UNITED ARAB EMIRATES
MINISTRY OF HEALTH & PREVENTION

CANCER INCIDENCE IN UNITED ARAB EMIRATES ANNUAL REPORT OF THE UAE - NATIONAL CANCER REGISTRY - 2023

Statistics and Research Center

www.mohap.gov.ae

WORD FROM THE ASSISTANT UNDERSECRETARY (PUBLIC HEALTH)

The Ministry of Health and Prevention (MOHAP), as the central authority in the healthcare system of the UAE, remains committed to addressing the growing burden of cancer through a comprehensive public health approach. Cancer continues to be a major health challenge globally and locally, and the Ministry's efforts are focused on advancing prevention strategies, early detection, treatment, and improving survivorship outcomes.

The UAE's approach to cancer control is grounded in evidence-based strategies, prioritizing the reduction of cancer incidence and mortality through public health interventions. By utilizing data-driven methodologies, we are working to enhance our national cancer surveillance systems, which play a critical role in identifying trends, allocating resources effectively, and evaluating the impact of preventive measures and treatment protocols.

The continuous development of the UAE National Cancer Registry (UAE-NCR) is essential in providing a reliable and comprehensive dataset that informs public health policies. Through its epidemiological data, the registry not only tracks cancer incidence and mortality but also offers invaluable insights into risk factors, early detection patterns, and treatment outcomes. These data are instrumental in shaping our national strategies to reduce cancer prevalence and improve care delivery.

The Ministry is also focused on promoting collaborative efforts between healthcare providers, researchers, and international organizations, aiming to incorporate the latest advancements in cancer care into our national health system. Through strategic partnerships, we are enhancing the capacity for cutting-edge cancer research, advancing personalized treatment options, and ensuring that the latest innovations in cancer care are accessible to all individuals in the UAE.

In this context, the Ministry places significant emphasis on the integration of cancer prevention into the wider public health agenda, emphasizing early detection through screening programs, lifestyle interventions, and public health campaigns. By fostering an environment of continuous learning and improvement, we aim to reduce the overall burden of cancer and improve health outcomes for our population.

This report, as presented by the UAE National Cancer Registry, reflects our ongoing commitment to cancer research and public health. The data and insights within this report will guide future healthcare policies and serve as a foundation for continued progress in cancer prevention, diagnosis, treatment, and survivorship care.

I extend my appreciation to all stakeholders, including the Department of Health - Abu Dhabi (DOH), the Dubai Health Authority (DHA), healthcare professionals and all healthcare providers both public and private, whose contributions are critical to the success of this initiative. Your continued support and collaboration are essential as we strive to reduce the burden of cancer and improve the quality of life for all those affected by this disease.

DR. HUSSAIN ABDULRAHMAN AL RAND

Assistant Undersecretary (Public Health)

WORD FROM THE DIRECTOR OF THE STATISTICS AND RESEARCH CENTER

I am pleased to present the 2023 Annual Report of the UAE National Cancer Registry (UAE-NCR), which represents the collective efforts of the UAE-NCR team, along with all stakeholders and healthcare providers. The UAE-NCR is a population-based cancer registry that focuses on both epidemiological and public health aspects, and it continues to serve as the cornerstone of the National Cancer Program, particularly from a public health perspective.

The UAE-NCR is the sole reliable source of data on cancer incidence and mortality across the nation. The continuous availability of such data is of paramount importance, as it contributes to understanding the trends in cancer occurrence within the UAE. The systematic collection of this data enables the monitoring of changing cancer patterns, which is essential for informing effective prevention, early detection, and intervention strategies.

The cancer registries play a crucial role in providing data for research purposes and evaluating the effectiveness of cancer control programs, thereby supporting the development of targeted measures to mitigate the burden of cancer. While national cancer incidence data is available online, more detailed information can be accessed by experts and researchers upon request.

This 2023 report marks the 10th annual publication since the establishment of the UAE National Diseases Registry. It provides valuable insights into data collected from healthcare providers across the UAE throughout the year. We are confident that this report will assist decision-makers in the healthcare sector in understanding the burden of cancer and implementing appropriate measures to control and reduce its impact on our population.

International comparisons of cancer rates, using data from the UAE-NCR, are essential for understanding cancer trends within the context of global patterns. By comparing local data with trends from international organizations such as the International Agency for Research on Cancer (IARC), we gain valuable insights into how UAE's cancer trends align with or differ from those of other countries.

I would like to extend my sincere gratitude to the UAE-NCR team within the Ministry of Health and Prevention for their dedicated efforts in collecting, verifying, and ensuring that the data reported adheres to international standards. I also thank all stakeholders and healthcare providers who contributed to the success of this initiative. We look forward to continuing this important work and anticipate that future reports will provide ongoing insights into trends and developments in cancer treatment and care.

Dr. Alya Zaid Mohammed Harbi
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ABBREVIATIONS

Term	Full Form
SEER	Surveillance, Epidemiology and End Results
UAE	United Arab Emirates
MOHAP	Ministry of Health and Prevention
DOH	Department of Health - Abu Dhabi
DHA	Dubai Health Authority
CIR	Crude Incidence Rate
ASMR	Age-specific mortality rate
ASIR	Age-specific incidence rate
CTR	Certified Tumor Registrar
ICD-10	International Classification of Disease 10th Revision
ICD-O-3	International Classification of Diseases for Oncology, third Edition
UAE-NCR	United Arab Emirates-National Cancer Registry
HIMS	Health information management system
NCDs	Non-communicable diseases

ACKNOWLEDGEMENTS

This annual report was produced through the joint efforts of the following organizations:

- **Ministry of Health and Prevention (MOHAP)**
- **Department of Health - Abu Dhabi (DOH)**
  Abu Dhabi Public Health Centre
- **Dubai Health Authority (DHA)**
  Data Analysis, Research, & Studies Department
- **Emirates Health Services (EHS)**
  Data and Statistics / Executive Office of the Clinical Support Services Sector

The Statistics and Research Center at MOHAP would like to acknowledge with deep appreciation and gratitude to all stakeholders, healthcare providers and medical professionals from the various governmental, nongovernmental, and private facilities, and all other health sectors in UAE for their invaluable help, hard work and timely data collection, submission, and compliance by providing cancer patients data to the UAE national cancer registry.

We would like to express our deep gratitude to focal personals in different hospitals, clinics, and laboratories for the timely collection and compliance.

The production of this report has been made possible by the active cooperation of physicians, general practitioners, pathology laboratories, labs, nursing staff, technicians, information specialists, ODS's, medical records staff, clinical coders, and directors in the different UAE healthcare facilities.

We wish to express our sincere gratitude for the generous assistance, and hard work offered by the UAE National Disease Registries team:

- Dr. Mariam Ali Alameeri
- Mr. Wael Ahmad Shelpai
- Ms. Amira Kashwani
- Ms. Vineetha Thomas
- Dr. Shyni Noel Noel
- Ms. Nada Alheloo

GLOSSARY

Term	Full Form
SEER Summary Staging	Summary staging is the most basic way of categorizing how far cancer has spread from its point of origin. Summary staging has also been called General Staging, California Staging, and SEER Staging. The 2000 version of Summary Stage applies to every anatomic site, including the lymphomas and leukemia's. Summary staging uses all information available in the medical record: in other words, it is a combination of the most precise clinical and pathological documentation of the extent of disease [1].
UAE Resident Population	The resident population of the UAE is an estimate of all people who are usually living in UAE permanently or on a long-term basis.
Staging	Staging describes the severity of a person's cancer based on the size and/or extent (reach) of the original (primary) tumor and whether or not cancer has spread in the body. Staging is important for several reasons: • Staging helps the doctor plan the appropriate treatment. • Cancer stage can be used in estimating a person's prognosis. • Knowing the stage identifying clinical trials that may be a suitable treatment option for a patient. • Staging helps health care providers and researchers exchange information about patients, it also gives them a common terminology for evaluating the results of clinical trials and comparing the results of different trials [1, 2].
TNM Stage	The TNM Staging System was developed and is maintained by the American Joint Cancer Committee (AJCC) and the Union for International Cancer Control (UICC). It is the most commonly used staging system by medical professionals around the world. The TNM classification system was developed as a tool for doctors to stage different types of cancer based on certain, standardized criteria. The TNM Staging System is based on the extent of the tumor (T), the extent of spread to the lymph nodes (N), and the presence of metastasis (M) [2].
International Classification of Diseases (ICD)	The International Classification of Diseases (ICD) Is the standard diagnostic tool for epidemiology, health management and clinical purposes. This includes the analysis of the general health situation of population groups. It is used to monitor the incidence and prevalence of diseases and other health problems, proving a picture of the general health situation of countries. ICD is used by physicians, nurses, other providers, researchers, health information managers and coders, health information technology workers, policymakers, insurers, and patient organizations to classify diseases and other health problems recorded on many types of health and vital records, including death certificates and health records. In addition to enabling the storage and retrieval of diagnostic information for clinical, epidemiological, and quality purposes, these records also provide the basis for the compilation of national mortality and morbidity statistics by WHO Member States. Finally, ICD is used for reimbursement and resource allocation decision-making by countries [3].
Age-Standardized Rate	The age-standardized incidence/mortality rate is a summary measure, indicating the rate that a population would have if it had a standard age structure. It is calculated by summing the age-specific rates weighting to the world standard population; the calculated incidence/mortality rate is then called the World Standardized incidence rate. It is also expressed per 100,000.
Age-Specific Rates	Age-specific rates provide information on the incidence of a particular event in an age group relative to the total number of populations at risk of that event in the same age group. It is calculated by dividing the number of events occurring in each specified age group by the corresponding 'at risk' population in the same age group

Term	Full Form
	and then multiplying the result by a constant (for example 100,000) to derive the rate. Age-specific rates are often expressed per 100,000 populations.
Crude Incidence Rate	The number of new cancer cases (incidence cases) observed in the population during a defined period, divided by the number of populations at risk in the same period. It is usually expressed per 100,000.
Crude Mortality Rate	A crude rate is calculated simply by dividing the number of cancer deaths observed during a given time period by the corresponding number of person years in the population at risk. For cancer, the result is usually expressed as an annual rate per 100,000 persons at risk [4].
Carcinoma In-situ	An early-stage cancer in which the cancerous growth or tumor is still confined to the site from which it started and has not spread to surrounding tissue or other organs in the body. When cancer in-situ involves cells that line the internal organs, or epithelial cells, it is called carcinoma in-situ.
Malignant Tumors	The tumor is malignant (cancerous) if the cells can grow into (invade) surrounding tissues or spread (metastasize) to distant areas of the body.

EXECUTIVE SUMMARY

This is the 10th annual report of the UAE National Cancer Registry. This report summarizes cancer incidence and mortality in United Arab Emirates for the period 2023.

Cancer Incidence (Numbers And Percentages)

Between January 1st and December 31st, 2023, a total of 7,487 newly diagnosed cancer cases, including both invasive (malignant) and non-invasive (in-situ) cases, were reported to the UAE National Cancer Registry (UAE-NCR). Of these cases, 7,098 (94.8%) were classified as invasive cancers (malignant), while 389 (5.2%) were categorized as non-invasive cancers (in-situ).

When examining the gender distribution of these cases, it is evident that cancer affected a greater number of females (4,200 cases, 56.1%) compared to males (3,287 cases, 43.9%).

Among the Emirati population, a total of 1,736 newly diagnosed cancer cases (both malignant and in-situ) were reported. Of these, 1,648 cases (94.9%) were identified as invasive cancers (malignant), while 88 cases (5.1%) were classified as non-invasive cancers (in-situ).

When examining the gender distribution, cancer was more prevalent in females compared to males. Specifically, 1,043 females (60.1%) were diagnosed with cancer, while 693 males (39.9%) were affected.

In the Non-Emirati population, a total of 5,751 newly diagnosed cancer cases (both malignant and in-situ) were reported. Of these, 5,450 cases (94.8%) were classified as invasive cancers (malignant), while 301 cases (5.2%) were identified as non-invasive cancers (in-situ).

When examining the gender distribution, cancer was more prevalent among females than males. Specifically, 3,157 females (54.9%) were diagnosed with cancer, compared to 2,594 males (45.1%). This suggests that the trend of higher cancer incidence among females, observed in the Emirati population, is also consistent in the Non-Emirati population.

Cancer Incidence Rates

For invasive cases (malignant cases only), representing an overall crude incidence rate of 66.5/100,000 for both genders. Figures showed a clear female predominance for cancer incidence. The crude incidence rate was higher for females 102.9/100,000 than for males 46.1/100,000.

For invasive cases (malignant cases only), the overall age-standardized incidence rate (ASR) for both genders was 105.4/100,000, for females 139.1/100,000 and for males 90.1/100,000.

Most Common Cancers

Breast, thyroid, colorectal, skin (carcinoma) and prostate were the top ranked cancers among all new cancer cases in both genders (Table 22). Colorectal, prostate, thyroid, leukemia, and skin (carcinoma). were the top ranked cancers among the males (Table 24).

Among females, breast, thyroid, colorectal, uterus and cervix uteri. were the top ranked cancers (Table 23).

Pediatric Cases.

In 2023, a total of 237 children aged 0-14 years were diagnosed with invasive cancer in the UAE, including 95 (40.1%) females and 142 (59.9%) males. This represents approximately 3.3% of all registered invasive cancer cases (malignant cases).

Leukemia, brain & CNS, Non-Hodgkin lymphoma, bone and articular cartilage and kidney & renal pelvis were the most common cancers in boys and girls, Figure 37

Cancer Mortality

a total number of 11514 death cases (all causes of death) were reported in UAE among both Emirati and Non-Emirati regardless of the gender in 2023.

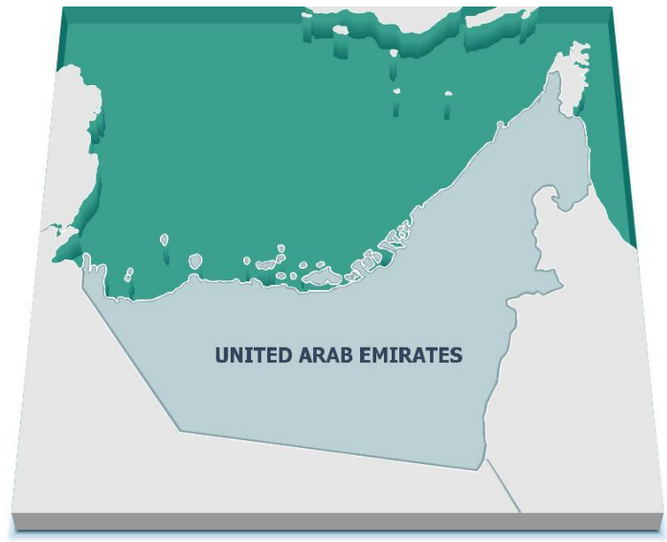
The number of deaths from cancer totaled 1432 (738 in males, 693 in females and 1 unknown) and accounted for 12.4% of all deaths regardless of nationality, type of cancer or gender. Cancer mortality has been contributed as the third leading cause of death in the United Arab Emirates in 2023,

This represents an estimated age-standardized cancer mortality rate of 30.37 deaths per 100,000 for both genders, 34.8 deaths per 100,000 females and 28.6 deaths per 100,000 males, 2023.

Colorectal cancer is the leading cause of cancer-related death, breast cancer follows as the second most common cause of cancer death, lung cancer is the third most common cause, pancreatic cancer was the fourth common cause of cancer death, stomach cancer was the fifth, leukemia was the sixth and cervical cancer was the seventh.

CHAPTER 1

CHAPTER 1 - INTRODUCTION



UAE Geography

The United Arab Emirates (UAE) was formed as a constitutional federation of seven emirates: Abu Dhabi, Dubai, Sharjah, Ajman, Umm Al Quwain, Ras Al Khaimah and Fujairah, which came together as one state on 2nd December 1971 under the former president, His Highness the late Sheikh Zayed bin Sultan Al Nahyan. Through exploitation of the UAE's abundant oil and natural gas resources starting in the 1960s, the country has been transformed from a tribal society reliant on agriculture and fishing to a significant and respected supplier in global energy markets as well as an important member of the international community [5].

During this period, the UAE has forged a distinct national identity and enjoyed a high degree of political stability. The UAE is located at the tip of the Arabian Peninsula with coastlines on the Gulf of Oman and the Arabian Gulf. It lies between Oman and Saudi Arabia and is a strategic location along the Strait of Hormuz, a vital transit point.

for the world's crude oil [5]. According to the National Bureau of Statistics (NBS), the UAE's total land area is 71,023.6 square kilometers (km2). The Emirate of Abu Dhabi accounts for 59,435 km2, 83.7% of the total land area, while the smallest emirate, Ajman, encompasses only 0.4% of it, 268 km2[5].

Four-fifths of the UAE is desert but has contrasting landscapes - from the towering red dunes of the Liwa to the rich palm-filled Oasis of Al Ain, from the precipitous Hajjar Mountains to the more fertile stretches of its coastal plains. The UAE has become an important player in regional and international affairs [6]. In 1971, the late President Sheikh Zayed bin Sultan Al Nahyan unified the small, underdeveloped states into a federation, the only one in the Arab world. With his visionary leadership, oil wealth was used to develop the UAE into one of the world's most open and successful economies. In 2004, His Highness Sheikh Khalifa bin Zayed Al Nahyan became the President and has since continued to strive towards an ambitious vision for the UAE [6].

Location

Bordered to the North by the Arabian Gulf, to the East by the Gulf of Oman and Sultanate of Oman, to the South by Saudi Arabia and Sultanate of Oman and to the West by Qatar and Saudi Arabia [7].

Cancer registry

Cancer registration is a vital and essential tool in cancer control. A cancer registry has been defined as an organization for the storage, collection, analysis, and interpretation of data on individuals with cancer. A population-based cancer registry gathers the data from numerous healthcare providers in a defined geographic area and can serve to demonstrate incidence trends for cancer of different sites over time or between population subdivisions. It can offer data to assess the effects of different types of treatment over time and to assess the effects of early detection programs, such as colorectal screening or mammography. Cancer registry data can be used for epidemiologic studies to identify causes of cancer. It can be useful in identifying unusual clusters of cancer cases [8]. Information on the mortality as well as incidence of cancers, in addition to their changing trends, is an important element in the planning and monitoring of programs for early detection, cancer prevention, and treatment [9].

UAE national cancer registry

MOHAP aims to establish unified accurate national diseases registries. MOHAP has established the National Diseases Registries to enable the diseases registries to access medical information while safeguarding data confidentiality. United Arab Emirates National Cancer Registry is the population-based cancer registry for the United Arab Emirates established under the jurisdiction of the Ministry of Health and Prevention (MOHAP) by the order of UAE Cabinet and His Excellency the Minister of Health and Prevention.

UAE National Cancer Registry systematically collects, stores, summarizes, analyses, and distributes information about cancer patients who are newly diagnosed in UAE . It provides information on cancer patterns and trends over time as well as monitors cancer incidence in UAE. The Cancer Registry is a part of the National Diseases Registry, and it comes under the auspices of the Statistics and Research Center. UAE National Cancer Registry will produce a report about the cancer incidence on an annual basis, and as incidence data are accumulated over the years, the registry will eventually be able to produce certain trends which would help in studying the distribution of such conditions in different regions of the country.

Goals

The primary goals of the UAE-NCR were to determine the national cancer statistics in UAE, to provide decision makers and researchers with reliable data, to monitor cancer screening and early detection programs, and to plan for cancer services and cancer control.

UAE national disease registry staff

Dr. Mariam Ali Alameeri
Mr. Wael Ahmed Shelpai
Ms. Amira Kashwani
Ms. Vineetha Thomas
Dr. Shyni Noel Noel
Ms. Nada Alheloo

Data collection methods

The UAE national cancer registry (UAE-NCR) records demographic, cancer, staging, clinical, and treatment information for all cancers diagnosed in UAE in accordance with internationally accepted registration and coding standards. For Emirati and Non-Emirati all malignant and in-situ cases diagnosed in UAE during 1st Jan. – 31st Dec. 2023 were notified and registered to UAE national cancer registry.

There are two methods of data collection:

Active method

Data was collected and abstracted by registry staff through regular visits to the medical treatment abroad department at MOHAP.

Passive method

The focal points from stakeholders and healthcare providers across UAE, collect cancer data from patient's files, HIMS (Health information management system), and pathology reports, complete a standardized form and submit it to the UAE National Cancer Registry.

Mortality data of Abu Dhabi was provided by the department of health – Abu Dhabi and mortality data of other Emirates was provided by MOHAP.

Source of data and data processing

The registry collects data on malignant neoplasms according to the recommendations of the International Agency for Research on Cancer (IARC) from a combination of sources, such as:

a) DOH central cancer registry: highly qualified central based cancer registry in DOH, this registry acts as a central one covering all cancer data in Abu Dhabi.

b) DHA central cancer registry: highly qualified central based cancer registry in DHA

c) Hospital admissions and medical records departments from all public, private, and university hospitals all over UAE through international classification of disease ICD-10 and ICD-O

d) Notifications by the medical profession

e) Reports from the pathology laboratories

f) Mortality data, medical treatment abroad and others. Notifications were made mandatory in 2013.

All data provided for this report were initially coded using ICD-10 and ICD-O-3, with ICD-10 being used for analysis and report preparation to ensure consistency and comparability. All cases reported to the UAE-NCR adhere to IARC guidelines.

Relevant information for new cases was cross-checked for potential duplication against a master index. The clinical data was then validated by ODS staff.

Cases of carcinoma in-situ were excluded from the calculation of crude or age-standardized incidence rates (ASR). The results presented pertain to the resident population, including both Emirati and Non-Emirati individuals.

The data is utilized for monitoring incidence trends, conducting research, supporting planning efforts, and evaluating cancer care facilities.

The information in this report is based on cancer data collected for patients newly diagnosed between January 1 and December 31, 2023, in the UAE.

Reportable list

All cases with a behavior code 2 and 3 of the International Classification of Diseases for Oncology, third Edition (ICD-O-3), malignant and in-situ cases of the ICD-10 were included in the registry.

Data Management Methodology

In accordance with a ministerial decree, cancer has been classified as a mandatory notifiable disease, ensuring a robust framework for comprehensive data collection. The UAE National Cancer Registry (UAE-NCR) seeks to obtain complete access to cancer-related data from all Ministry of Health and Prevention facilities, health authorities, as well as other governmental and private hospitals, clinics, and laboratories across the UAE.

The registry systematically collects and updates patient data, registering all newly diagnosed cancer cases within the country. To enhance the completeness of data collection, multiple data sources are utilized. However, this may occasionally lead to duplicate notifications for the same patient. To address this, a thorough cross-checking process is implemented, comparing key patient identifiers such as Emirates ID number, name, age, gender, date of birth, and address. This method serves as an effective quality control measure, ensuring accurate and comprehensive cancer case capture throughout the UAE. The Emirates ID, a unique identifier, is instrumental in preventing data duplication and improving data quality.

After verifying and filtering the received cancer data, duplicate or previously registered cases are excluded, and the database is updated accordingly. Efforts are made to ensure the completeness of all required variables. In cases of incomplete information, the respective data providers are contacted, and the notification forms are returned for clarification before the updated data is resubmitted to the registry.

All collected data received, is entered into an electronic database. This database undergoes continuous quality control to ensure data accuracy and integrity. Additionally, regular audits and verification processes are conducted to ensure ongoing reliability.

