والرئة	224	13.4	سرطان جسم الرحم، غير محدد	340	16.6
سرطان ابيضاض الدم	158	8.3	سرطان جسم الرحم، غير محدد	231	14.6	سرطان المثانة	161	9.3	سرطان اللمفاوي	279	12.1

جدول 15.15 توزيع حالات السرطان الأكثر شيوعا حسب الجنس للمواطنين في دولة الكويت خلال الفترة 2013-2020

2013-2016						2017-2020					
ذكور			إناث			ذكور			إناث		
مكان الإصابة	العدد	المعدل	مكان الإصابة	العدد	المعدل	مكان الإصابة	العدد	المعدل	مكان الإصابة	العدد	المعدل
سرطان القولون والمستقيم والشرج	382	9	سرطان الثدي	1129	41.7	سرطان القولون والمستقيم والشرج	345	4	سرطان الثدي	1175	27.2
سرطان اللمفاوي	313	6.4	سرطان الغدة الدرقية	280	6.2	سرطان اللمفاوي	336	4.6	سرطان الغدة الدرقية	293	6.2
سرطان ابيضاض الدم	268	5.7	سرطان القولون والمستقيم والشرج	172	9.5	سرطان ابيضاض الدم	303	4.8	سرطان القولون والمستقيم والشرج	197	6.8
سرطان البروستات	256	11.4	سرطان اللمفاوي	167	7.1	سرطان القصبة الهوائية والشعب الهوائية والرئة	244	3.9	سرطان جسم الرحم، غير محدد	197	6.1
سرطان القصبة الهوائية والشعب الهوائية والرئة	212	6.7	سرطان جسم الرحم، غير محدد	130	6.5	سرطان البروستات	220	4	سرطان عنق الرحم	173	3.2

جدول 15.16 توزيع حالات السرطان الأكثر شيوعا حسب الجنس للغير المواطنون في دولة الكويت خلال الفترة 2013-2020

Section Seven

Arabic Executive Summary

17. References

1. King Faisal Specialist Hospital and Research Centre. Gulf Centre for Cancer Control & Prevention. Saudi Arabia: kfshrc [Internet]. [cited 2023 Dec 25]. Available from:
https://services.kfshrc.edu.sa/en/home/research/departments/gcc

2. Gulf Center for Disease Prevention and Control. About Us. Gulf CDC. 2025 [cited 2025 Dec 31]. Available from:
https://gulfcdc.org/en/Pages/About-Us

3. Statistical Center for the Cooperation Council for the Arab Countries of the Gulf (GCC-Stat). Population statistics in the GCC countries [Internet]. Muscat: GCC-Stat; [cited 2025 Dec 1]. Available from:
 https://www.gccstat.org

4. Bray F, Parkin DM. Evaluation of data quality in the cancer registry: principles and methods. Part I: comparability, validity and timeliness. Eur J Cancer. 2009 Mar;45(5):747-55. doi: 10.1016/j.ejca.2008.11.032. Epub 2008 Dec 29. PMID: 19117750.

5. International Agency for Research on Cancer. CanReg5: Cancer Registration Software. Version 5. Lyon: International Agency for Research on Cancer; 2010. Available from:
https://www.iacr.com.fr/index.php?option=com_content&view=article&id=9:canreg5&catid=68&Itemid=445

6. Doll R, Payne P, Waterhouse J. Cancer incidence in five continents, Vol. I. Geneva: International Union Against Cancer; 1966.

7. World Bank. Population, total – Denmark, Finland, Iceland, Norway, Sweden [Internet]. Available from:
https://data.worldbank.org/indicator/SP.POP.TOTL?end=2020&locations=DK-FI-IS-NO-SE&start=2020&view=bar

8. World Bank. Land area (sq. km) – Denmark, Finland, Iceland, Norway, Sweden [Internet]. Available from:
https://data.worldbank.org/indicator/AG.LND.TOTL.K2?end=2020&locations=DK-FI-IS-NO-SE&start=2020&view=bar