Linkage with Mortality Data

Linking cancer registry data with national mortality data updates patients' vital status and ensures registry completeness. This linkage allows for the inclusion of cancer cases diagnosed solely through death certificates, ensuring all cases are captured. The linkage process is performed annually, integrating the latest mortality data to maintain registry accuracy. This enables monitoring of cancer mortality trends and supports public health decision-making and cancer control strategies.

The UAE population used to calculate rates.

In this report, we have used the UAE Resident Population for 2023 as estimated by Federal Competitiveness and Statistics Centre (FCSC) to compute the crude and age standardized incidence rates, and mortality rates to describe various indicators where 'rates' were calculated.

CHAPTER 2

CHAPTER 2 - OVERALL CANCER INCIDENT CASES

In the 10th Annual Report for 2023, we present the data on newly diagnosed cancer cases among both Emirati and Non-Emirati populations within the UAE. This report includes both malignant and in-situ cancers, as these are the cancer behaviors that are reportable to the UAE National Cancer Registry (UAE-NCR).

It is important to note that benign and borderline malignancies are not reportable in the UAE-NCR for the year 2023. This distinction ensures that the registry focuses on cancers with the potential for malignancy, which are more relevant for epidemiological monitoring, treatment strategies, and public health interventions.

Cancer Incidence (malignant and in-situ) in UAE, 2023

Between January 1st and December 31st, 2023, a total of 7,487 newly diagnosed cancer cases, including both invasive (malignant) and non-invasive (in-situ) cases, were reported to the UAE National Cancer Registry (UAE-NCR). Of these cases, 7,098 (94.8%) were classified as invasive cancers (malignant), while 389 (5.2%) were categorized as non-invasive cancers (in-situ).
When examining the gender distribution of these cases, it is evident that cancer affected a greater number of females (4,200 cases, 56.1%) compared to males (3,287 cases, 43.9%). This trend highlights a higher incidence of cancer among females in the UAE during 2023.

Among the Emirati population, a total of 1,736 newly diagnosed cancer cases (both malignant and in-situ) were reported. Of these, 1,648 cases (94.9%) were identified as invasive cancers (malignant), while 88 cases (5.1%) were classified as non-invasive cancers (in-situ).
When examining the gender distribution, cancer was more prevalent in females compared to males. Specifically, 1,043 females (60.1%) were diagnosed with cancer, while 693 males (39.9%) were affected. This shows a significant gender disparity, with females representing a larger proportion of the cancer cases in the Emirati population.

In the Non-Emirati population, a total of 5,751 newly diagnosed cancer cases (both malignant and in-situ) were reported. Of these, 5,450 cases (94.8%) were classified as invasive cancers (malignant), while 301 cases (5.2%) were identified as non-invasive cancers (in-situ). When examining the gender distribution, cancer was more prevalent among females than males. Specifically, 3,157 females (54.9%) were diagnosed with cancer, compared to 2,594 males (45.1%). This suggests that the trend of higher cancer incidence among females, observed in the Emirati population, is also consistent in the Non-Emirati population.

Table 1 presents the distribution of all types of cancer cases within the UAE population, including both Emirati and Non-Emirati individuals, categorized by gender.

Primary site ICD-10	Non-Emirati		Total	Emirati		Total	Grand Total
	Female	Male		Female	Male		
All invasive cancers (Malignant Cases)	**2966**	**2484**	**5450**	**980**	**668**	**1648**	**7098**
C00-C14 Lip, Oral cavity & pharynx	41	126	**167**	12	18	**30**	**197**
C15 Esophagus	4	25	**29**	4	8	**12**	**41**
C16 Stomach	43	76	**119**	16	28	**44**	**163**
C17 Small intestine	5	16	**21**	2	4	**6**	**27**
C18-C21 Colorectal	152	278	**430**	74	84	**158**	**588**
C22 Liver and intrahepatic bile ducts	32	72	**104**	26	27	**53**	**157**
C23, C24 Gallbladder, other and unspecified part of biliary tract	19	21	**40**	8	8	**16**	**56**
C25 Pancreas	37	67	**104**	18	25	**43**	**147**
C26 Other and ill-defined digestive organs	2	2	**4**	1	0	**1**	**5**
C30, C31 Nasal cavity, middle ear, accessory sinuses	3	8	**11**	1	1	**2**	**13**
C32 Larynx	0	22	**22**	0	5	**5**	**27**
C33 Trachea	1	1	**2**	0	0	**0**	**2**
C34 Bronchus and Lung	59	120	**179**	10	41	**51**	**230**
C37 Thymus	2	6	**8**	1	0	**1**	**9**
C38 Heart, mediastinum, and pleura	1	4	**5**	2	1	**3**	**8**
C40-C41 Bone and articular cartilage	16	15	**31**	10	12	**22**	**53**
C43 Skin melanoma	31	34	**65**	1	4	**5**	**70**
C44 Skin (Carcinoma)	117	180	**297**	17	19	**36**	**333**
C45 Mesothelioma	1	4	**5**	0	2	**2**	**7**
C46 Kaposi sarcoma	0	1	**1**	0	0	**0**	**1**
C47 Peripheral nerves and autonomic nervous system	0	2	**2**	0	1	**1**	**3**
C48 Retroperitoneum and peritoneum	9	2	**11**	1	2	**3**	**14**
C49 Connective and soft tissue	22	31	**53**	6	8	**14**	**67**
C50 Breast	1120	8	**1128**	325	3	**328**	**1456**
C51 Vulva	5	0	**5**	0	0	**0**	**5**
C52 Vagina	3	0	**3**	1	0	**1**	**4**
C53 Cervix uteri	125	0	**125**	21	0	**21**	**146**
C54-C55 Uterus	156	0	**156**	59	0	**59**	**215**
C56 Ovary	101	0	**101**	24	0	**24**	**125**
C57 Other and unspecified female genital organs	2	0	**2**	0	0	**0**	**2**
C58 Placenta	1	0	**1**	0	0	**0**	**1**
C60 Penis	0	6	**6**	0	0	**0**	**6**
C61 Prostate	0	251	**251**	0	73	**73**	**324**
C62 Testis	0	44	**44**	0	8	**8**	**52**
C63 Other and unspecified male genital organs	0	1	**1**	0	1	**1**	**2**
C64-C65 Kidney & Renal pelvis	31	116	**147**	11	27	**38**	**185**
C66, C68 Ureter and other urinary organs	1	2	**3**	0	1	**1**	**4**
C67 Urinary bladder	16	50	**66**	8	22	**30**	**96**
C69 Eye and adnexa	2	3	**5**	1	1	**2**	**7**
C70-C72 Brain & CNS	42	66	**108**	13	13	**26**	**134**
C73 Thyroid	408	177	**585**	160	49	**209**	**794**
C74-C75 Other endocrine glands	4	10	**14**	2	1	**3**	**17**
C76-C80 Unknown or unspecified sites	52	72	**124**	28	34	**62**	**186**

C81 Hodgkin's lymphoma	32	52	**84**	9	16	**25**	**109**
C82-C86, C88 and C96 Non-Hodgkin lymphoma	87	146	**233**	40	51	**91**	**324**
C90 Multiple myeloma	32	62	**94**	13	6	**19**	**113**
C91-C95 Leukemia	76	166	**242**	35	47	**82**	**324**
D45 MPD	13	83	**96**	4	5	**9**	**105**
D46 MDS	23	23	**46**	4	7	**11**	**57**
D47 MPD	37	33	**70**	12	5	**17**	**87**
Non-invasive cancers (In-Situ Cases)	**191**	**110**	**301**	**63**	**25**	**88**	**389**
D00 Carcinoma in situ of oral cavity, oesophagus and stomach	2	3	**5**	0	0	**0**	**5**
D01 Carcinoma in situ of other and unspecified digestive organs	9	24	**33**	4	1	**5**	**38**
D02 Carcinoma in situ of middle ear and respiratory system	1	3	**4**	0	0	**0**	**4**
D03 Melanoma in situ	15	17	**32**	0	1	**1**	**33**
D04 Carcinoma in situ of skin	3	9	**12**	2	1	**3**	**15**
D05 Carcinoma in situ of breast	94	0	**94**	32	1	**33**	**127**
D06 Carcinoma in situ of cervix uteri	56	0	**56**	20	0	**20**	**76**
D07 Carcinoma in situ of other and unspecified genital organs	5	6	**11**	1	2	**3**	**14**
D09 Carcinoma in situ of other and unspecified sites	6	48	**54**	4	19	**23**	**77**
Grand Total	**3157**	**2594**	**5751**	**1043**	**693**	**1736**	**7487**

Table 1 - Number of cancer cases according to primary site, gender, and nationality, 2023

Figure 1 illustrates the distribution of cancer cases among the UAE population in 2023, categorized by the type of tumor. The data reveals that 94.8% of the cancer cases were invasive cancers, while 5.2% were non-invasive cancers (in-situ). This distribution emphasizes the predominance of invasive cancers, which are typically more aggressive and pose a greater challenge in terms of treatment and prognosis.

The breakdown of cancer cases by tumor type provides valuable insights into the cancer landscape in the UAE, helping to inform healthcare strategies for cancer prevention, early detection, and treatment tailored to the specific needs of the population.

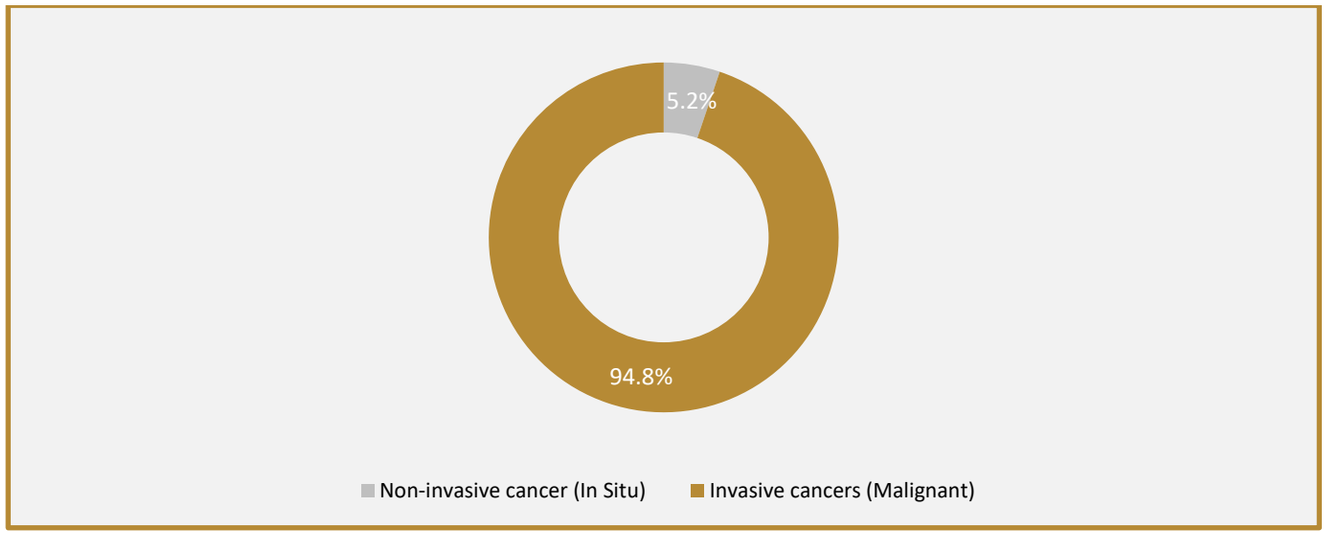


Figure 1 - Distribution of cancer cases by type of tumor, 2023

Figure 2 illustrates the distribution of cancer cases in 2023, categorized by nationality and type of tumor. Among the Emirati population, a total of 1648 invasive cancer cases (malignant) were reported, alongside 88 non-invasive cancer cases (in-situ). In contrast, the Non-Emirati population reported 5450 invasive cancer cases (malignant) and 301 non-invasive cancer cases (in-situ). These figures provide essential insights into the cancer burden across different nationalities within the UAE, aiding in the development of targeted public health interventions and cancer care strategies.

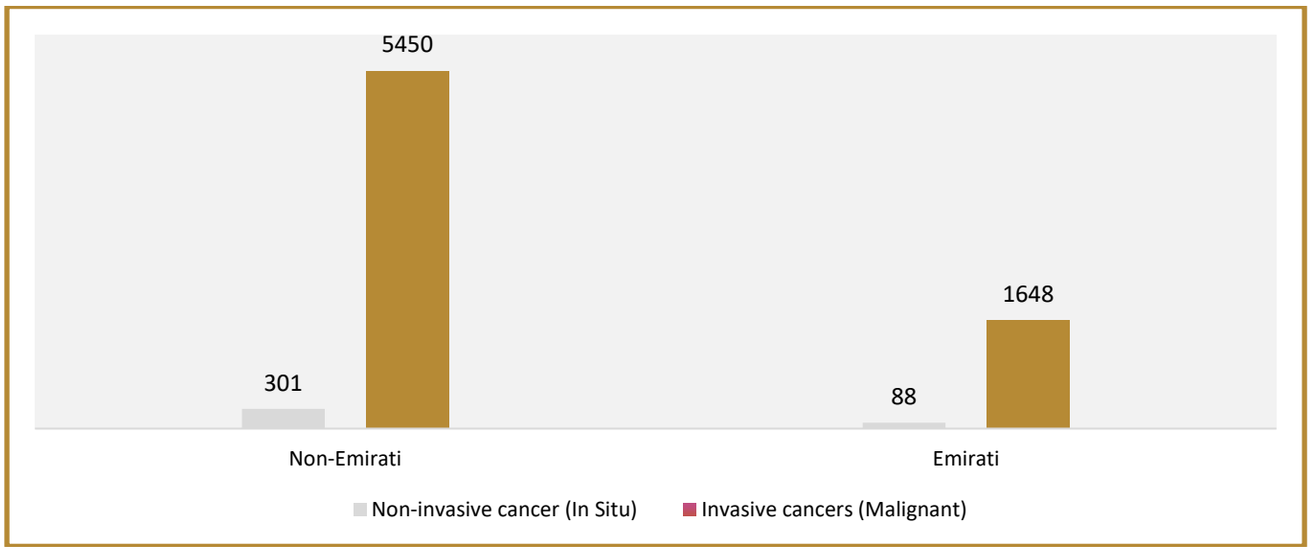


Figure 2 - Distribution of cancer cases by nationality and type of tumor, 2023

Figure 3 illustrates the distribution of cancer cases among the UAE population in 2023, categorized by gender and type of tumor. The data shows that among males, there were 3152 invasive cancer cases (malignant) and 135 non-invasive cancer cases (in-situ). In contrast, females accounted for 3946 invasive cancer cases (malignant) and 254 non-invasive cancer cases (in-situ).

This distribution highlights a higher number of invasive (malignant) cancer cases among females compared to males. Additionally, non-invasive cancer cases (in-situ) were more prevalent in females than in males, though both genders showed relatively low proportions of non-invasive cancers. The data underscores the importance of considering gender-specific trends in cancer incidence, which can inform the development of targeted prevention, early detection, and treatment strategies tailored to the needs of each gender.

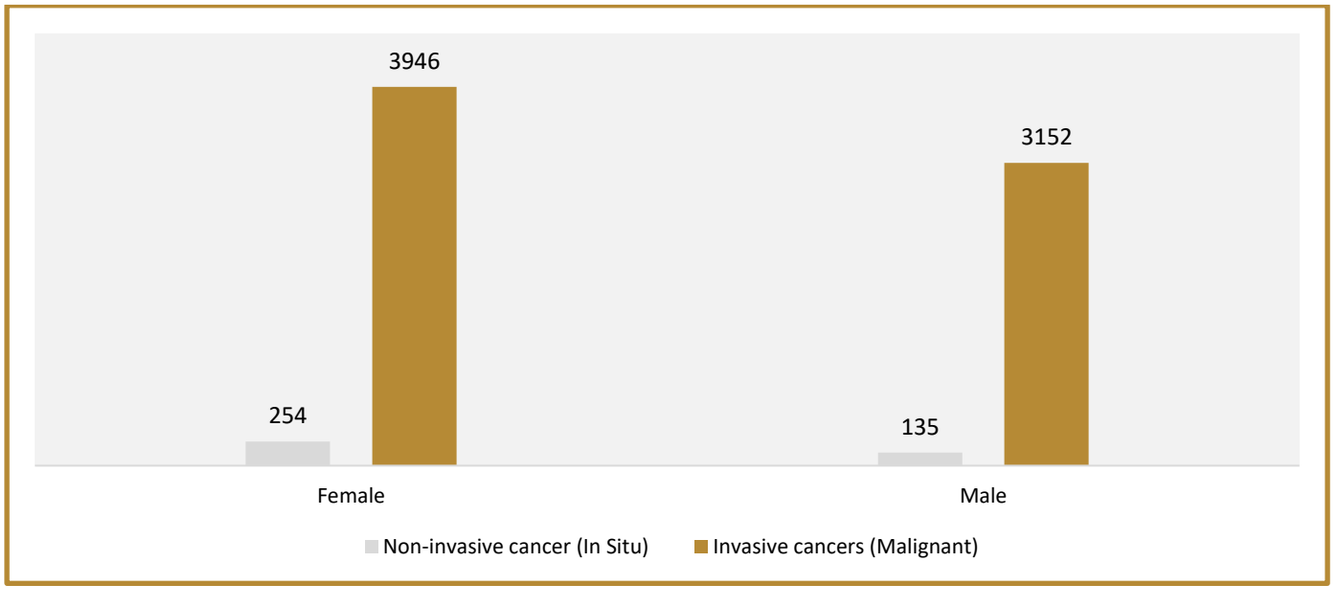


Figure 3 - Distribution of cancer cases by gender and type of tumor, 2023

CANCER CASES (MALIGNANT ONLY), 2023

A total of 7098 invasive cancer cases (malignant) were newly diagnosed in the UAE during the period from January to December 2023, among both Emirati and Non-Emirati populations. These invasive cases accounted for 94.8% of all newly diagnosed cancer cases, which include both invasive and non-invasive cancers, during the same period.

Malignant cases by nationality in UAE, 2023

Table 2 presents the distribution of invasive cancer cases (malignant) among the UAE population, distinguishing between Emirati and Non-Emirati individuals. The data shows that 1648 invasive cancer cases (malignant) were reported among Emirati patients, while 5450 invasive cancer cases (malignant) were reported among Non-Emirati patients. This indicates a higher number of invasive cancer cases in the Non-Emirati population compared to the Emirati population, providing valuable insights into cancer trends that can guide national healthcare strategies and resource allocation.

Primary site ICD-10	Non-Emirati	Emirati	Total
Invasive cancer cases (Malignant)	5450	1648	**7098**

Table 2 - Distribution of invasive cancer cases (malignant) by nationality, 2023

Figure 4 illustrates the distribution of invasive cancer cases (malignant) based on nationality in 2023. The data reveals that 23.2% of the total invasive cancer cases were reported among the Emirati population, while the remaining 76.8% of invasive cancer cases occurred among the Non-Emirati population. This distribution highlights a significant disparity in the incidence of invasive cancers between the two groups, with the Non-Emirati population representing a larger proportion of cases. These findings are important for understanding the cancer burden in the UAE and may inform targeted public health strategies and resource allocation.

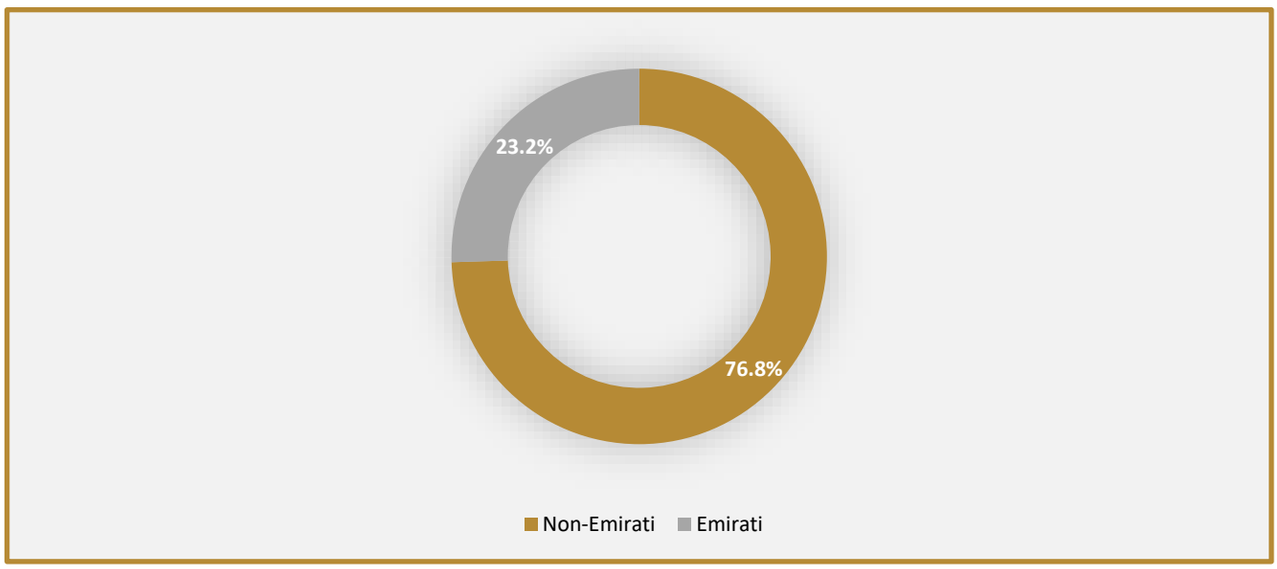


Figure 4 - Distribution of Invasive cancer cases (malignant) by nationality, 2023

Invasive cancer cases (malignant) by gender in UAE, 2023

Table 3 presents the distribution of 7098 invasive cancer cases (malignant) in the UAE. The data indicates that cancer cases were more prevalent among females than males, with 3946 cases (55.6%) affecting females and 3152 cases (44.4%) affecting males. This distribution underscores the higher incidence of invasive cancers in females compared to males, providing valuable insights into gender-specific cancer trends that can guide targeted prevention, early detection, and treatment strategies.

Primary site ICD-10	Female	Male	Total
Invasive cancers (Malignant Cases)	3946	3152	**7098**

Table 3 - Distribution of invasive cancer cases (malignant) by gender among all, 2023

Figure 5 illustrates the distribution of invasive cancers (malignant) by gender in 2023. The data reveals that 44.4% of the total invasive cancer cases were diagnosed in males, while 55.6% were diagnosed in females. This distribution indicates that, overall, more females were diagnosed with invasive cancers compared to males in 2023. This gender-based difference in cancer incidence highlights the importance of gender-specific cancer prevention and management strategies.

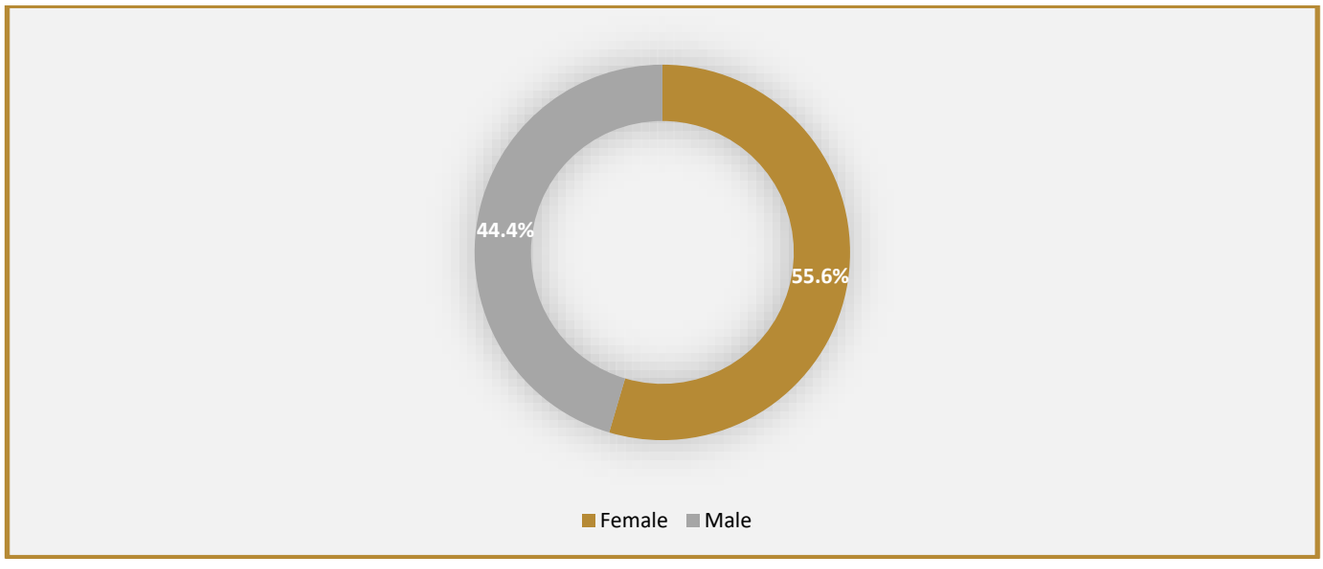


Figure 5 - Distribution of Invasive cancer cases (malignant) by gender, 2023

Invasive cancer cases (malignant) by gender in Emirati, 2023

From 1st January to 31st December 2023, a total of 1648 newly diagnosed invasive cancer cases (malignant) were reported among the Emirati population to the UAE National Cancer Registry (UAE-NCR). The data indicates that cancer was more prevalent among females than males, with 980 females (59.5%) and 668 males (40.5%) affected. This distribution highlights a higher incidence of invasive cancer among females in the Emirati population in 2023, which underscores the importance of addressing gender-specific cancer prevention, early detection, and treatment strategies. **Table 4**

Primary site ICD-10	Female	Male	Total
Invasive cancers (Malignant Cases)	980	668	**1648**

Table 4 - Distribution of invasive cancer cases (malignant) by gender among Emirati, 2023

Figure 6 illustrates the distribution of invasive cancer cases (malignant) by gender in the Emirati population in 2023. Out of the total 1648 invasive cancer cases (malignant), 40.5% were reported in males, and 59.5% were reported in females. This distribution emphasizes the higher incidence of invasive cancers among females compared to males in the Emirati population.

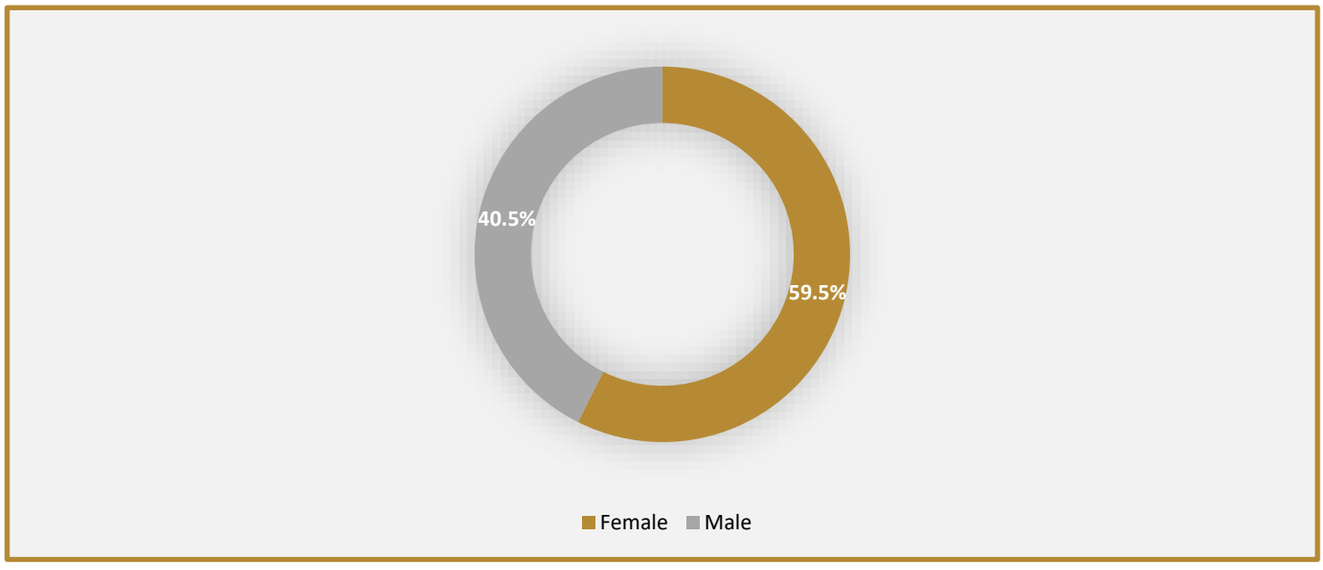


Figure 6 - Distribution of Invasive cancer cases (malignant) among Emirati by gender, 2023

Invasive cancer cases (malignant) by gender among Non-Emirati, 2023

In 2023, a total of 5450 newly diagnosed invasive cancer cases (malignant) were reported among the Non-Emirati population. The data reveals that invasive cancer cases were more prevalent among females than males, with 2966 females (54.4%) and 2484 males (45.6%) affected. This distribution highlights a higher incidence of invasive cancer among females in the Non-Emirati population.**Table 5**

Primary site ICD-10	Female	Male	Total
Invasive cancers (Malignant Cases)	2966	2484	**5450**

Table 5 - Distribution of invasive cancer cases (malignant) among Non-Emirati by gender, 2023

Figure 7 illustrates the distribution of invasive cancer cases (malignant) among the Non-Emirati population by gender in 2023. Out of the total 5450 invasive cancer cases (malignant), 45.6% were reported in males, and 54.4% were reported in females. This distribution highlights a higher proportion of invasive cancer cases in females compared to males in the Non-Emirati population. These findings emphasize the importance of gender-specific approaches to cancer prevention, detection, and treatment.

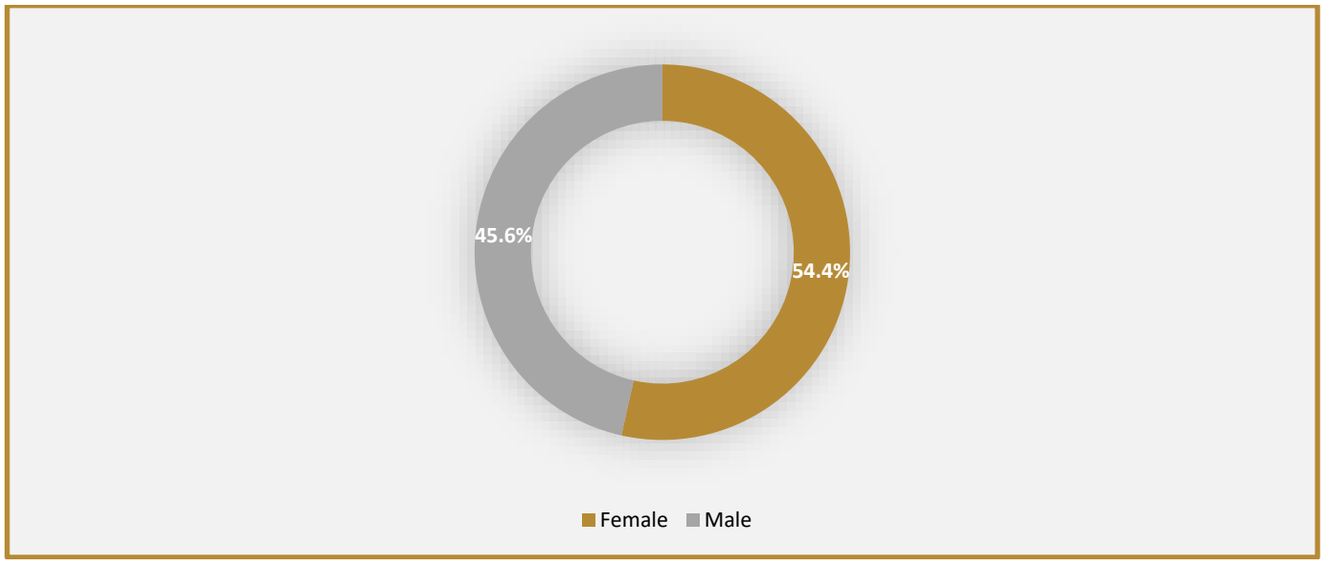


Figure 7 - Distribution of Invasive cancer cases (malignant) among Non-Emirati by gender, 2023

Frequency of incident cases of cancer according to primary site in different age groups and genders.

Primary site (malignant) distribution by gender, among all UAE population, 2023

Between January and December 2023, a total of 7098 invasive cancer cases (malignant) were reported to the UAE National Cancer Registry (UAE-NCR). The data reveals that 3946 invasive cancer cases were reported in females, while 3152 invasive cancer cases were reported in males. This indicates a higher incidence of invasive cancer in females compared to males. **Table 6**

Primary Site ICD-10	Female	Male	Grand Total
C00-C14 Lip, Oral cavity & pharynx	53	144	**197**
C15 Esophagus	8	33	**41**
C16 Stomach	59	104	**163**
C17 Small intestine	7	20	**27**
C18-C21 Colorectal	226	362	**588**
C22 Liver and intrahepatic bile ducts	58	99	**157**
C23, C24 Gallbladder, other and unspecified part of biliary tract	27	29	**56**
C25 Pancreas	55	92	**147**
C26 Other and ill-defined digestive organs	3	2	**5**
C30, C31 Nasal cavity, middle ear, accessory sinuses	4	9	**13**
C32 Larynx	0	27	**27**
C33 Trachea	1	1	**2**
C34 Bronchus and Lung	69	161	**230**
C37 Thymus	3	6	**9**
C38 Heart, mediastinum, and pleura	3	5	**8**
C40-C41 Bone and articular cartilage	26	27	**53**
C43 Skin melanoma	32	38	**70**
C44 Skin (Carcinoma)	134	199	**333**
C45 Mesothelioma	1	6	**7**
C46 Kaposi sarcoma	0	1	**1**
C47 Peripheral nerves and autonomic nervous system	0	3	**3**
C48 Retroperitoneum and peritoneum	10	4	**14**
C49 Connective and soft tissue	28	39	**67**
C50 Breast	1445	11	**1456**
C51 Vulva	5	0	**5**
C52 Vagina	4	0	**4**
C53 Cervix uteri	146	0	**146**
C54-C55 Uterus	215	0	**215**
C56 Ovary	125	0	**125**
C57 Other and unspecified female genital organs	2	0	**2**
C58 Placenta	1	0	**1**
C60 Penis	0	6	**6**
C61 Prostate	0	324	**324**
C62 Testis	0	52	**52**
C63 Other and unspecified male genital organs	0	2	**2**
C64-C65 Kidney & Renal pelvis	42	143	**185**
C66, C68 Ureter and other urinary organs	1	3	**4**
C67 Urinary bladder	24	72	**96**
C69 Eye and adnexa	3	4	**7**
C70-C72 Brain & CNS	55	79	**134**
C73 Thyroid	568	226	**794**
C74-C75 Other endocrine glands	6	11	**17**
C76-C80 Unknown or unspecified sites	80	106	**186**
C81 Hodgkin's lymphoma	41	68	**109**

C82-C86, C88 and C96 Non-Hodgkin lymphoma	127	197	**324**
C90 Multiple myeloma	45	68	**113**
C91-C95 Leukemia	111	213	**324**
D45 MPD	17	88	**105**
D46 MDS	27	30	**57**
D47 MPD	49	38	**87**
All invasive cancers (Malignant Cases)	**3946**	**3152**	**7098**

Table 6 - Distribution of primary sites (invasive cancer cases) by gender among all, 2023

Primary site (malignant) distribution by gender among Emirati, 2023

Between January and December 2023, a total of 1638 invasive cancer cases (malignant) were reported to the UAE National Cancer Registry (UAE-NCR) among the Emirati population. Of these, 980 cases were reported in females, and 668 cases were reported in males. This indicates a higher prevalence of invasive cancer among females compared to males in the Emirati population. **Table 7**

Primary Site ICD-10	Female	Male	Grand Total
C00-C14 Lip, Oral cavity & pharynx	12	18	30
C15 Esophagus	4	8	12
C16 Stomach	16	28	44
C17 Small intestine	2	4	6
C18-C21 Colorectal	74	84	158
C22 Liver and intrahepatic bile ducts	26	27	53
C23, C24 Gallbladder, other and unspecified part of biliary tract	8	8	16
C25 Pancreas	18	25	43
C26 Other and ill-defined digestive organs	1	0	1
C30, C31 Nasal cavity, middle ear, accessory sinuses	1	1	2
C32 Larynx	0	5	5
C34 Bronchus and Lung	10	41	51
C37 Thymus	1	0	1
C38 Heart, mediastinum, and pleura	2	1	3
C40-C41 Bone and articular cartilage	10	12	22
C43 Skin melanoma	1	4	5
C44 Skin (Carcinoma)	17	19	36
C45 Mesothelioma	0	2	2
C47 Peripheral nerves and autonomic nervous system	0	1	1
C48 Retroperitoneum and peritoneum	1	2	3
C49 Connective and soft tissue	6	8	14
C50 Breast	325	3	328
C52 Vagina	1	0	1
C53 Cervix uteri	21	0	21
C54-C55 Uterus	59	0	59
C56 Ovary	24	0	24
C61 Prostate	0	73	73
C62 Testis	0	8	8
C63 Other and unspecified male genital organs	0	1	1
C64-C65 Kidney & Renal pelvis	11	27	38
C66, C68 Ureter and other urinary organs	0	1	1
C67 Urinary bladder	8	22	30
C69 Eye and adnexa	1	1	2
C70-C72 Brain & CNS	13	13	26
C73 Thyroid	160	49	209
C74-C75 Other endocrine glands	2	1	3
C76-C80 Unknown or unspecified sites	28	34	62
C81 Hodgkin's lymphoma	9	16	25
C82-C86, C88 and C96 Non-Hodgkin lymphoma	40	51	91
C90 Multiple myeloma	13	6	19
C91-C95 Leukemia	35	47	82
D45 MPD	4	5	9
D46 MDS	4	7	11
D47 MPD	12	5	17
Grand Total	980	668	1648

Table 7 - Primary site (invasive cancer cases) distribution by gender among Emirati, 2023

Primary site (malignant) distribution by gender among Non-Emirati, 2023

Between January and December 2023, a total of 5450 invasive cancer cases (malignant) were reported to the UAE National Cancer Registry (UAE-NCR) among the Non-Emirati population. Of these, 2966 cases were reported in females, and 2484 cases were reported in males. This data highlights a higher incidence of invasive cancer among females compared to males in the Non-Emirati population. **Table 8**

Primary Site ICD-10	Female	Male	Grand Total
C00-C14 Lip, Oral cavity & pharynx	41	126	167
C15 Esophagus	4	25	29
C16 Stomach	43	76	119
C17 Small intestine	5	16	21
C18-C21 Colorectal	152	278	430
C22 Liver and intrahepatic bile ducts	32	72	104
C23, C24 Gallbladder, other and unspecified part of biliary tract	19	21	40
C25 Pancreas	37	67	104
C26 Other and ill-defined digestive organs	2	2	4
C30, C31 Nasal cavity, middle ear, accessory sinuses	3	8	11
C32 Larynx	0	22	22
C33 Trachea	1	1	2
C34 Bronchus and Lung	59	120	179
C37 Thymus	2	6	8
C38 Heart, mediastinum, and pleura	1	4	5
C40-C41 Bone and articular cartilage	16	15	31
C43 Skin melanoma	31	34	65
C44 Skin (Carcinoma)	117	180	297
C45 Mesothelioma	1	4	5
C46 Kaposi sarcoma	0	1	1
C47 Peripheral nerves and autonomic nervous system	0	2	2
C48 Retroperitoneum and peritoneum	9	2	11
C49 Connective and soft tissue	22	31	53
C50 Breast	1120	8	1128
C51 Vulva	5	0	5
C52 Vagina	3	0	3
C53 Cervix uteri	125	0	125
C54-C55 Uterus	156	0	156
C56 Ovary	101	0	101
C57 Other and unspecified female genital organs	2	0	2
C58 Placenta	1	0	1
C60 Penis	0	6	6
C61 Prostate	0	251	251
C62 Testis	0	44	44
C63 Other and unspecified male genital organs	0	1	1
C64-C65 Kidney & Renal pelvis	31	116	147
C66, C68 Ureter and other urinary organs	1	2	3
C67 Urinary bladder	16	50	66
C69 Eye and adnexa	2	3	5
C70-C72 Brain & CNS	42	66	108
C73 Thyroid	408	177	585
C74-C75 Other endocrine glands	4	10	14
C76-C80 Unknown or unspecified sites	52	72	124
C81 Hodgkin's lymphoma	32	52	84
C82-C86, C88 and C96 Non-Hodgkin lymphoma	87	146	233

C90 Multiple myeloma	32	62	**94**
C91-C95 Leukemia	76	166	**242**
D45 MPD	13	83	**96**
D46 MDS	23	23	**46**
D47 MPD	37	33	**70**
Grand Total	**2966**	**2484**	**5450**

Table 8 - Primary site (invasive cancer cases) distribution by gender among Non-Emirati, 2023

Age group distribution of invasive cancer cases (malignant) in UAE, all gender, 2023

Table 9 presents the distribution of invasive cancer cases (malignant) in the UAE by age group for the year 2023. The data reveals that the highest number of cancer cases occurred in the 40–44 years age group, accounting for 925 cases (13%), followed by the 45–49 years age group with 877 cases (12.4%), and the 50–54 years age group with 755 cases (10.6%). The 35–39 years age group reported 732 cases (10.3%), and the 55–59 years age group accounted for 678 cases (9.6%). On the other end of the spectrum, the 5–9 years age group reported the fewest cancer cases, with only 73 cases (1%). This distribution underscores the higher prevalence of invasive cancers in middle-aged adults, with a notably lower frequency of cancer cases among younger children.

Age Group	Number of invasive cancer cases (malignant), 2023	%
(0-4)	86	1.2%
(5-9)	73	1.0%
(10-14)	78	1.1%
(15-19)	78	1.1%
(20-24)	105	1.5%
(25-29)	188	2.6%
(30-34)	489	6.9%
(35-39)	732	10.3%
(40-44)	925	13.0%
(45-49)	877	12.4%
(50-54)	755	10.6%
(55-59)	678	9.6%
(60-64)	592	8.3%
(65-69)	523	7.4%
(70-74)	395	5.6%
(75-79)	267	3.8%
(80-84)	150	2.1%
(85+)	107	1.5%
Grand Total	**7098**	**100%**

Table 9 - Age group distribution of invasive cancer cases (malignant) in UAE, all gender, 2023

Figure 8 summarizes the distribution of invasive cancer cases (malignant) by age group in the UAE for the year 2023. The data shows that the 40–44 years age group experienced the highest frequency of cancer cases, marking it as the age group with the most significant incidence of invasive cancers. In contrast, the 5–9 years age group exhibited the lowest frequency of invasive cancer cases, highlighting the relatively rare occurrence of cancer in this younger age group. This age-based distribution underscores the higher cancer burden in middle-aged individuals.

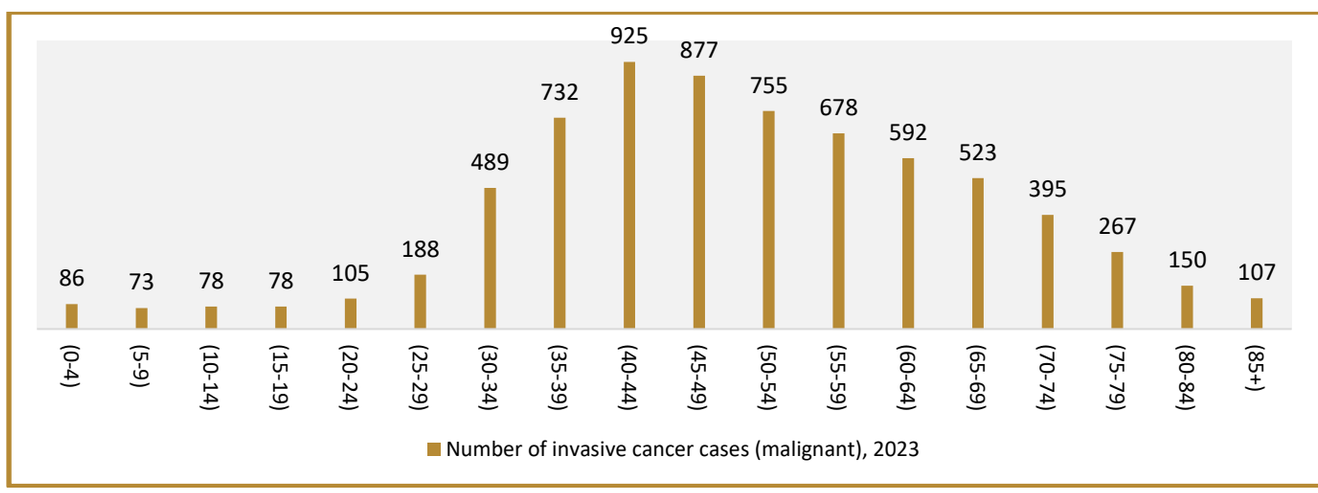


Figure 8 - Age group distribution of invasive cancer cases (malignant) in UAE, All gender, 2023

Age group distribution of invasive cancer cases (malignant) in UAE, among females, 2023

Table 10 illustrates the distribution of invasive cancer cases (malignant) among females in the UAE by age group for the year 2023. The data shows that the highest number of cancer cases occurred in the 40–44 years age group, with 622 cases (15.8%), followed by the 45–49 years age group with 562 cases (14.2%). The 35–39 years age group reported 476 cases (12.1%), while the 50–54 years age group accounted for 443 cases (11.2%), and the 55–59 years age group had 335 cases (8.5%). The 5–9 years age group had the lowest frequency, with only 28 cases (0.7%). This distribution highlights that middle-aged women, particularly those between 40 and 49 years old, had the highest incidence of invasive cancer in 2023, while pediatric cancer cases were relatively rare.

Age Group	Number of invasive cancer cases (malignant), 2023	%
(0-4)	34	0.9%
(5-9)	28	0.7%
(10-14)	33	0.8%
(15-19)	36	0.9%
(20-24)	46	1.2%
(25-29)	107	2.7%
(30-34)	300	7.6%
(35-39)	476	12.1%
(40-44)	622	15.8%
(45-49)	562	14.2%
(50-54)	443	11.2%
(55-59)	335	8.5%
(60-64)	272	6.9%
(65-69)	246	6.2%
(70-74)	173	4.4%
(75-79)	126	3.2%
(80-84)	49	1.2%
(85+)	58	1.5%
Grand Total	**3946**	**100%**

Table 10 - Age group distribution of invasive cancer cases (malignant) in UAE, among females, 2023

Figure 9 summarizes the distribution of invasive cancer cases (malignant) among females in the UAE for the year 2023. The data shows that the 40–44 years age group experienced the highest frequency of invasive cancer cases, reaching its peak compared to other age groups. In contrast, invasive cancer cases (malignant) were relatively rare in the younger 5–9 years age group, highlighting the low incidence of cancer in pediatric females. This age-based distribution underscores the higher cancer burden in middle-aged women and the rarity of cancer in younger age groups.

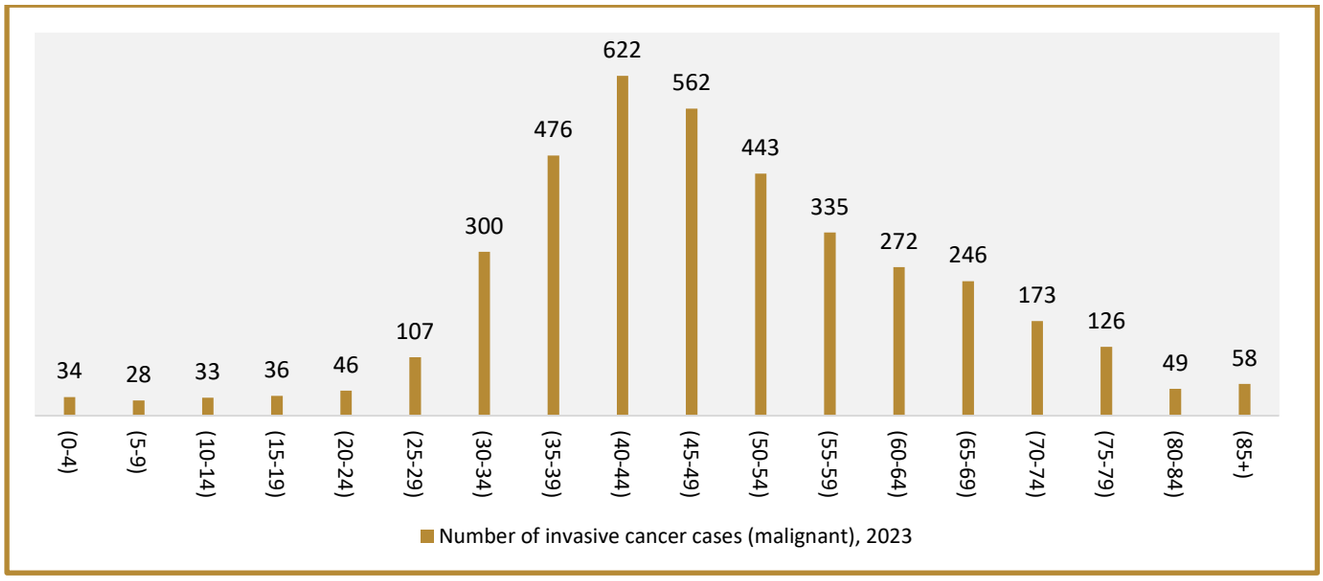


Figure 9 - Age group distribution of invasive cancer cases (malignant) in UAE, among females, 2023

Age group distribution of invasive cancer cases (malignant) in UAE, among males, 2023

Table 11 presents the distribution of invasive cancer cases (malignant) among males in the UAE by age group for the year 2023. The data shows that the highest number of cancer cases occurred in the 55–59 years age group, with 343 cases (10.9%), followed by the 60–64 years age group with 320 cases (10.2%). The 45–49 years age group reported 315 cases (10%), the 50–54 years age group had 312 cases (9.9%), and the 40–44 years age group accounted for 303 cases (9.6%). The 15–19 years age group had the fewest cancer cases, with only 42 cases (1.3%). This distribution highlights a higher incidence of invasive cancer in middle-aged and older males, with relatively few cases observed in younger age groups.

Age Group	Number of invasive cancer cases (malignant), 2023	%
(0-4)	52	1.6%
(5-9)	45	1.4%
(10-14)	45	1.4%
(15-19)	42	1.3%
(20-24)	59	1.9%
(25-29)	81	2.6%
(30-34)	189	6.0%
(35-39)	256	8.1%
(40-44)	303	9.6%
(45-49)	315	10.0%
(50-54)	312	9.9%
(55-59)	343	10.9%
(60-64)	320	10.2%
(65-69)	277	8.8%
(70-74)	222	7.0%
(75-79)	141	4.5%
(80-84)	101	3.2%
(85+)	49	1.6%
Grand Total	**3152**	**100%**

Table 11 - Age group distribution of invasive cancer cases (malignant) in UAE, among males, 2023

Figure 10 summarizes the distribution of invasive cancer cases (malignant) among males in the UAE for the year 2023. The data shows that the 55–59 years age group experienced the highest frequency of invasive cancer cases, reaching its peak compared to other age groups. In contrast, invasive cancer cases (malignant) were relatively rare in the younger 15–19 years age group, emphasizing the low incidence of cancer in this age group. This age-based distribution highlights the higher cancer burden in middle-aged and older males, while cancer cases remain uncommon in younger males.

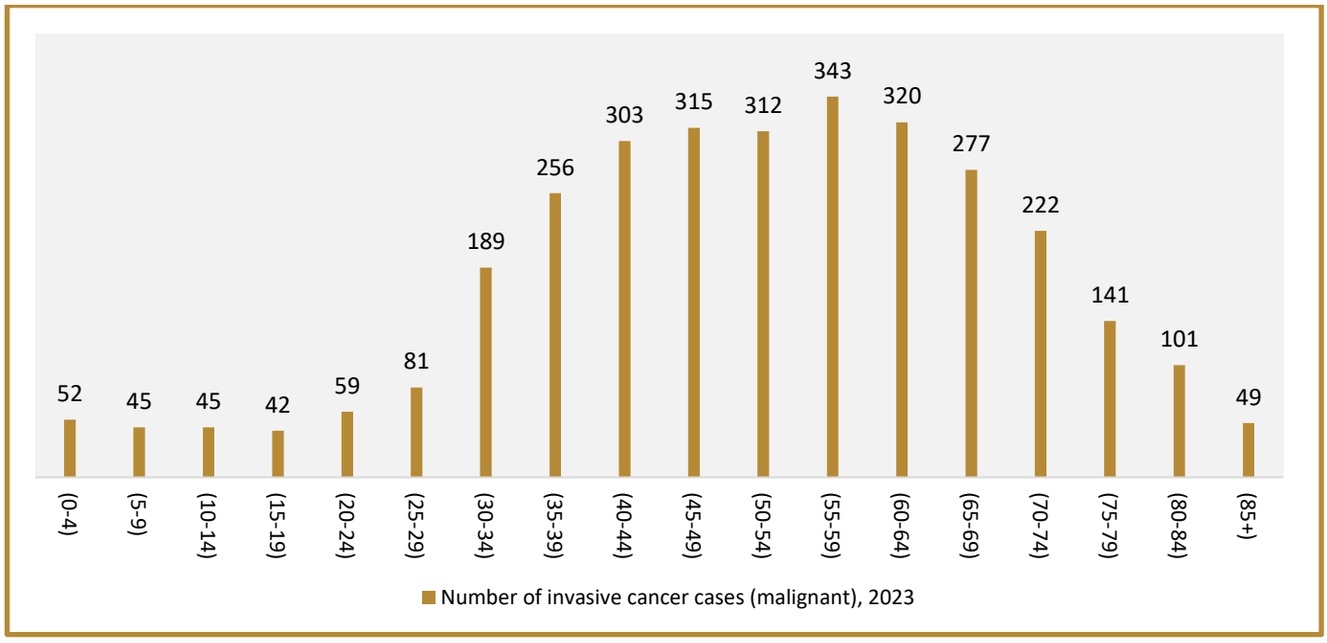


Figure 10 - Age group distribution of invasive cancer cases (malignant) in UAE, among males, 2023

Age group distribution of invasive cancer cases (malignant) among Emirati, 2023

Table 12 presents the distribution of invasive cancer cases (malignant) among Emiratis by age group in 2023. The data shows that the highest number of cancer cases occurred in individuals aged 65-69 years, with 164 cases (accounting for 10% of the total cases). This is followed closely by the 55-59 years and 40-44 years age groups, each contributing 163 cases (representing 9.9% of the total cases). On the other hand, cancer cases in the 15-19 years age group were relatively rare, with only 27 cases (accounting for 1.6% of the total).
Middle-aged adults (40-69 years) have the highest concentration of cancer cases, with a peak in the 65-69 age group.

Age Group	Number of invasive cancer cases (malignant), 2023	%
(0-4)	28	1.7%
(5-9)	35	2.1%
(10-14)	34	2.1%
(15-19)	27	1.6%
(20-24)	33	2.0%
(25-29)	42	2.5%
(30-34)	75	4.6%
(35-39)	103	6.3%
(40-44)	163	9.9%
(45-49)	141	8.6%
(50-54)	135	8.2%
(55-59)	163	9.9%
(60-64)	133	8.1%
(65-69)	164	10.0%
(70-74)	142	8.6%
(75-79)	100	6.1%
(80-84)	71	4.3%
(85+)	59	3.6%
Grand Total	**1648**	**100%**

Table 12 - Age group distribution of invasive cancer cases (malignant) among Emirati, 2023

Figure 11 illustrates the distribution of invasive cancer cases (malignant) among Emiratis in 2023. The 65-69 years age group represents the highest peak, with the largest frequency of cancer cases, highlighting a significant concentration of cases in older adults. In contrast, invasive cancer cases occurred relatively less frequently in younger age groups, particularly in the 15-19 years age group, which had the lowest number of cases.

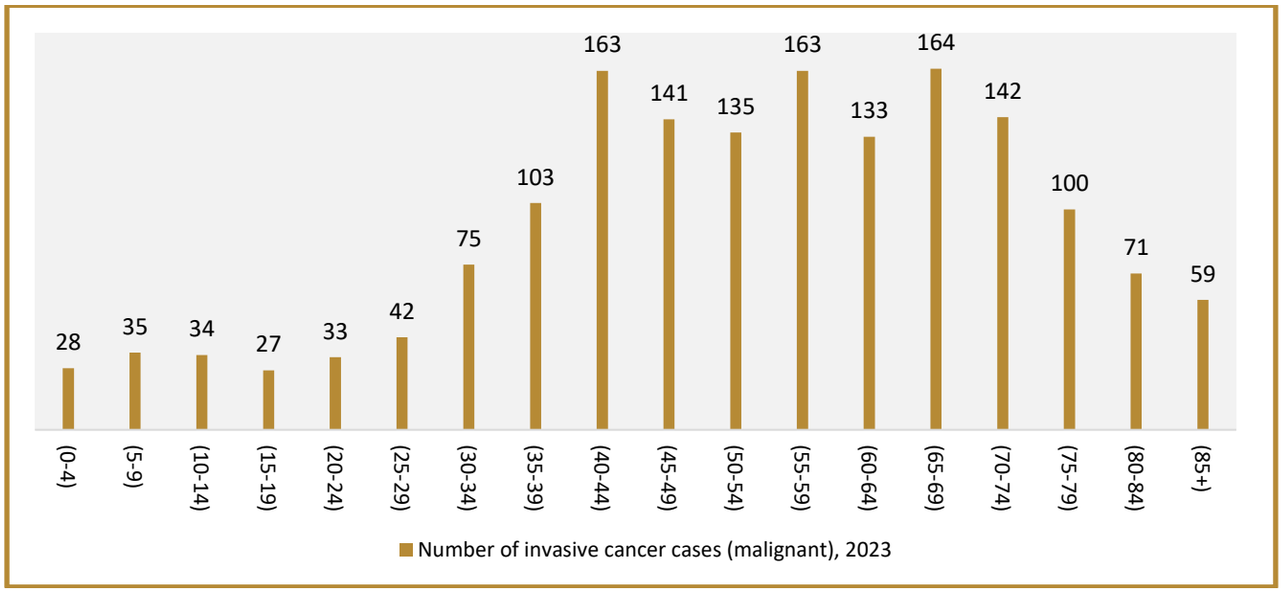


Figure 11 - Age group distribution of invasive cancer cases (malignant) among Emirati, 2023

Age group distribution of invasive cancer cases (malignant) among Emirati females, 2023

Table 13 shows the distribution of invasive cancer cases (malignant) among Emirati females by age group in 2023. The highest number of cases occurred in the 40-44 years age group, with 116 cases (representing 11.8% of the total cases). This was followed by the 45-49 years group with 103 cases (10.5%), the 55-59 years group with 100 cases (10.2%), and the 65-69 years group with 96 cases (9.8%).In contrast, the 15-19 years age group had the lowest number of cases, with only 8 cases (accounting for 0.8% of the total).

Age Group	Number of invasive cancer cases (malignant), 2023	%
(0-4)	13	1.3%
(5-9)	14	1.4%
(10-14)	15	1.5%
(15-19)	8	0.8%
(20-24)	17	1.7%
(25-29)	26	2.7%
(30-34)	46	4.7%
(35-39)	73	7.4%
(40-44)	116	11.8%
(45-49)	103	10.5%
(50-54)	94	9.6%
(55-59)	100	10.2%
(60-64)	82	8.4%
(65-69)	96	9.8%
(70-74)	76	7.8%
(75-79)	49	5.0%
(80-84)	22	2.2%
(85+)	30	3.1%
Grand Total	**980**	**100%**

Table 13 - Age group distribution of invasive cancer cases (malignant) among Emirati females, 2023

Figure 12 demonstrates the distribution of invasive cancer cases (malignant) by age group among Emirati females in 2023. The 40-44 years age group shows the highest peak, indicating the highest frequency of cancer cases. In contrast, invasive cancer cases occurred relatively less frequently in the younger age group of 15-19 years, which had the lowest number of cases.

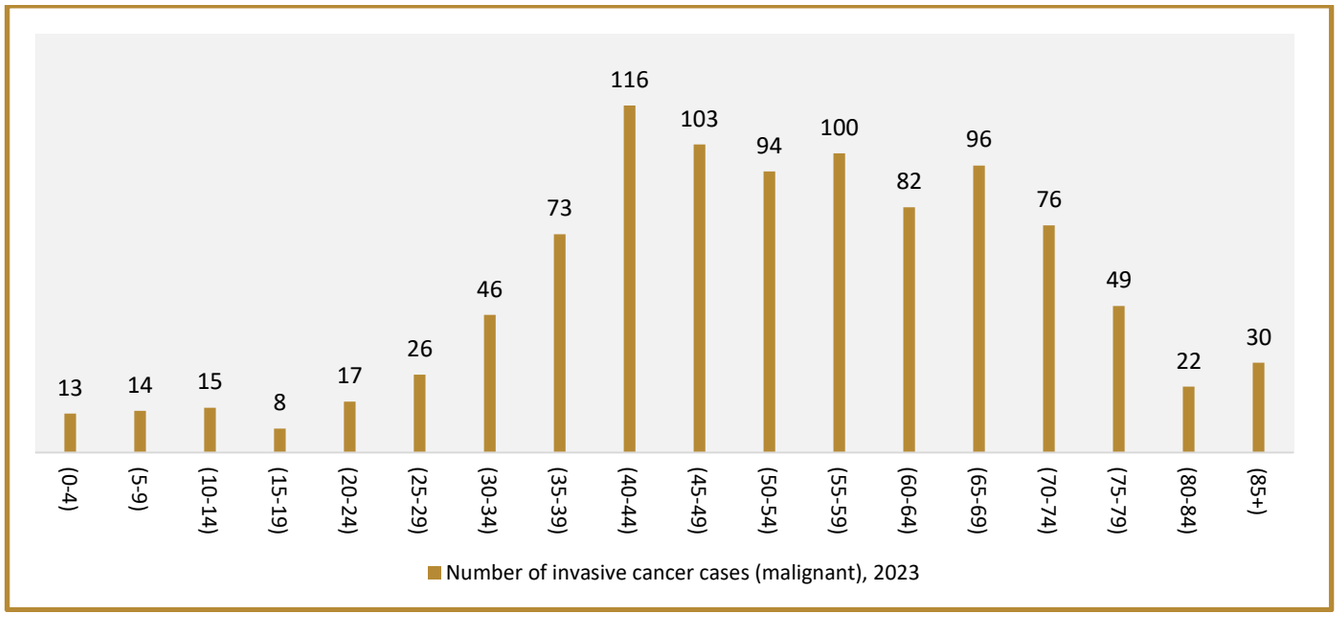


Figure 12 - Age group distribution of invasive cancer cases (malignant) among Emirati females, 2023

Age group distribution of invasive cancer cases (malignant) among Emirati males, 2023

Table 14 presents the distribution of invasive cancer cases (malignant) among Emirati males by age group in 2023. The highest number of cases occurred in the 65-69 years age group, with 68 cases (accounting for 10.2% of the total cases). This was followed by the 70-74 years age group with 66 cases (9.9%) and the 55-59 years age group with 63 cases (9.4%),75-79 years and 60-64 years, each with 51 cases (7.6%)and 80-84 years with 49 cases (7.3%). In contrast, the 0-4 years age group had the lowest number of cases, with 15 cases (representing 2.2% of the total).

Age Group	Number of invasive cancer cases (malignant), 2023	%
(0-4)	15	2.2%
(5-9)	21	3.1%
(10-14)	19	2.8%
(15-19)	19	2.8%
(20-24)	16	2.4%
(25-29)	16	2.4%
(30-34)	29	4.3%
(35-39)	30	4.5%
(40-44)	47	7.0%
(45-49)	38	5.7%
(50-54)	41	6.1%
(55-59)	63	9.4%
(60-64)	51	7.6%
(65-69)	68	10.2%
(70-74)	66	9.9%
(75-79)	51	7.6%
(80-84)	49	7.3%
(85+)	29	4.3%
Grand Total	**668**	**100%**

Table 14 - Age group distribution of invasive cancer cases (malignant) among Emirati males, 2023

Figure 13 illustrates the distribution of invasive cancer cases (malignant) by age group among Emirati males in 2023. The 65-69 years age group shows the highest peak, indicating the highest frequency of cancer cases. In contrast, invasive cancer cases occurred relatively less frequently in the younger age group of 0-4 years, which had the lowest number of cases.

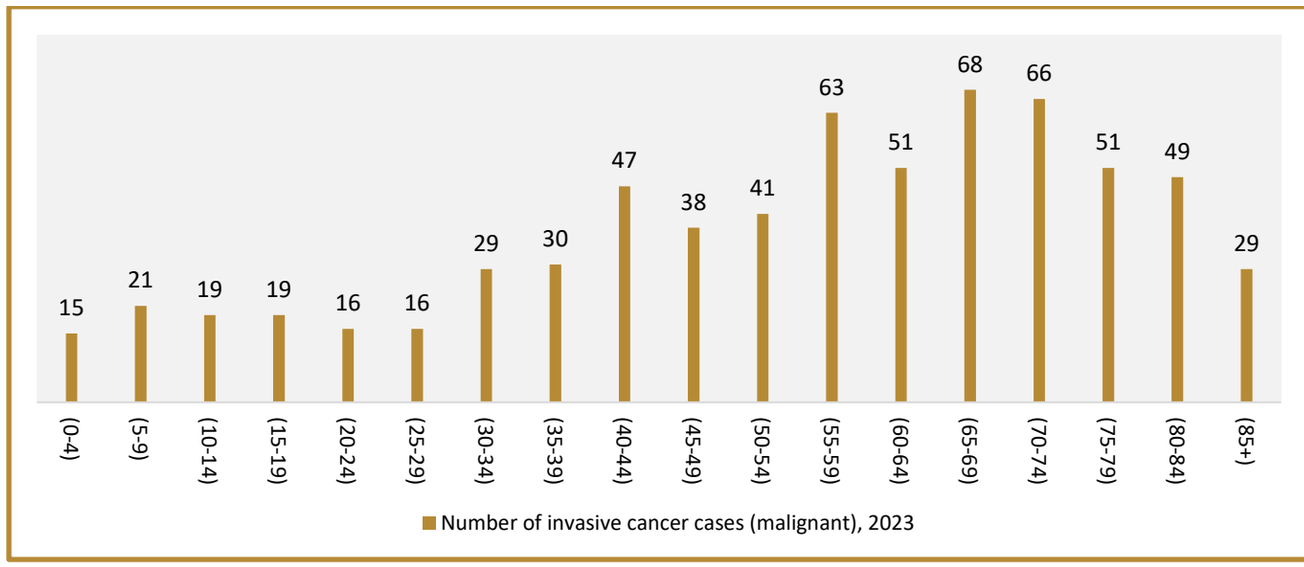


Figure 13 - Age group distribution of invasive cancer cases (malignant) among Emirati males, 2023

Age group distribution of invasive cancer cases (malignant) among Non-Emirati, 2023

Table 15 shows the distribution of invasive (malignant) cancer cases among Non-Emirati individuals by age group in 2023. The data reveals that the highest number of cases occurred in the 40-44 years age group, with 14% (762 cases), followed by the 45-49 years age group at 13.5% (736 cases), and the 35-39 years age group at 11.5% (629 cases). There is a significant decrease in cancer cases among younger age groups, with the 5-9 years age group showing the lowest incidence at 0.7% (38 cases).

Age Group	Number of invasive cancer cases (malignant), 2023	%
(0-4)	58	1.1%
(5-9)	38	0.7%
(10-14)	44	0.8%
(15-19)	51	0.9%
(20-24)	72	1.3%
(25-29)	146	2.7%
(30-34)	414	7.6%
(35-39)	629	11.5%
(40-44)	762	14.0%
(45-49)	736	13.5%
(50-54)	620	11.4%
(55-59)	515	9.4%
(60-64)	459	8.4%
(65-69)	359	6.6%
(70-74)	253	4.6%
(75-79)	167	3.1%
(80-84)	79	1.4%
(85+)	48	0.9%
Grand Total	**5450**	**100%**

Table 15 - Age group distribution of invasive cancer cases (malignant) among Non-Emirati, 2023

Figure 14 illustrates the distribution of invasive (malignant) cancer cases by age group among Non-Emirati individuals in 2023. The data shows that the 40-44 years age group had the highest peak, representing the most frequent occurrence of cancer cases. In contrast, the 5-9 years age group experienced a significantly lower incidence of cancer, highlighting the rarity of invasive cancer in young children.

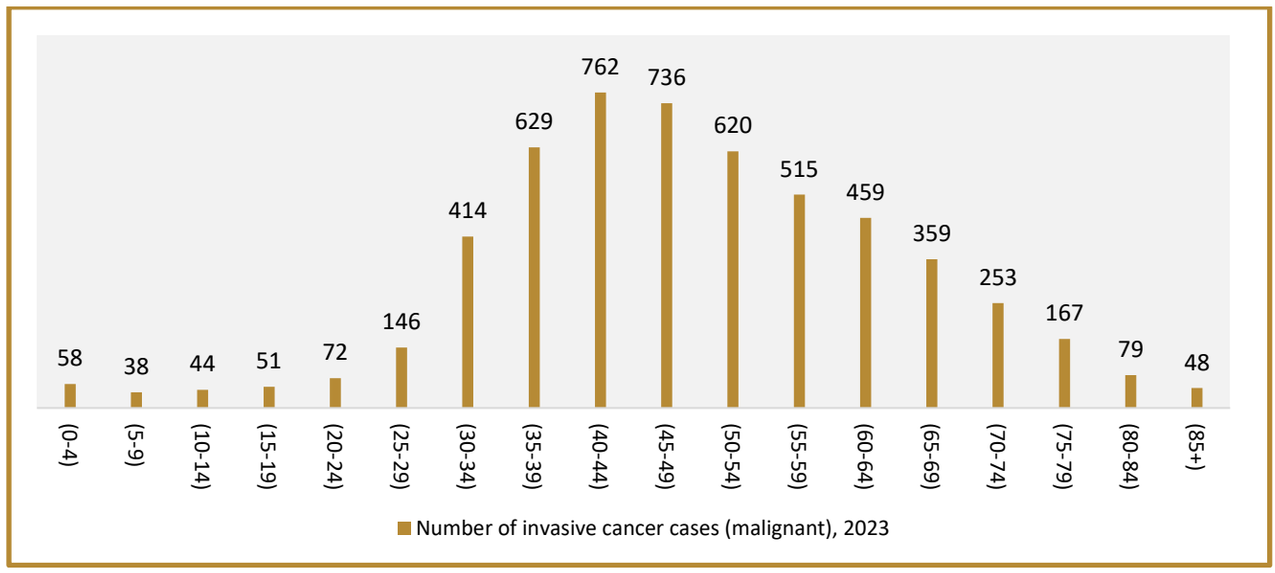


Figure 14 - Age group distribution of invasive cancer cases (malignant) among Non-Emirati, 2023

Age group distribution of invasive cancer cases (malignant) among Non-Emirati females, 2023

Table 16 presents the distribution of invasive (malignant) cancer cases among Non-Emirati females by age group in 2023. The data reveals that the highest frequency of cancer cases occurred in the 40-44 years age group, with 17.1% (506 cases), followed by the 45-49 years age group at 15.5% (459 cases), and the 35-39 years age group at 13.6% (403 cases). The 50-54 years age group also showed a significant number of cases, with 11.8% (349 cases). On the other hand, the 5-9 years age group had the lowest incidence, with only 0.5% (14 cases) of the total cancer cases.

Age Group	Number of invasive cancer cases (malignant), 2023	%
(0-4)	21	0.7%
(5-9)	14	0.5%
(10-14)	18	0.6%
(15-19)	28	0.9%
(20-24)	29	1.0%
(25-29)	81	2.7%
(30-34)	254	8.6%
(35-39)	403	13.6%
(40-44)	506	17.1%
(45-49)	459	15.5%
(50-54)	349	11.8%
(55-59)	235	7.9%
(60-64)	190	6.4%
(65-69)	150	5.1%
(70-74)	97	3.3%
(75-79)	77	2.6%
(80-84)	27	0.9%
(85+)	28	0.9%
Grand Total	**2966**	**100%**

Table 16 - Age group distribution of invasive cancer cases (malignant) among Non-Emirati females, 2023

Figure 15 illustrates the distribution of invasive (malignant) cancer cases by age group among Non-Emirati females in 2023. The data shows that the 40-44 years age group had the highest peak, representing the most frequent occurrence of cancer cases. This suggests that the incidence of invasive cancer is most prominent in this age range. In contrast, malignant cancer cases were significantly less frequent in the 5-9 years age group.

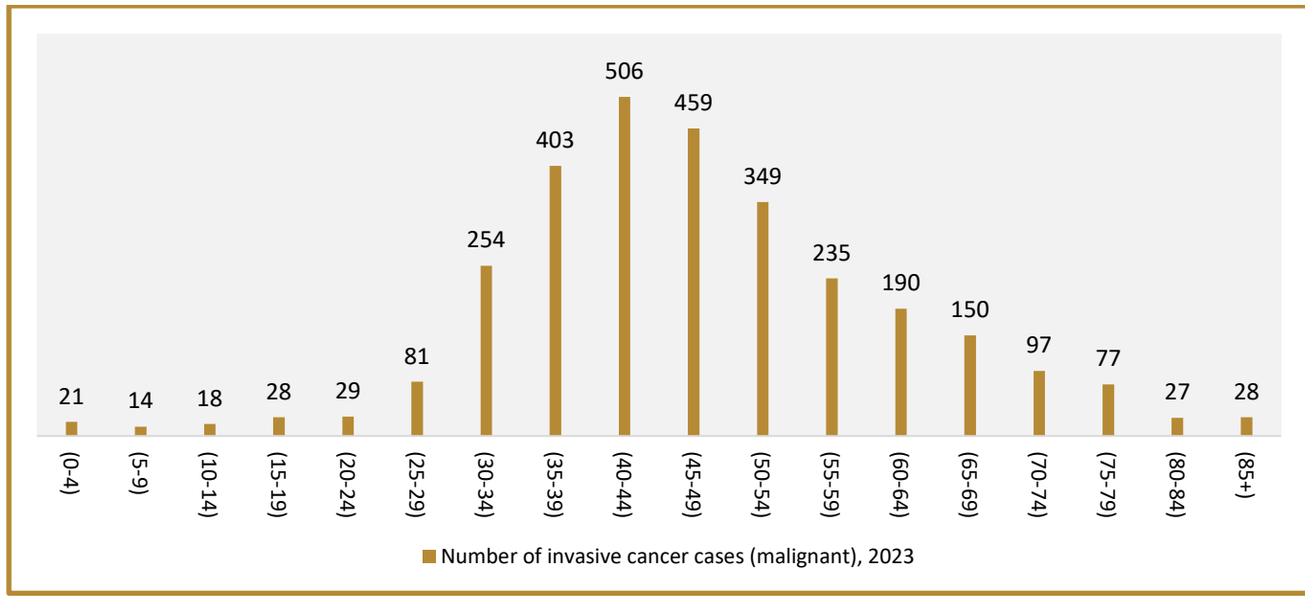


Figure 15 - Age group distribution of invasive cancer cases (malignant) among Non-Emirati females, 2023

Age group distribution of invasive cancer cases (malignant) among Non-Emirati males, 2023

Table 17 presents the distribution of invasive (malignant) cancer cases among Non-Emirati males by age group in 2023. The data shows that the highest number of cancer cases occurred in the 55-59 years age group, accounting for 11.3% (280 cases), followed closely by the 45-49 years group with 11.2% (277 cases). Other significant age groups include 50-54 years (10.9% or 271 cases) and 60-64 years (10.8% or 269 cases).On the other hand, the 85+ years age group had the lowest incidence of cancer, with only 0.8% (20 cases) of the total cancer cases.

Age Group	Number of invasive cancer cases (malignant), 2023	%
(0-4)	37	1.5%
(5-9)	24	1.0%
(10-14)	26	1.0%
(15-19)	23	0.9%
(20-24)	43	1.7%
(25-29)	65	2.6%
(30-34)	160	6.4%
(35-39)	226	9.1%
(40-44)	256	10.3%
(45-49)	277	11.2%
(50-54)	271	10.9%
(55-59)	280	11.3%
(60-64)	269	10.8%
(65-69)	209	8.4%
(70-74)	156	6.3%
(75-79)	90	3.6%
(80-84)	52	2.1%
(85+)	20	0.8%
Grand Total	**2484**	**100%**

Table 17 - Age group distribution of invasive cancer cases (malignant) among Non-Emirati males, 2023

Figure 16 illustrates the distribution of invasive (malignant) cancer cases by age group among Non-Emirati males in 2023. The data shows that the 55-59 years age group had the highest frequency of cancer cases, indicating that middle-aged males are at a higher risk for invasive cancer. In contrast, the 85+ years age group exhibited the lowest frequency of cancer cases.

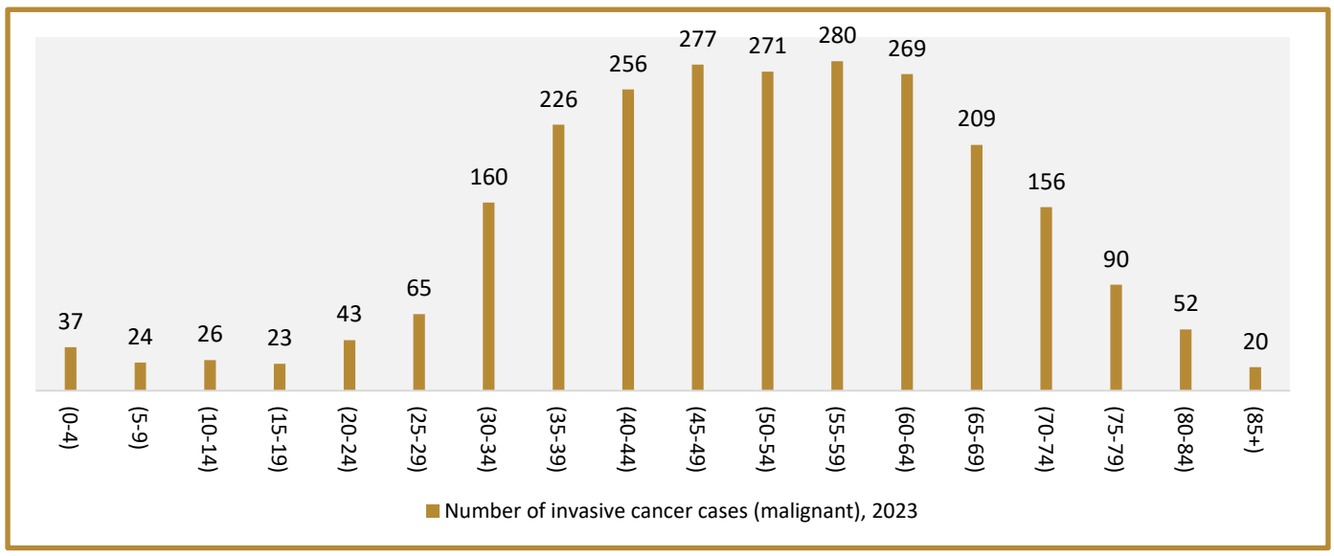


Figure 16 - Age group distribution of invasive cancer cases (malignant) among Non-Emirati males, 2023

Primary site (malignant) distribution by age group, among all, 2023

The distribution of invasive cancer cases in the UAE population varies significantly by age group. The highest frequencies of invasive cancer cases were found in the 40-59 years age groups. It was also noted that the lowest frequencies of invasive cancer cases were observed in the 10-19 years age groups. The highest frequencies of breast cancer were found in the 40-49 years age group, thyroid cancer in the 30-49 years group, and colorectal cancer in the 50-59 years age group. **Table 18**

Primary site ICD-10	(0-9)	(10-19)	(20-29)	(30-39)	(40-49)	(50-59)	(60-69)	(70-79)	(80+)
C00-C14 Lip, Oral cavity & pharynx	1	4	8	31	65	37	36	13	2
C15 Esophagus	0	0	2	4	6	6	14	5	4
C16 Stomach	0	0	2	29	25	40	33	24	10
C17 Small intestine	1	0	0	6	9	3	4	4	0
C18-C21 Colorectal	0	2	11	69	126	144	134	72	30
C22 Liver and intrahepatic bile ducts	2	0	1	8	23	30	46	30	17
C23, C24 Gallbladder, other and unspecified part of biliary tract	0	0	0	4	13	14	12	8	5
C25 Pancreas	1	0	0	13	20	35	30	35	13
C26 Other and ill-defined digestive organs	0	0	0	0	2	2	0	1	0
C30, C31 Nasal cavity, middle ear, accessory sinuses	0	0	0	3	4	4	1	1	0
C32 Larynx	0	0	2	1	4	4	11	5	0
C33 Trachea	0	0	0	0	0	1	0	0	1
C34 Bronchus and Lung	2	0	6	18	29	52	64	37	22
C37 Thymus	0	0	0	2	4	1	2	0	0
C38 Heart, mediastinum, and pleura	2	0	1	1	0	1	2	1	0
C40-C41 Bone and articular cartilage	5	17	3	11	9	4	2	2	0
C43 Skin melanoma	0	0	3	16	22	14	10	2	3
C44 Skin (Carcinoma)	0	2	6	35	69	104	56	39	22
C45 Mesothelioma	0	0	0	0	1	2	1	1	2
C46 Kaposi sarcoma	0	0	0	0	1	0	0	0	0
C47 Peripheral nerves and autonomic nervous system	1	0	1	0	1	0	0	0	0
C48 Retroperitoneum and peritoneum	2	0	0	1	3	3	3	2	0
C49 Connective and soft tissue	6	7	7	15	15	5	8	2	2
C50 Breast	0	0	17	248	570	317	190	85	29
C51 Vulva	0	0	0	2	0	2	0	1	0
C52 Vagina	0	0	0	1	2	1	0	0	0
C53 Cervix uteri	0	0	2	50	46	27	16	4	1
C54-C55 Uterus	0	0	1	29	61	55	43	21	5
C56 Ovary	1	4	5	13	44	27	17	10	4
C57 Other and unspecified female genital organs	0	0	0	1	1	0	0	0	0
C58 Placenta	0	1	0	0	0	0	0	0	0
C60 Penis	0	0	0	2	2	1	0	1	0
C61 Prostate	0	0	0	1	19	69	121	89	25
C62 Testis	1	3	8	28	11	1	0	0	0
C63 Other and unspecified male genital organs	0	0	0	0	1	1	0	0	0
C64-C65 Kidney & Renal pelvis	14	3	4	28	42	45	31	15	3
C66, C68 Ureter and other urinary organs	0	0	0	1	1	0	0	1	1
C67 Urinary bladder	0	0	1	11	10	17	25	23	9
C69 Eye and adnexa	5	0	0	0	1	0	0	1	0
C70-C72 Brain & CNS	21	17	8	32	18	19	11	6	2
C73 Thyroid	1	13	76	271	270	114	36	10	3
C74-C75 Other endocrine glands	3	2	2	4	3	1	1	1	0
C76-C80 Unknown or unspecified sites	1	2	4	18	41	40	33	37	10
C81 Hodgkin's lymphoma	2	21	23	28	21	8	3	3	0

C82-C86, C88 and C96 Non-Hodgkin lymphoma	15	23	14	50	64	74	50	25	9
C90 Multiple myeloma	0	1	0	10	19	33	26	16	8
C91-C95 Leukemia	57	28	43	50	47	44	27	19	9
D45 MPD	0	1	11	31	31	15	11	3	2
D46 MDS	8	1	9	18	8	3	1	6	3
D47 MPD	7	4	12	27	18	13	4	1	1
Grand Total	**159**	**156**	**293**	**1221**	**1802**	**1433**	**1115**	**662**	**257**

Table 18 - Primary site (invasive cancer cases) distribution by age group, among all, 2023

Primary site (malignant) distribution by age group among Emirati, 2023

The distribution of invasive cancer cases in the Emirati population varies significantly by age group. The highest frequencies of invasive cancer cases are predominantly found in the 40-79 years age groups. It was also noted that the lowest frequencies of invasive cancer cases were observed in the 10-19 years age groups. The highest frequencies of breast cancer were found in the 40-49 years age group, thyroid cancer in the 40-49 years group, and colorectal cancer in the 60-69 years age group.**Table 19**

Primary site ICD-10	(0-9)	(10-19)	(20-29)	(30-39)	(40-49)	(50-59)	(60-69)	(70-79)	(80+)
C00-C14 Lip, Oral cavity & pharynx	1	0	1	3	2	5	11	5	2
C15 Esophagus	0	0	0	1	3	0	3	2	3
C16 Stomach	0	0	2	3	8	8	11	8	4
C17 Small intestine	0	0	0	1	1	1	1	2	0
C18-C21 Colorectal	0	1	1	10	23	30	39	34	20
C22 Liver and intrahepatic bile ducts	0	0	0	2	3	11	15	13	9
C23, C24 Gallbladder, other and unspecified part of biliary tract	0	0	0	1	5	3	3	2	2
C25 Pancreas	0	0	0	0	3	11	8	15	6
C26 Other and ill-defined digestive organs	0	0	0	0	1	0	0	0	0
C30, C31 Nasal cavity, middle ear, accessory sinuses	0	0	0	1	0	1	0	0	0
C32 Larynx	0	0	0	0	1	0	3	1	0
C34 Bronchus and Lung	1	0	2	1	0	8	11	18	10
C37 Thymus	0	0	0	0	0	0	1	0	0
C38 Heart, mediastinum, and pleura	0	0	1	0	0	0	1	1	0
C40-C41 Bone and articular cartilage	3	7	3	3	3	2	0	1	0
C43 Skin melanoma	0	0	0	0	1	2	1	1	0
C44 Skin (Carcinoma)	0	1	2	2	3	5	7	8	8
C45 Mesothelioma	0	0	0	0	0	0	1	0	1
C47 Peripheral nerves and autonomic nervous system	0	0	0	0	1	0	0	0	0
C48 Retroperitoneum and peritoneum	1	0	0	0	0	1	1	0	0
C49 Connective and soft tissue	4	2	0	2	3	2	1	0	0
C50 Breast	0	0	2	42	106	75	60	31	12
C52 Vagina	0	0	0	0	1	0	0	0	0
C53 Cervix uteri	0	0	0	3	5	3	6	3	1
C54-C55 Uterus	0	0	0	6	7	17	18	9	2
C56 Ovary	0	1	1	0	5	6	7	2	2
C61 Prostate	0	0	0	1	3	8	23	25	13
C62 Testis	1	2	1	4	0	0	0	0	0
C63 Other and unspecified male genital organs	0	0	0	0	1	0	0	0	0
C64-C65 Kidney & Renal pelvis	5	1	1	4	8	7	6	5	1
C66, C68 Ureter and other urinary organs	0	0	0	0	0	0	0	0	1

C67 Urinary bladder	0	0	1	4	2	3	5	9	6
C69 Eye and adnexa	2	0	0	0	0	0	0	0	0
C70-C72 Brain & CNS	8	5	1	2	3	3	3	1	0
C73 Thyroid	1	4	30	59	62	28	17	5	3
C74-C75 Other endocrine glands	1	0	1	0	1	0	0	0	0
C76-C80 Unknown or unspecified sites	0	1	3	0	5	14	9	21	9
C81 Hodgkin's lymphoma	1	7	5	1	7	2	1	1	0
C82-C86, C88 and C96 Non-Hodgkin lymphoma	4	13	5	13	9	18	13	10	6
C90 Multiple myeloma	0	0	0	1	1	7	3	5	2
C91-C95 Leukemia	24	13	6	5	8	14	6	3	3
D45 MPD	0	0	2	1	2	1	1	0	2
D46 MDS	2	1	1	1	3	1	0	1	1
D47 MPD	4	2	3	1	4	1	1	0	1
Grand Total	**63**	**61**	**75**	**178**	**304**	**298**	**297**	**242**	**130**

Table 19 - Primary site (invasive cancer cases) distribution by age group among Emirati, 2023

Primary site (malignant) distribution by age group among Non-Emirati, 2023

The distribution of invasive cancer cases in the Non-Emirati population varies significantly by age group. The highest frequencies of invasive cancer cases are predominantly found in the 40-49 years age groups. It was also noted that the lowest frequencies of invasive cancer cases were observed in the 10-19 years age groups. The highest frequencies of breast cancer were found in the 40-49 years age group, thyroid cancer in the 30-39 years group, and colorectal cancer in the 50-59 years age group.**Table 20**

Primary site ICD-10	(0-9)	(10-19)	(20-29)	(30-39)	(40-49)	(50-59)	(60-69)	(70-79)	(80+)
C00-C14 Lip, Oral cavity & pharynx	0	4	7	28	63	32	25	8	0
C15 Esophagus	0	0	2	3	3	6	11	3	1
C16 Stomach	0	0	0	26	17	32	22	16	6
C17 Small intestine	1	0	0	5	8	2	3	2	0
C18-C21 Colorectal	0	1	10	59	103	114	95	38	10
C22 Liver and intrahepatic bile ducts	2	0	1	6	20	19	31	17	8
C23, C24 Gallbladder, other and unspecified part of biliary tract	0	0	0	3	8	11	9	6	3
C25 Pancreas	1	0	0	13	17	24	22	20	7
C26 Other and ill-defined digestive organs	0	0	0	0	1	2	0	1	0
C30, C31 Nasal cavity, middle ear, accessory sinuses	0	0	0	2	4	3	1	1	0
C32 Larynx	0	0	2	1	3	4	8	4	0
C33 Trachea	0	0	0	0	0	1	0	0	1
C34 Bronchus and Lung	1	0	4	17	29	44	53	19	12
C37 Thymus	0	0	0	2	4	1	1	0	0
C38 Heart, mediastinum, and pleura	2	0	0	1	0	1	1	0	0

C40-C41 Bone and articular cartilage	2	10	0	8	6	2	2	1	0
C43 Skin melanoma	0	0	3	16	21	12	9	1	3
C44 Skin (Carcinoma)	0	1	4	33	66	99	49	31	14
C45 Mesothelioma	0	0	0	0	1	2	0	1	1
C46 Kaposi sarcoma	0	0	0	0	1	0	0	0	0
C47 Peripheral nerves and autonomic nervous system	1	0	1	0	0	0	0	0	0
C48 Retroperitoneum and peritoneum	1	0	0	1	3	2	2	2	0
C49 Connective and soft tissue	2	5	7	13	12	3	7	2	2
C50 Breast	0	0	15	206	464	242	130	54	17
C51 Vulva	0	0	0	2	0	2	0	1	0
C52 Vagina	0	0	0	1	1	1	0	0	0
C53 Cervix uteri	0	0	2	47	41	24	10	1	0
C54-C55 Uterus	0	0	1	23	54	38	25	12	3
C56 Ovary	1	3	4	13	39	21	10	8	2
C57 Other and unspecified female genital organs	0	0	0	1	1	0	0	0	0
C58 Placenta	0	1	0	0	0	0	0	0	0
C60 Penis	0	0	0	2	2	1	0	1	0
C61 Prostate	0	0	0	0	16	61	98	64	12
C62 Testis	0	1	7	24	11	1	0	0	0
C63 Other and unspecified male genital organs	0	0	0	0	0	1	0	0	0
C64-C65 Kidney & Renal pelvis	9	2	3	24	34	38	25	10	2
C66, C68 Ureter and other urinary organs	0	0	0	1	1	0	0	1	0
C67 Urinary bladder	0	0	0	7	8	14	20	14	3
C69 Eye and adnexa	3	0	0	0	1	0	0	1	0
C70-C72 Brain & CNS	13	12	7	30	15	16	8	5	2
C73 Thyroid	0	9	46	212	208	86	19	5	0
C74-C75 Other endocrine glands	2	2	1	4	2	1	1	1	0
C76-C80 Unknown or unspecified sites	1	1	1	18	36	26	24	16	1
C81 Hodgkin's lymphoma	1	14	18	27	14	6	2	2	0
C82-C86, C88 and C96 Non-Hodgkin lymphoma	11	10	9	37	55	56	37	15	3
C90 Multiple myeloma	0	1	0	9	18	26	23	11	6
C91-C95 Leukemia	33	15	37	45	39	30	21	16	6
D45 MPD	0	1	9	30	29	14	10	3	0
D46 MDS	6	0	8	17	5	2	1	5	2
D47 MPD	3	2	9	26	14	12	3	1	0
Grand Total	**96**	**95**	**218**	**1043**	**1498**	**1135**	**818**	**420**	**127**

Table 20 - Primary site (invasive cancer cases) distribution by age group among non-Emirati, 2023

Primary site (malignant) distribution by nationality, 2023

Between January 1st and December 31st, 2023, the UAE National Cancer Registry (UAE-NCR) reported a total of 7,098 newly diagnosed invasive (malignant) cancer cases. Of these, 1,648 cases were diagnosed among Emirati individuals, while 5,450 cases were reported among Non-Emirati individuals.

Table 21 illustrates that the three most commonly diagnosed cancers in both Emirati and Non-Emirati populations were breast cancer, thyroid cancer, and colorectal cancer. These findings align with global cancer trends, where breast cancer is the most common among women, thyroid cancer has a notable prevalence in younger populations, and colorectal cancer is one of the leading cancers in older age groups.

Primary site ICD-10	Non-Emirati	Emirati	Grand Total
C00-C14 Lip, Oral cavity & pharynx	167	30	**197**
C15 Esophagus	29	12	**41**
C16 Stomach	119	44	**163**
C17 Small intestine	21	6	**27**
C18-C21 Colorectal	430	158	**588**
C22 Liver and intrahepatic bile ducts	104	53	**157**
C23, C24 Gallbladder, other and unspecified part of biliary tract	40	16	**56**
C25 Pancreas	104	43	**147**
C26 Other and ill-defined digestive organs	4	1	**5**
C30, C31 Nasal cavity, middle ear, accessory sinuses	11	2	**13**
C32 Larynx	22	5	**27**
C33 Trachea	2	0	**2**
C34 Bronchus and Lung	179	51	**230**
C37 Thymus	8	1	**9**
C38 Heart, mediastinum, and pleura	5	3	**8**
C40-C41 Bone and articular cartilage	31	22	**53**
C43 Skin melanoma	65	5	**70**
C44 Skin (Carcinoma)	297	36	**333**
C45 Mesothelioma	5	2	**7**
C46 Kaposi sarcoma	1	0	**1**
C47 Peripheral nerves and autonomic nervous system	2	1	**3**
C48 Retroperitoneum and peritoneum	11	3	**14**
C49 Connective and soft tissue	53	14	**67**
C50 Breast	1128	328	**1456**
C51 Vulva	5	0	**5**
C52 Vagina	3	1	**4**
C53 Cervix uteri	125	21	**146**
C54-C55 Uterus	156	59	**215**
C56 Ovary	101	24	**125**
C57 Other and unspecified female genital organs	2	0	**2**
C58 Placenta	1	0	**1**
C60 Penis	6	0	**6**
C61 Prostate	251	73	**324**
C62 Testis	44	8	**52**
C63 Other and unspecified male genital organs	1	1	**2**
C64-C65 Kidney & Renal pelvis	147	38	**185**
C66, C68 Ureter and other urinary organs	3	1	**4**
C67 Urinary bladder	66	30	**96**
C69 Eye and adnexa	5	2	**7**
C70-C72 Brain & CNS	108	26	**134**
C73 Thyroid	585	209	**794**
C74-C75 Other endocrine glands	14	3	**17**
C76-C80 Unknown or unspecified sites	124	62	**186**

C81 Hodgkin's lymphoma	84	25	**109**
C82-C86, C88 and C96 Non-Hodgkin lymphoma	233	91	**324**
C90 Multiple myeloma	94	19	**113**
C91-C95 Leukemia	242	82	**324**
D45 MPD	96	9	**105**
D46 MDS	46	11	**57**
D47 MPD	70	17	**87**
Grand Total	**5450**	**1648**	**7098**

Table 21 - Primary site (invasive cancer cases) distribution by nationality, 2023

Top malignant primary sites among all UAE population, 2023

Between January 1st and December 31st, 2023, the UAE National Cancer Registry (UAE-NCR) reported a total of 1,456 breast cancer cases among the UAE population, which accounted for 20.5% of all newly diagnosed invasive cancer cases during the year. According to **Table 22**, the ten most common cancers diagnosed in both genders across the UAE in 2023 are:

Primary site ICD-10	Number of invasive cancer cases (malignant), 2023	%
C50 Breast	1456	20.5%
C73 Thyroid	794	11.2%
C18-C21 Colorectal	588	8.3%
C44 Skin (Carcinoma)	333	4.7%
C61 Prostate	324	4.6%
C82-C86, C88 and C96 Non-Hodgkin lymphoma	324	4.6%
C91-C95 Leukemia	324	4.6%
C34 Bronchus and Lung	230	3.2%
C54-C55 Uterus	215	3.0%
C00-C14 Lip, Oral cavity & pharynx	197	2.8%

Table 22 - Top ten most common malignant primary sites among UAE population, 2023

Top malignant primary sites among all females, 2023

In 2023, breast cancer was the most common cancer among females in the UAE, representing 36.6% of all invasive cancer cases. This shows the significant impact breast cancer has on the female population in the UAE. According to **Table 23**, the ten most common cancers diagnosed in females across the UAE in 2023 are:

Primary site ICD-10	Number of invasive cancer cases (malignant), 2023	%
C50 Breast	1445	36.6%
C73 Thyroid	568	14.4%
C18-C21 Colorectal	226	5.7%
C54-C55 Uterus	215	5.4%
C53 Cervix uteri	146	3.7%
C44 Skin (Carcinoma)	134	3.4%
C82-C86, C88 and C96 Non-Hodgkin lymphoma	127	3.2%
C56 Ovary	125	3.2%
C91-C95 Leukemia	111	2.8%
C34 Bronchus and Lung	69	1.7%

Table 23 - Top ten most common malignant primary sites among females, 2023

Top malignant primary sites among all males, 2023

In 2023, colorectal cancer was the most common cancer among males in the UAE, representing 11.5% of all invasive cancer cases. According to **Table 24**, the ten most common cancers diagnosed in females across the UAE in 2023 are:

Primary site ICD-10	Number of invasive cancer cases (malignant), 2023	%
C18-C21 Colorectal	362	11.5%
C61 Prostate	324	10.3%
C73 Thyroid	226	7.2%
C91-C95 Leukemia	213	6.8%
C44 Skin (Carcinoma)	199	6.3%
C82-C86, C88 and C96 Non-Hodgkin lymphoma	197	6.3%
C34 Bronchus and Lung	161	5.1%
C00-C14 Lip, Oral cavity & pharynx	144	4.6%
C64-C65 Kidney & Renal pelvis	143	4.5%
C16 Stomach	104	3.3%

Table 24 - Top ten most common malignant primary sites among males, 2023

Top malignant primary sites among males & females, 2023

Over the past decade, breast cancer in females and colorectal cancer in males have shown the fastest increase in incidence across the UAE. The data from **Table 25** shows that breast , thyroid , and colorectal cancer in females, as well as colorectal , prostate , and thyroid cancer in males, have all experienced a significant increase in incidence in 2023.

Primary site ICD-10	%
C50 Breast	36.60%
C73 Thyroid	14.40%
C18-C21 Colorectal	5.70%
C54-C55 Uterus	5.40%
C53 Cervix uteri	3.70%
C44 Skin (Carcinoma)	3.40%
C82-C86, C88 and C96 Non-Hodgkin lymphoma	3.20%
C56 Ovary	3.20%
C91-C95 Leukemia	2.80%
C34 Bronchus and Lung	1.70%

Primary site ICD-10	%
C18-C21 Colorectal	11.50%
C61 Prostate	10.30%
C73 Thyroid	7.20%
C91-C95 Leukemia	6.80%
C44 Skin (Carcinoma)	6.30%
C82-C86, C88 and C96 Non-Hodgkin lymphoma	6.30%
C34 Bronchus and Lung	5.10%
C00-C14 Lip, Oral cavity & pharynx	4.60%
C64-C65 Kidney & Renal pelvis	4.50%
C16 Stomach	3.30%

Table 25 - Top ten most common malignant primary sites among males & females, 2023

Top malignant primary sites among Emirati, 2023

Between January 1st and December 31st, 2023, the UAE National Cancer Registry reported a total of 328 invasive breast cancer cases among Emiratis, accounting for 19.9% of all invasive cancer cases in the Emirati population. **Table 26** presents the ten most common cancer types across both genders in 2023.

Primary site ICD-10	Number of invasive cancer cases (malignant), 2023	%
C50 Breast	328	19.9%
C73 Thyroid	209	12.7%
C18-C21 Colorectal	158	9.6%
C82-C86, C88 and C96 Non-Hodgkin lymphoma	91	5.5%
C91-C95 Leukemia	82	5.0%
C61 Prostate	73	4.4%
C54-C55 Uterus	59	3.6%
C22 Liver and intrahepatic bile ducts	53	3.2%
C34 Bronchus and Lung	51	3.1%
C16 Stomach	44	2.7%

Table 26 - Top ten most common malignant primary sites among Emirati, 2023

Top malignant primary sites among Emirati females, 2023

Among Emirati females, breast cancer is the most common, representing 33.2% of all invasive cancer cases in 2023. **Table 27** illustrates the 10 most common cancers among Emirati females.

Primary site ICD-10	Number of invasive cancer cases (malignant), 2023	%
C50 Breast	325	33.2%
C73 Thyroid	160	16.3%
C18-C21 Colorectal	74	7.6%
C54-C55 Uterus	59	6.0%
C82-C86, C88 and C96 Non-Hodgkin lymphoma	40	4.1%
C91-C95 Leukemia	35	3.6%
C22 Liver and intrahepatic bile ducts	26	2.7%
C56 Ovary	24	2.4%
C53 Cervix uteri	21	2.1%
C25 Pancreas	18	1.8%

Table 27 - Top ten most common malignant primary sites among Emirati females, 2023

Top malignant primary sites among Emirati males, 2023

Among Emirati males, colorectal cancer is the most common, representing 12.6% of all invasive cancer cases in 2023. **Table 28** illustrates the 10 most common cancers among Emirati males.

Primary site ICD-10	Number of invasive cancer cases (malignant), 2023	%
C18-C21 Colorectal	84	12.6%
C61 Prostate	73	10.9%
C82-C86, C88 and C96 Non-Hodgkin lymphoma	51	7.6%
C73 Thyroid	49	7.3%
C91-C95 Leukemia	47	7.0%
C34 Bronchus and Lung	41	6.1%
C16 Stomach	28	4.2%
C22 Liver and intrahepatic bile ducts	27	4.0%
C64-C65 Kidney & Renal pelvis	27	4.0%
C25 Pancreas	25	3.7%

Table 28 - Top ten most common malignant primary sites among Emirati males, 2023

Top malignant primary sites among all Emirati, males & females, 2023

Among Emirati individuals in 2023, breast cancer is the most common cancer, accounting for 33.2% of all invasive cancer cases in Emirati females. In contrast, colorectal cancer is the most prevalent among males, representing 12.6% of all invasive cancer cases in Emirati males. **Table 29** illustrates the distribution of the most common cancers.

Primary site ICD-10	%
C50 Breast	33.2%
C73 Thyroid	16.3%
C18-C21 Colorectal	7.6%
C54-C55 Uterus	6.0%
C82-C86, C88 and C96 Non-Hodgkin lymphoma	4.1%
C91-C95 Leukemia	3.6%
C22 Liver and intrahepatic bile ducts	2.7%
C56 Ovary	2.4%
C53 Cervix uteri	2.1%
C25 Pancreas	1.8%

Primary site ICD-10	%
C18-C21 Colorectal	12.6%
C61 Prostate	10.9%
C82-C86, C88 and C96 Non-Hodgkin lymphoma	7.6%
C73 Thyroid	7.3%
C91-C95 Leukemia	7.0%
C34 Bronchus and Lung	6.1%
C16 Stomach	4.2%
C22 Liver and intrahepatic bile ducts	4.0%
C64-C65 Kidney & Renal pelvis	4.0%
C25 Pancreas	3.7%

Table 29 - Top ten most common malignant primary sites among Emirati (both males & females), 2023

Top malignant primary sites among Non-Emirati, 2023

Between January 1st and December 31st, 2023, the UAE National Cancer Registry (UAE-NCR) reported a total of 1,128 breast cancer cases among Non-Emirati population, accounting for 20.7% of all newly diagnosed invasive cancer cases during the year. **Table 30**, presents the ten most common cancer types across both genders in 2023.

Primary site ICD-10	Number of invasive cancer cases (malignant), 2023	%
C50 Breast	1128	20.7%
C73 Thyroid	585	10.7%
C18-C21 Colorectal	430	7.9%
C44 Skin (Carcinoma)	297	5.4%
C61 Prostate	251	4.6%
C91-C95 Leukemia	242	4.4%
C82-C86, C88 and C96 Non-Hodgkin lymphoma	233	4.3%
C34 Bronchus and Lung	179	3.3%
C00-C14 Lip, Oral cavity & pharynx	167	3.1%
C54-C55 Uterus	156	2.9%

Table 30 - Top ten most common malignant primary sites among Non-Emirati, 2023

Top malignant primary sites among Non-Emirati females, 2023

Among Non-Emirati females, breast cancer is the most common, representing 37.8% of all invasive cancer cases in 2023. **Table 31** illustrates the 10 most common cancers among Non-Emirati females.

Primary site ICD-10	Number of invasive cancer cases (malignant), 2023	%
C50 Breast	1120	37.8%
C73 Thyroid	408	13.8%
C54-C55 Uterus	156	5.3%
C18-C21 Colorectal	152	5.1%
C53 Cervix uteri	125	4.2%
C44 Skin (Carcinoma)	117	3.9%
C56 Ovary	101	3.4%
C82-C86, C88 and C96 Non-Hodgkin lymphoma	87	2.9%
C91-C95 Leukemia	76	2.6%
C34 Bronchus and Lung	59	2.0%

Table 31 - Top ten most common malignant primary sites among Non-Emirati females, 2023

Top malignant primary sites among Non-Emirati males, 2023

Among Non-Emirati males, colorectal cancer is the most common, representing 11.2% of all invasive cancer cases in 2023. **Table 32** illustrates the 10 most common cancers among Non-Emirati males.

Primary site ICD-10	Number of invasive cancer cases (malignant), 2023	%
C18-C21 Colorectal	278	11.2%
C61 Prostate	251	10.1%
C44 Skin (Carcinoma)	180	7.2%
C73 Thyroid	177	7.1%
C91-C95 Leukemia	166	6.7%
C82-C86, C88 and C96 Non-Hodgkin lymphoma	146	5.9%
C00-C14 Lip, Oral cavity & pharynx	126	5.1%
C34 Bronchus and Lung	120	4.8%
C64-C65 Kidney & Renal pelvis	116	4.7%
D45 MPD	83	3.3%

Table 32 - Top ten most common malignant primary sites among Non-Emirati males, 2023

Top malignant primary sites among all Non-Emirati, males & females, 2023

Among Non-Emirati, breast is the most common cancer, representing 37.8% of all invasive cancer cases among females, and colorectal cancer, representing 11.2% of all invasive cancer cases among males in 2023, **Table 33**

Primary site ICD-10	%
C50 Breast	37.8%
C73 Thyroid	13.8%
C54-C55 Uterus	5.3%
C18-C21 Colorectal	5.1%
C53 Cervix uteri	4.2%
C44 Skin (Carcinoma)	3.9%
C56 Ovary	3.4%
C82-C86, C88 and C96 Non-Hodgkin lymphoma	2.9%
C91-C95 Leukemia	2.6%
C34 Bronchus and Lung	2.0%

Primary site ICD-10	%
C18-C21 Colorectal	11.2%
C61 Prostate	10.1%
C44 Skin (Carcinoma)	7.2%
C73 Thyroid	7.1%
C91-C95 Leukemia	6.7%
C82-C86, C88 and C96 Non-Hodgkin lymphoma	5.9%
C00-C14 Lip, Oral cavity & pharynx	5.1%
C34 Bronchus and Lung	4.8%
C64-C65 Kidney & Renal pelvis	4.7%
D45 MPD	3.3%

Table 33 - Top ten most common malignant primary sites among all Non-Emirati in both males & females, 2023

CANCER CASES (IN-SITU ONLY) AMONG UAE POPULATION

Primary site (in-situ) distribution among all, 2023

In 2023, there were 127 new carcinoma in-situ of breast cases reported to the UAE National Cancer Registry. The second most common carcinoma in-situ cases were of the cervix uteri, with 76 cases reported. The total distribution of primary site (in-situ) cases diagnosed among the UAE population amounted to 389 cases. **Table 34** presents the distribution of these cases across different primary sites.

Primary site ICD-10	Female	Male	Grand Total
D00 Carcinoma in situ of oral cavity, oesophagus and stomach	2	3	**5**
D01 Carcinoma in situ of other and unspecified digestive organs	13	25	**38**
D02 Carcinoma in situ of middle ear and respiratory system	1	3	**4**
D03 Melanoma in situ	15	18	**33**
D04 Carcinoma in situ of skin	5	10	**15**
D05 Carcinoma in situ of breast	126	1	**127**
D06 Carcinoma in situ of cervix uteri	76	0	**76**
D07 Carcinoma in situ of other and unspecified genital organs	6	8	**14**
D09 Carcinoma in situ of other and unspecified sites	10	67	**77**
Grand Total	**254**	**135**	**389**

Table 34 - Primary site (in-situ) distribution among all, 2023

Top primary sites (in-situ) among all, 2023

Table 35 presents the distribution of the top primary sites for in-situ cancer cases in 2023. Carcinoma in-situ of the breast was the most commonly observed, accounting for 32.6% of all in-situ cases, followed by carcinoma in-situ of the cervix uteri at 19.5%. Other significant types include carcinoma in-situ of the digestive organs (9.8%) and melanoma in-situ (8.5%).

Primary site ICD-10	Number of In-Situ cases 2023	%
D05 Carcinoma in situ of breast	127	32.6%
D09 Carcinoma in situ of other and unspecified sites	77	19.8%
D06 Carcinoma in situ of cervix uteri	76	19.5%
D01 Carcinoma in situ of other and unspecified digestive organs	38	9.8%
D03 Melanoma in situ	33	8.5%
D04 Carcinoma in situ of skin	15	3.9%
D07 Carcinoma in situ of other and unspecified genital organs	14	3.6%
D00 Carcinoma in situ of oral cavity, oesophagus and stomach	5	1.3%
D02 Carcinoma in situ of middle ear and respiratory system	4	1.0%

Table 35 - Top primary sites (in-situ) among all, 2023

CHAPTER 3

CHAPTER 3: INCIDENCE OF SELECTED COMMON CANCER SITES DIAGNOSED IN 2023

This section demonstrates the most common cancers diagnosed among Emirati and Non-Emirati during the period between January and December 2023. It shows the distribution of the most common cancers by gender. Data presented as absolute numbers, relative frequency, incidence rates.

FEMALE BREAST CANCER (C50)

Figure 17 shows the distribution of all female breast cancer cases by age group in the UAE for the year 2023,breast cancer ranked first among females, there were 1445 female invasive breast cancer cases. Breast cancer accounted to 20.5% from all invasive cancer cases reported among Emirati and Non-Emirati, and to 36.6% from all invasive cancer cases reported among females. The age-standardized incidence rate (ASR) was 49.4/100,000 for female population and crude incidence rate was 37.7/100,000 for female population.

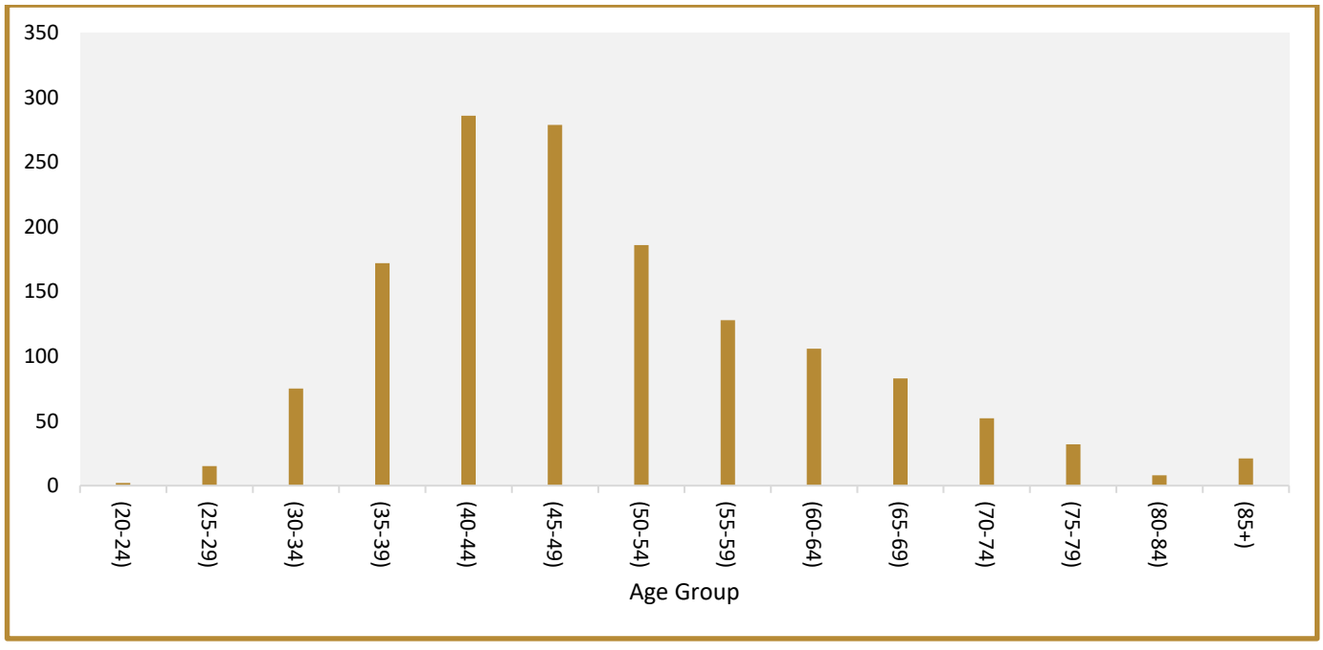


Figure 17 - Age group distribution of female breast cancer cases in UAE, 2023

Figure 18 illustrates the distribution of age-specific incidence rates (ASIR) for all female breast cancer cases across different age groups in the UAE for 2023, revealing a clear trend where cancer incidence rises with age. No cancer cases are reported in younger age groups, such as those between 15 and 19 years. However, from the age of 20 and onward, cancer cases begin to be reported, with the incidence gradually rising as individuals age.This age distribution is consistent with the general trend observed for many cancer types, where the risk of developing cancer significantly increases with age, the incidence of cancer is particularly high in individuals aged 65 and older, with the highest rates observed in the 65-69 age group. After reaching its peak in the 60s and 70s, the incidence starts to decrease slightly in the older age groups, particularly in those aged 80.

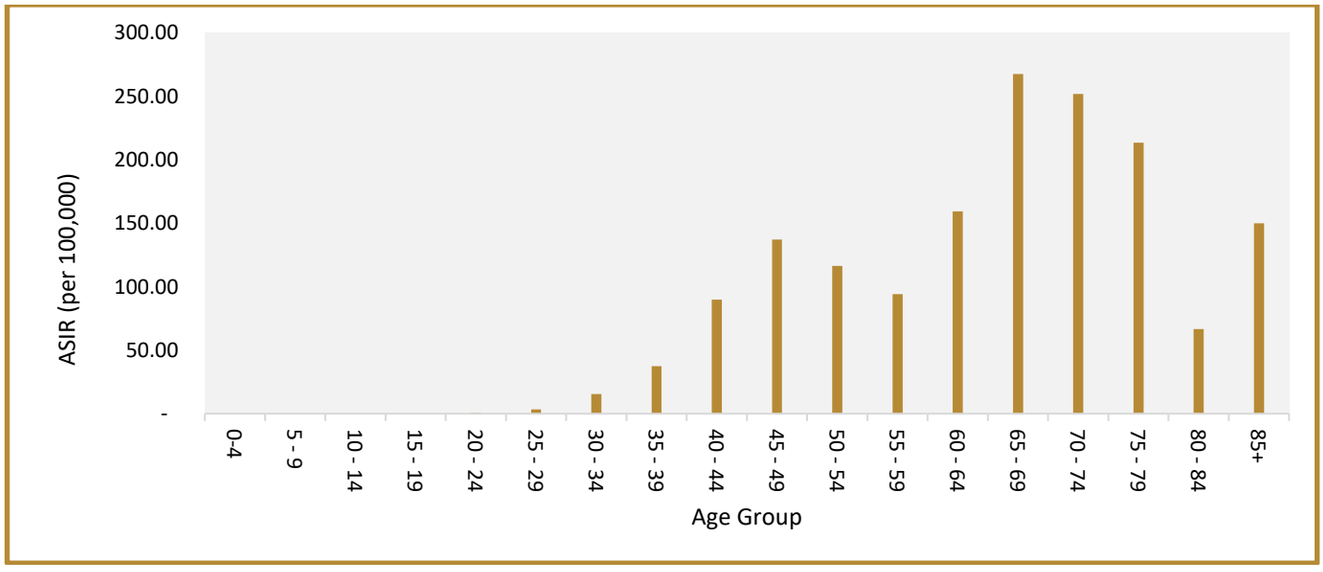


Figure 18 - Age-Specific incidence rate (ASIR) for female breast cancer cases in UAE, 2023

THYROID CANCER (C73)

Figure 19 shows the distribution of all thyroid cancer cases by age group in the UAE for the year 2023, thyroid cancer ranked second among females and third among males. There were 794 thyroid cancer cases accounting to 11.2 % from all newly diagnosed invasive cancer cases in 2023. Thyroid cancer affected 568 (71.5%) females and 226 (28.5%) males. The age-standardized incidence rate (ASR) for both gender was 6.5/100,000, 3.2/100,000 for males and 13.2/100,000 for females, and crude incidence rate for both gender was 7.4/100,000, 14.8/100,000 for females and 3.3/100,000 for males.

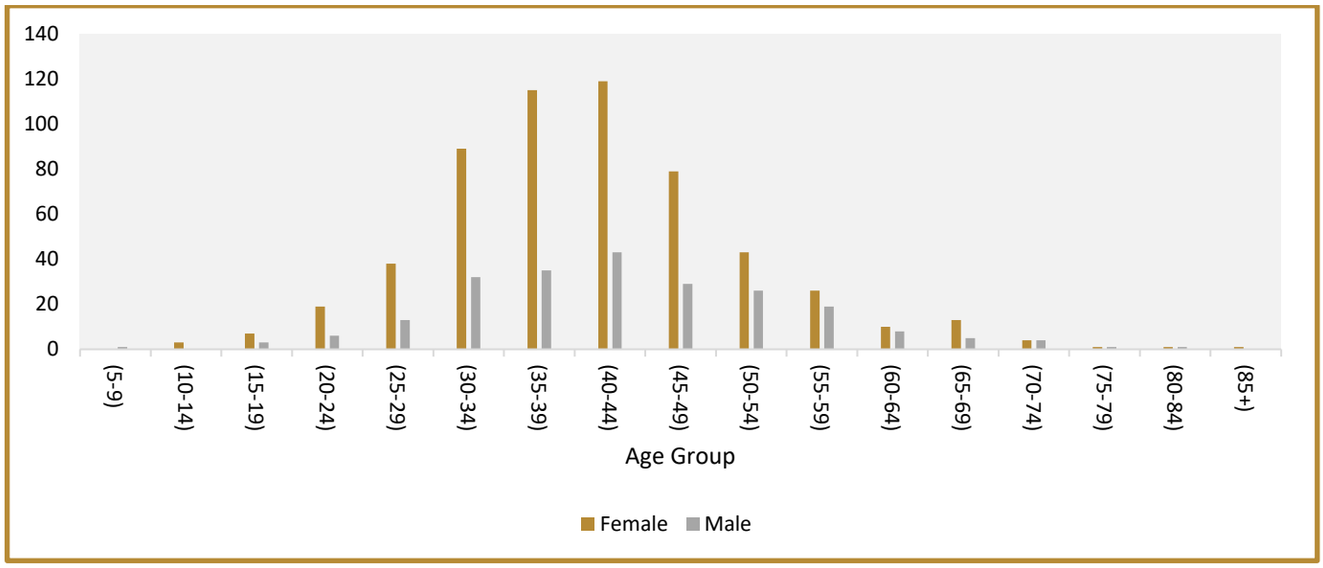


Figure 19 - Age group distribution of thyroid cancer cases in UAE, 2023

Figure 20 illustrates the distribution of age-specific incidence rates (ASIR) for thyroid invasive cancer cases in both males and females across different age groups in the UAE for 2023.Thyroid cancer incidence increases with age in both males and females, with a significant rise in incidence beginning in the 30s for females and in the 40s for males.The highest rates of thyroid cancer are observed in females in the 65-69 age group, while for males, the highest incidence is in the 70-74 age group.
This distribution aligns with the general observation that thyroid cancer is more common in women, and the incidence increases with age, though the overall risk is lower in men across all age groups. The data shows a significant gender difference, with women experiencing much higher rates of thyroid cancer, especially in middle age.

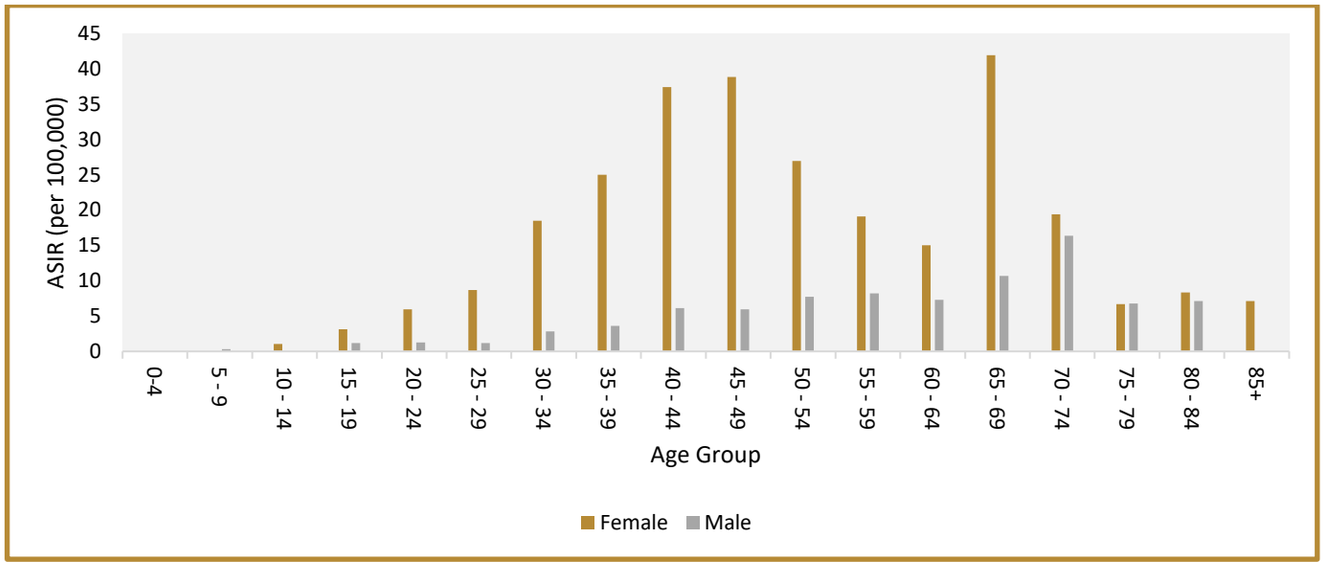


Figure 20 - Age-Specific incidence rate (ASIR) for thyroid cancer cases in UAE, 2023

COLORECTAL CANCER (C18-C21)

Figure 21 shows the distribution of all colorectal cancer cases by age group in the UAE for the year 2023, colorectal cancer ranked first among males and third among females. It affected 362 (61.6%) males and 226 (38.4%) females. There were 588 cases of colorectal cancer accounting for 8.3% of all newly diagnosed invasive cancer cases in the year 2023. The age-standardized incidence rate (ASR) for both gender was 10.3/100,000 , 10.7/100,000 for males and 10.1/100,000 for females, and crude incidence rate for both gender was 5.5/100,000 , 5.3/100,000 for males and 5.9/100,000 for females.

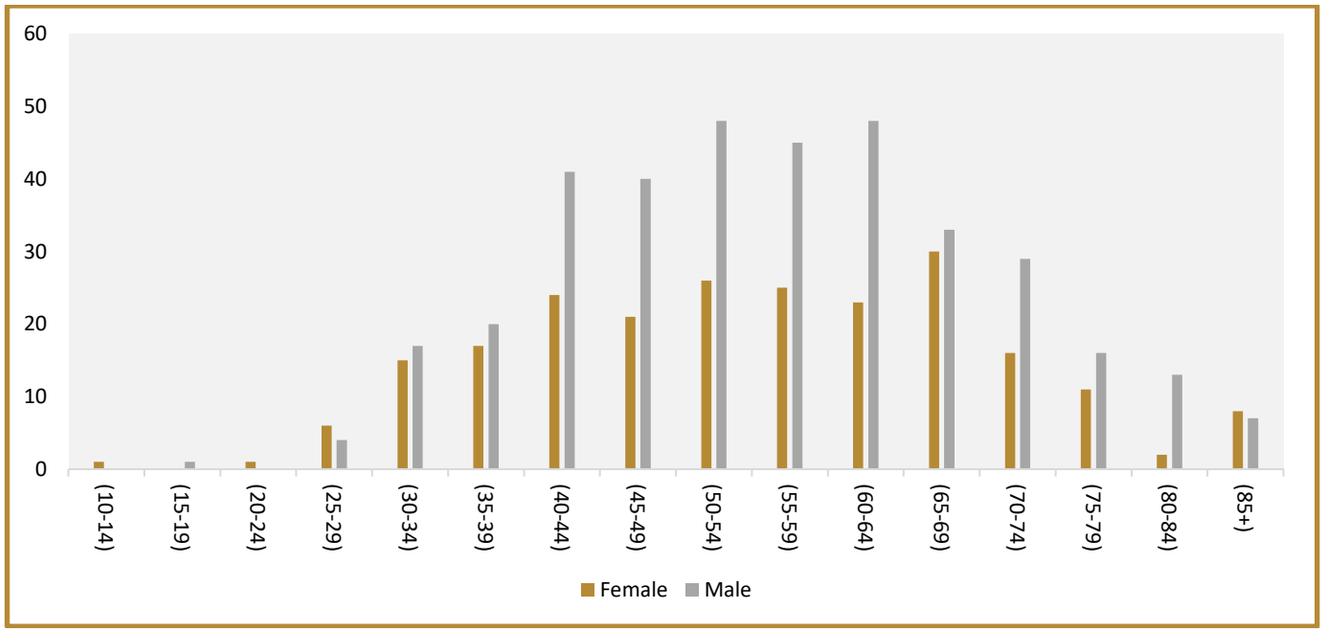


Figure 21 - Age group distribution of colorectal cancer cases in UAE, 2023

Figure 22 illustrates the distribution of age-specific incidence rates (ASIR) for colorectal invasive cancer cases in both males and females across different age groups in the UAE for 2023. Colorectal cancer incidence increases significantly with age for both males and females, particularly in those over 60 years old. Females experience a high incidence of colorectal cancer from the 60-64 age group onward, with the highest rates seen in the 65-69 group.Males tend to have a later peak, with the highest incidence in the 70-74 group, and they experience a higher incidence than females in their 70s. Colorectal cancer is rare in younger age groups, with very low incidence reported until the mid-30s.Both genders show an increase in colorectal cancer cases starting from the 40s, with the most significant rise occurring after 50, reflecting the typical trend that the risk of developing colorectal cancer increases with age.

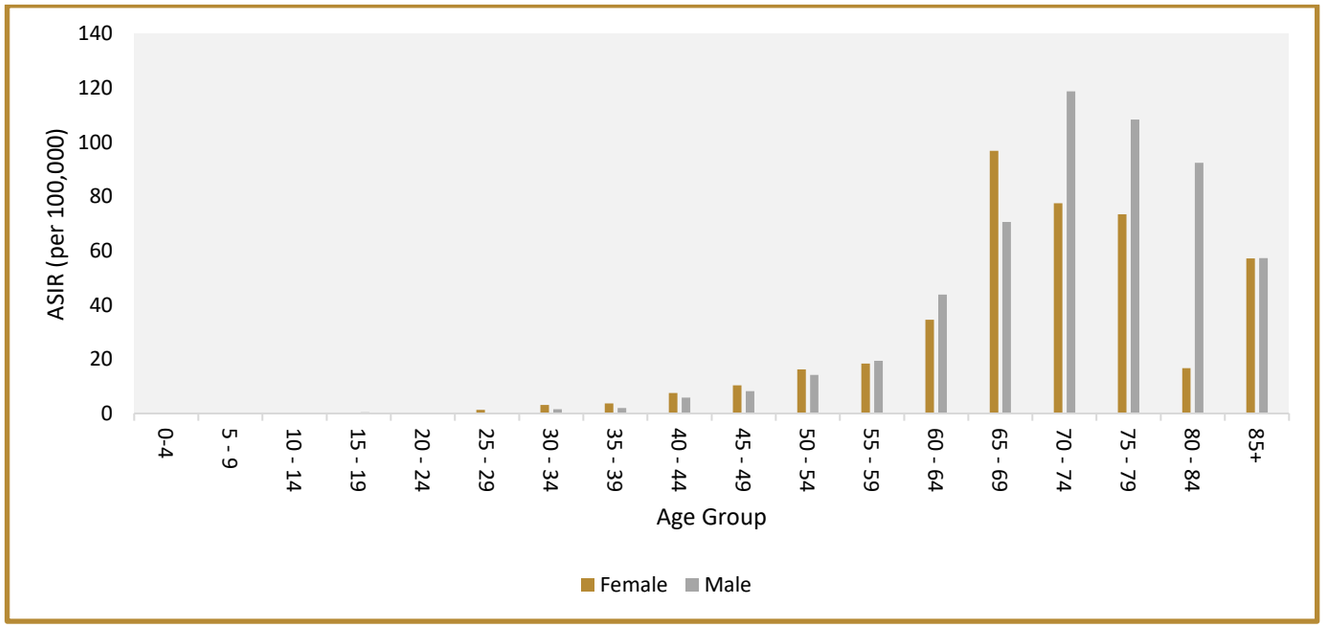


Figure 22 - Age-Specific incidence rate (ASIR) for colorectal cancer cases in UAE, 2023

LEUKEMIA (C91-C95)

Figure 23 shows the distribution of all leukemia cases by age group in the UAE for the year 2023, leukemia ranked fourth among males and ninth among females. It affected 111 (34%) females and 213 (66%) males. There were 324 cases of leukemia accounting for 4.6% of all newly diagnosed invasive cancer cases in the year 2023. The age-standardized incidence rate (ASR) for both gender was 4.5/100,000 , 4.9/100,000 for males and 4.1/100,000 for females, and crude incidence rate for both gender was 3/100,000 , 3.1/100,000 for males and 2.9/100,000 for females.

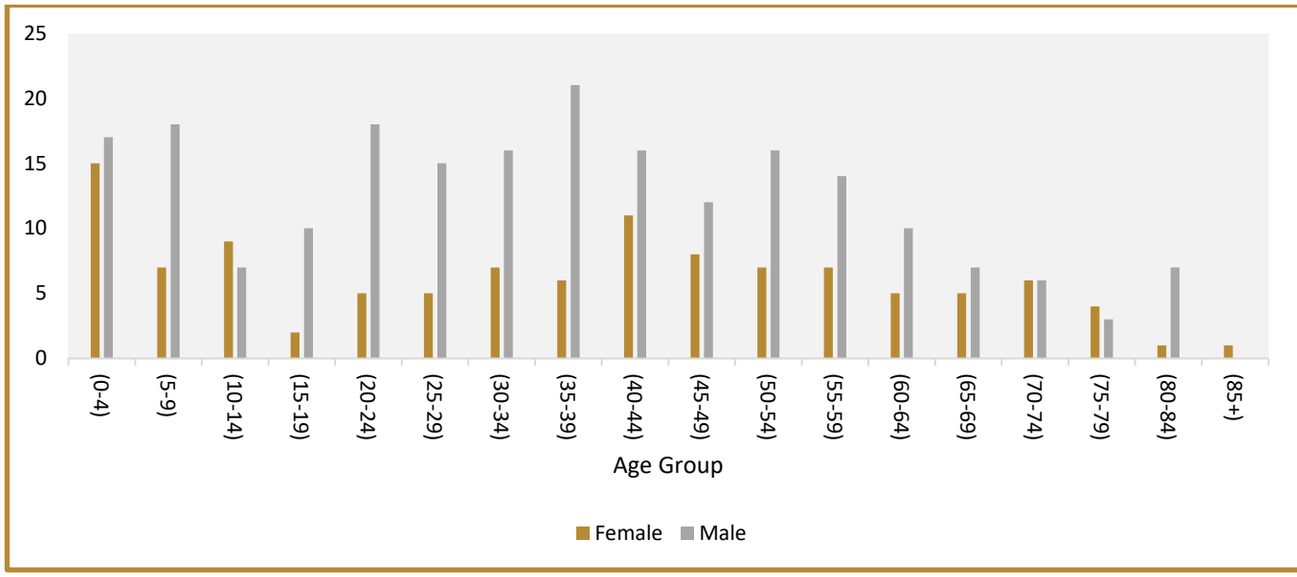


Figure 23 - Age group distribution of leukemia cases in UAE, 2023

Figure 24 illustrates the distribution of age-specific incidence rates (ASIR) for leukemia cases in both males and females across different age groups in the UAE for 2023. Males generally have higher leukemia incidence in younger age groups, particularly in early childhood (0-9 years), though this trend starts to reverse or become less distinct as age increases. The age-specific incidence rate was highest in males of the age group of 80-84 years and 70-74 in females. Leukemia appears more prevalent in adults aged 60 and above, with the incidence increasing significantly in the 70-84 age range, particularly in females. Leukemia cases increase significantly with age, and gender differences emerge more clearly as individuals reach older age brackets, particularly after 60 years.

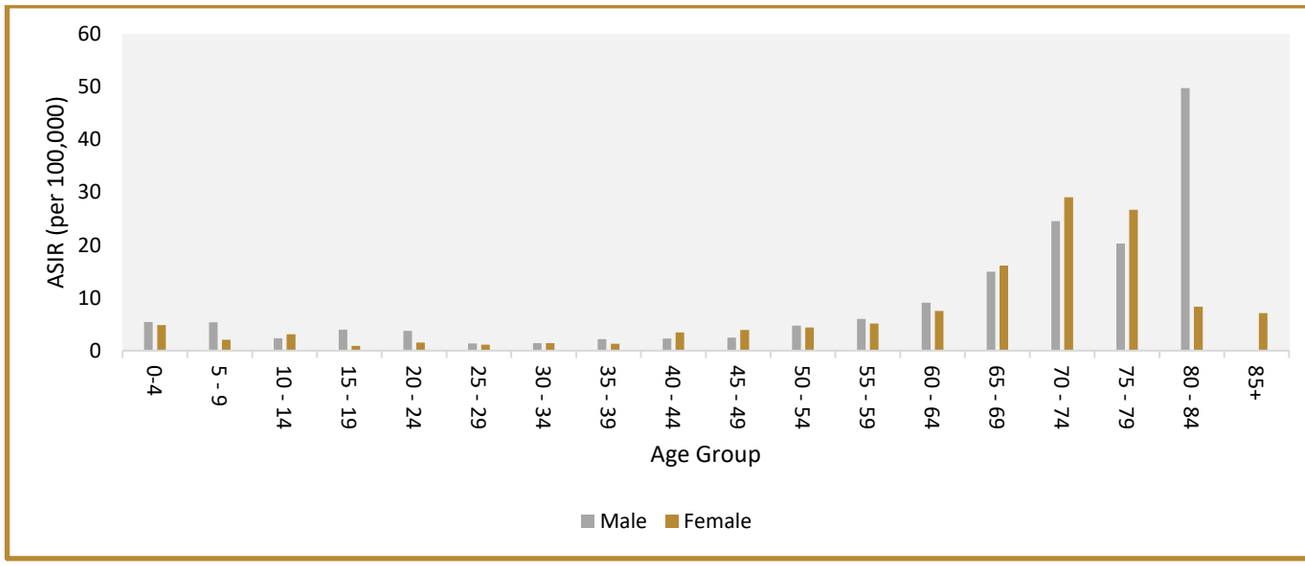


Figure 24 - Age-Specific incidence rate (ASIR) for leukemia cases in UAE, 2023

PROSTATE CANCER (C61)

Figure 25 shows the distribution of all prostate cancer cases by age group in the UAE for the year 2023, prostate ranked second among males. There were 324 invasive cases of prostate cancer accounted to 4.6% of all invasive cancer cases among both genders and 10.3% of all invasive cancer cases among males diagnosed in 2023. The age-standardized incidence rate (ASR) was 15.2 per 100,000 males and crude incidence rate was 4.7 per 100,000 males.

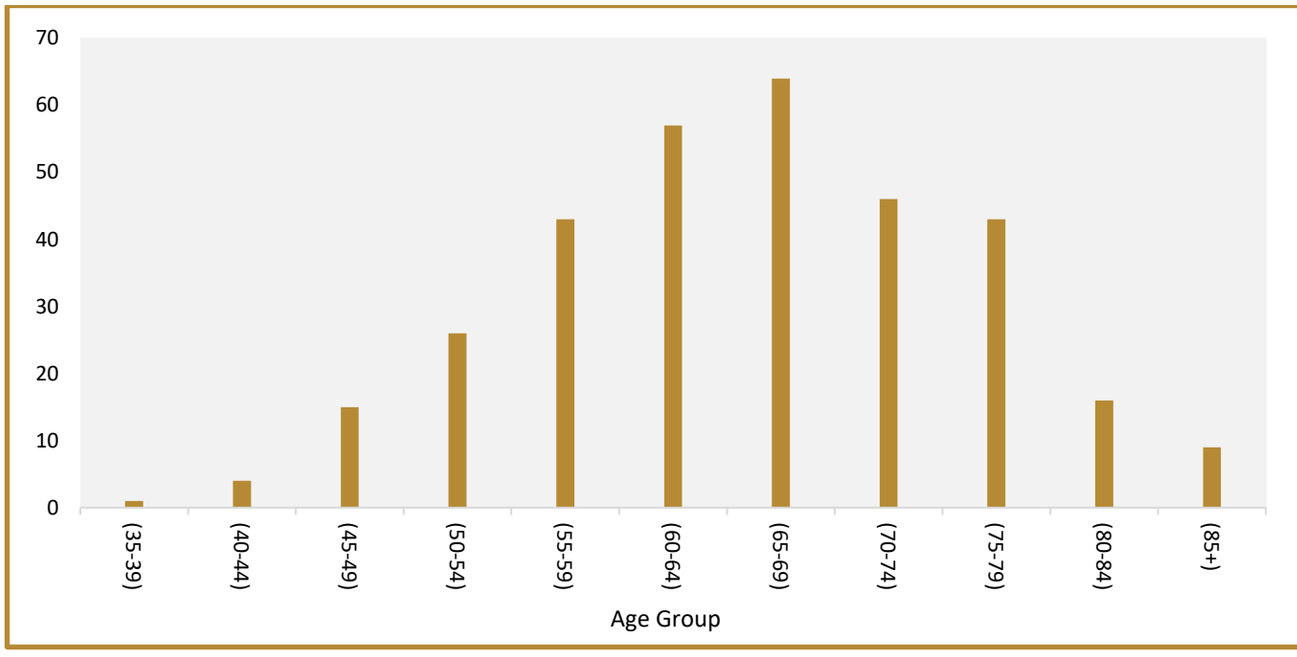


Figure 25 - Age group distribution of prostate cancer cases in UAE, 2023

Figure 26 illustrates the distribution of age-specific incidence rates (ASIR) for prostate cancer cases across different age groups in the UAE for 2023. Incidence increases with age, especially after 50 years. From age 50 onward, the number of diagnoses steadily rises, with a significant increase in the 60-79 age groups.The highest incidence is observed in men aged 75-79, with prostate cancer being very common in this age group. The disease becomes more prevalent as men grow older.A slight decline in diagnoses occurs in men aged 80 and above, but prostate cancer is still fairly common in this age group.

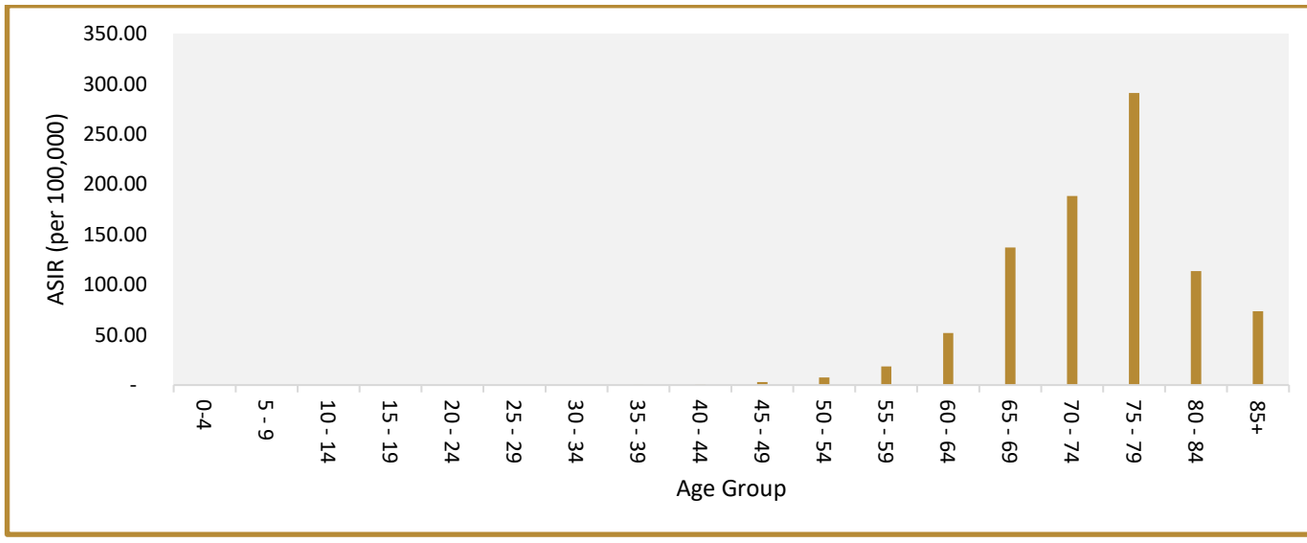


Figure 26 - Age-Specific incidence rate (ASIR) for prostate cancer cases in UAE, 2023

CERVIX UTERI CANCER (C53)

Figure 27 shows the distribution of all cervix uteri cancer cases by age group in the UAE for the year 2023, cervix uteri ranked fifth among females. There were 146 invasive cases of cervix uteri accounted to 3.7% of all invasive cancer cases among females diagnosed in 2023. The age-standardized incidence rate (ASR) was 4.2 per 100,000 females and crude incidence rate was 3.8 per 100,000 females.

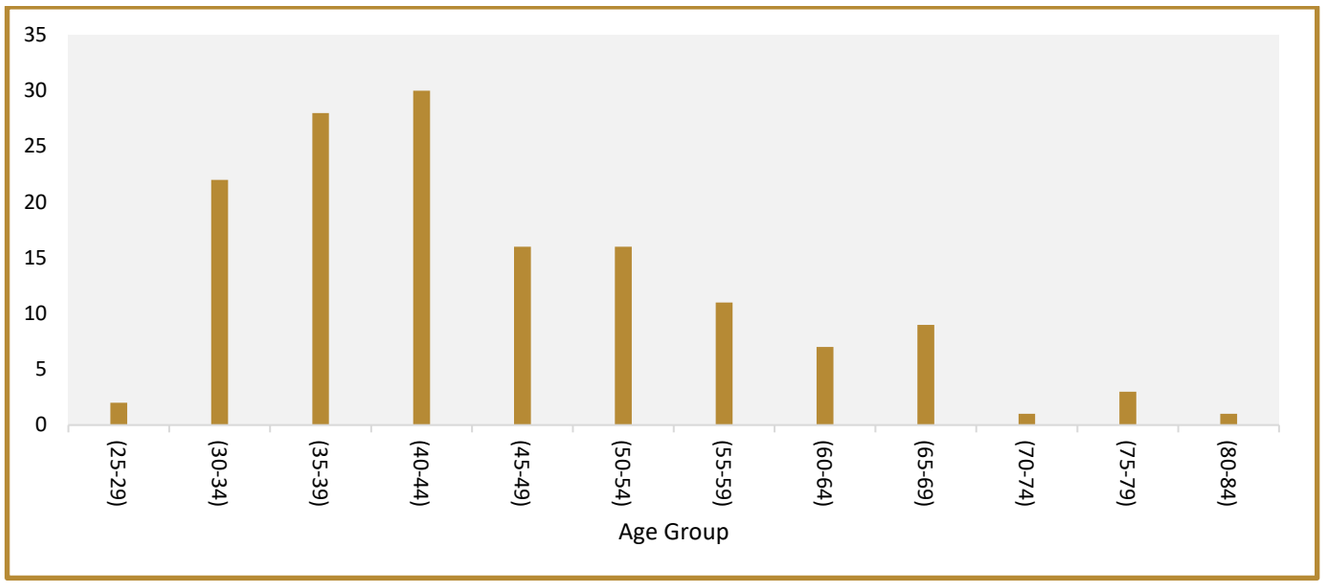


Figure 27 - Age group distribution of cervix uteri cancer cases in UAE, 2023

Figure 28 illustrates the distribution of age-specific incidence rates (ASIR) for cervical cancer (cervix uteri) across different age groups in the UAE for 2023. The highest incidence occurs in women aged 65-69, where cervical cancer becomes most common.Incidence decreases after the age of 75, reflecting a reduction in the population at risk for cervical cancer.

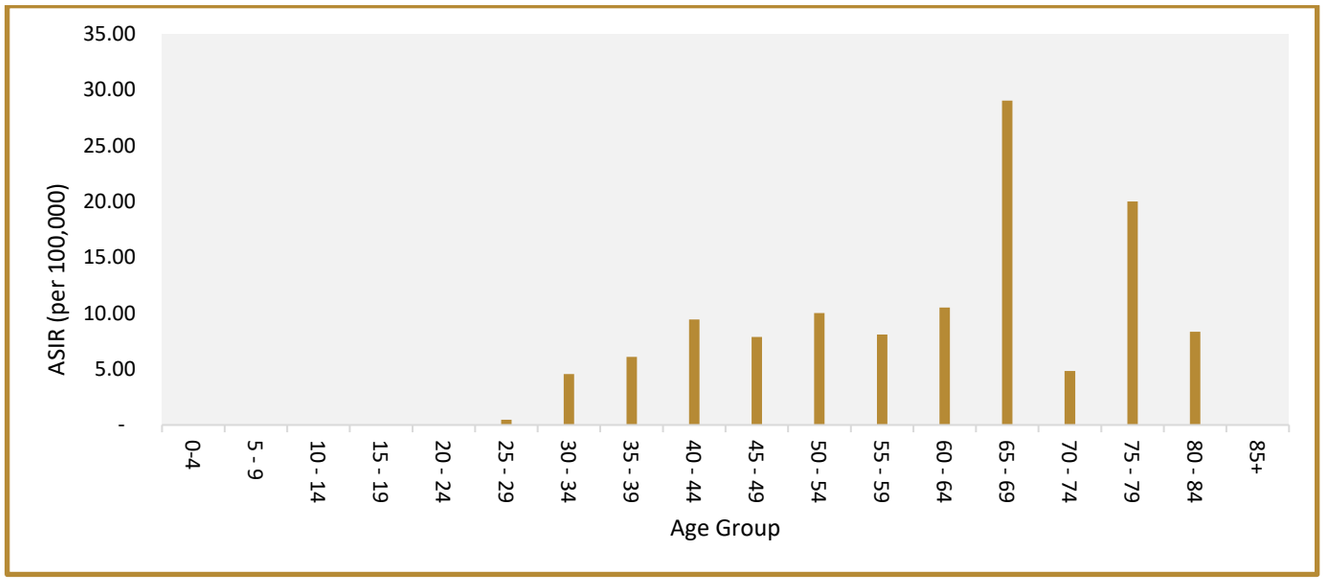


Figure 28 - Age-Specific incidence rate (ASIR) for cervix uteri cancer cases in UAE, 2023

NON-HODGKIN LYMPHOMA (C82-C85, C96)

Figure 29 shows the distribution of all Non-Hodgkin's lymphoma cases by age group in the UAE for the year 2023, Non-Hodgkin's lymphoma ranked the Sixth among males and seventh among females. There were 324 cases of Non-Hodgkin's lymphoma accounting for 4.6% of all invasive cancer cases diagnosed in 2023. Non-Hodgkin's lymphoma affected 197 (60.8%) males and 127 (39.2%) females. The age-standardized incidence rate (ASR) for both gender was 4.9/100,000 , 5.4/100,000 for females and 4.8/100,000 for males, and crude incidence rate for both gender was 3/100,000, 3.3/100,000 for females and 2.9/100,000 for males.

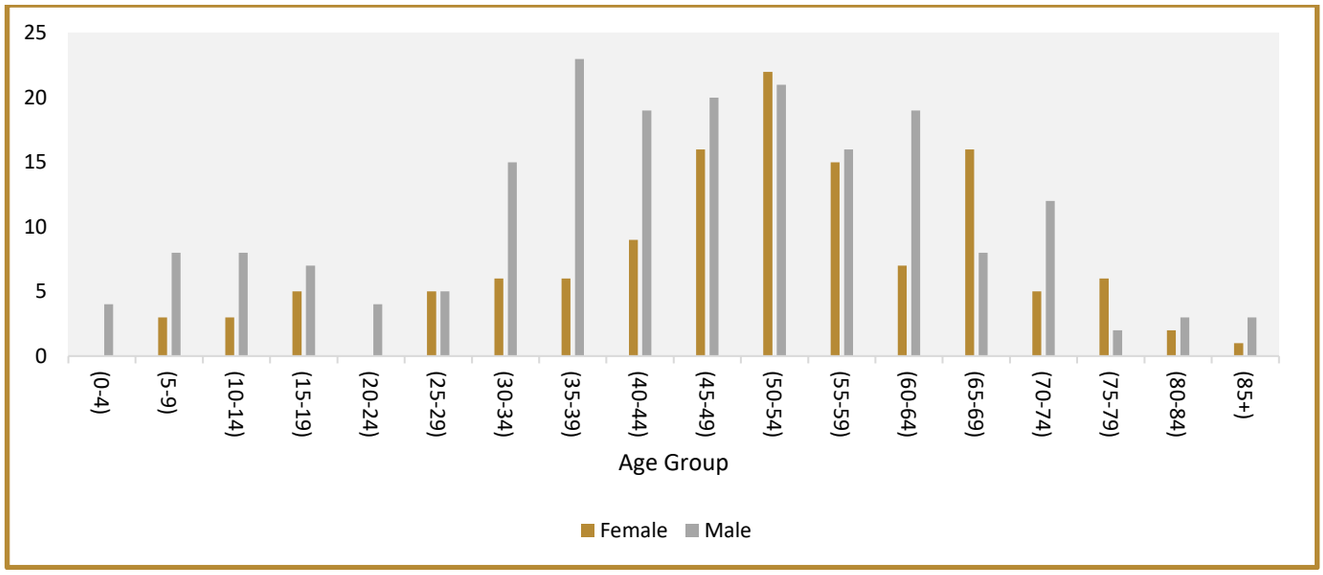


Figure 29 - Age group distribution of Non-Hodgkin lymphoma cases in UAE, 2023

Figure 30 illustrates the distribution of age-specific incidence rates (ASIR) for Non-Hodgkin's lymphoma cases across different age groups in the UAE for 2023. NHL shows a significant increase starting around age 30 and continues to rise with age. The highest incidence occurs in older age groups, particularly among males aged 70-74 and females aged 65-69, where the disease is most common. NHL is more common in males, with a notable rise in diagnoses, particularly after age 50.

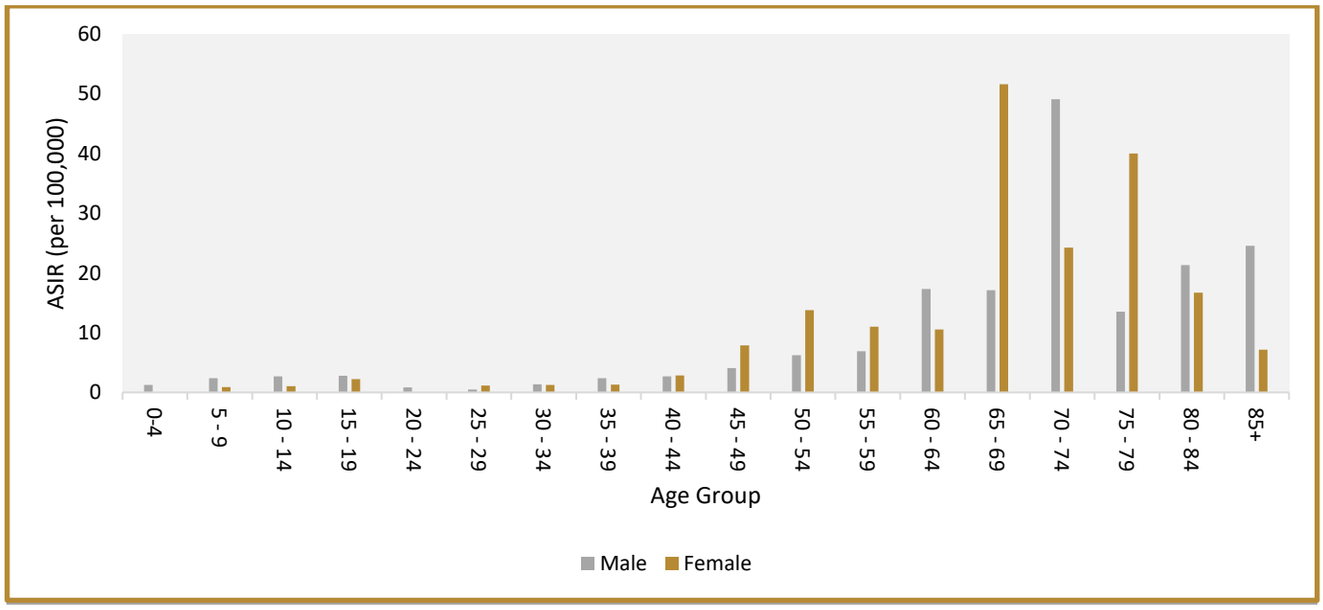


Figure 30 - Age-Specific incidence rate (ASIR) for Non-Hodgkin lymphoma cases in UAE, 2023

CHAPTER 4

CHAPTER 4 - PEDIATRIC MALIGNANCIES IN UAE

Pediatric Malignancies in UAE, 2023

In 2023, a total of 237 children aged 0-14 years were diagnosed with invasive cancer in the UAE, including 95 females and 142 males. This represents approximately 3.3% of all registered invasive cancer cases (malignant cases).

Pediatric cancer cases by gender in UAE, 2023

Figure 31 demonstrates the distribution of pediatric cancer cases by gender, representing a total of 237 pediatric cancer cases. Of these, 59.9% were males and 40.1% were females. The distribution indicates that more males were diagnosed with pediatric cancer than females in 2023.

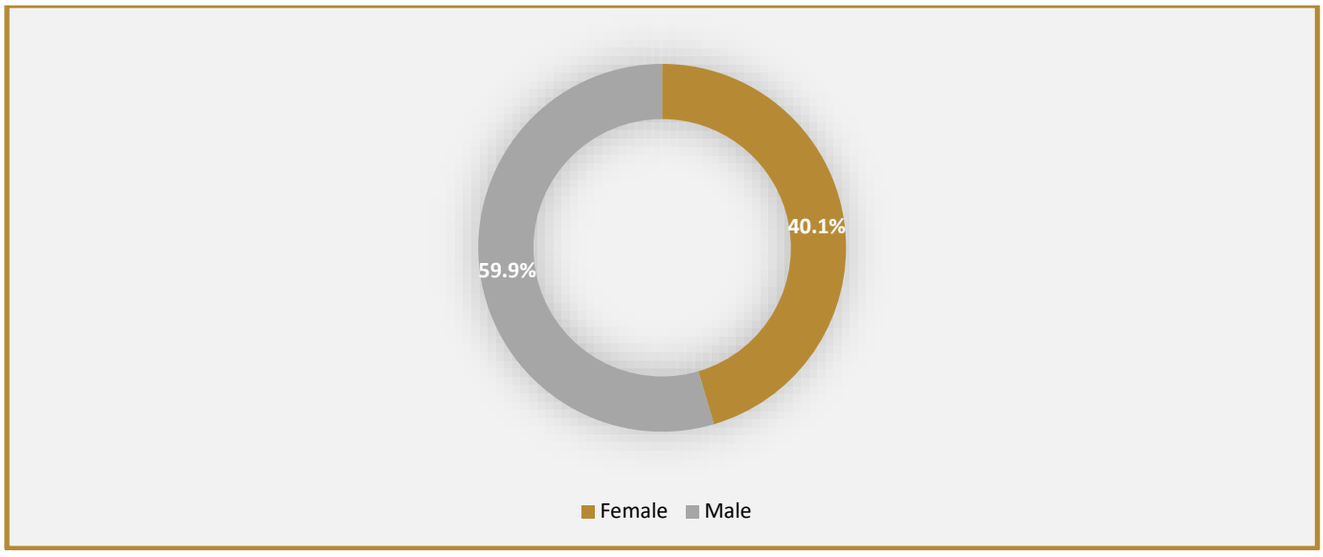


Figure 31 - Distribution by gender of new pediatric cancer cases in UAE, 2023

Distribution of pediatric cancer cases by age group in UAE, 2023

Table 36 shows the distribution by age group of 237 pediatric cancer cases in the UAE for 2023.The data indicates that, the 0-4 year age group had the highest frequency of cases, with 86 cases, representing 36.3% of the total pediatric cancer cases. Among these, 52 cases (36.6%) were males, and 34 cases (35.8%) were females. The 10-14 year age group followed closely, with 78 cases, accounting for 32.9% of the total cases. The distribution by gender shows that 45 males (31.7%) and 33 females (34.7%) were diagnosed in this group.The 5-9 year age group followed closely, with 73 cases, representing 30.8% of the total. This group had 45 males (31.7%) and 28 females (29.5%) diagnosed.

Age Group	Female	%	Male	%	Grand Total	%
0-4	34	35.8%	52	36.6%	**86**	**36.3%**
5-9	28	29.5%	45	31.7%	**73**	**30.8%**
10-14	33	34.7%	45	31.7%	**78**	**32.9%**
Grand Total	**95**	**100%**	**142**	**100%**	**237**	**100%**

Table 36 - Age group distribution of pediatric cancer cases in UAE, 2023

Figure 32 indicates that the highest frequency of pediatric cancer cases was found in the 0-4 year age group (36.3%), followed by the 10-14 year age group (32.9%). The smallest number of cancer cases in the pediatric population was diagnosed in the 5-9 year age group (30.8%).

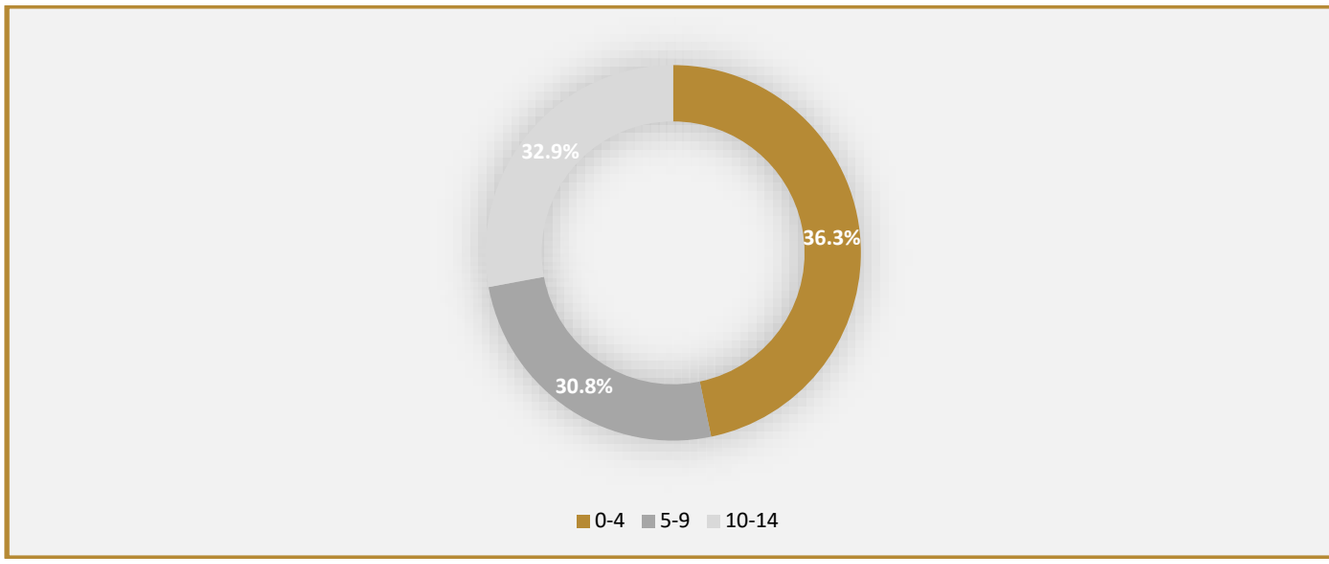


Figure 32 - Distribution of pediatric cancer cases by age groups in UAE, 2023

Top five pediatric cancers by primary sites among both genders in UAE, 2023

Table 37 presents the distribution of the top five pediatric cancer cases in the UAE for 2023. The most common primary site for pediatric cancer was Leukemia, accounting for 30.8% of the total cases, with 73 cases reported. The second most common site was the Brain & Central Nervous System, with 32 cases, representing 13.5% of the total pediatric cancer cases. Non-Hodgkin lymphoma followed with 26 cases, making up 11.0% of the total cases. Both Bone and Articular Cartilage and Kidney & Renal Pelvis each accounted for 6.8% of the cases, with 16 cases diagnosed in each site

Primary sites ICD-10	Number of cancer cases	%
C91-C95 Leukemia	73	30.8%
C70-C72 Brain & CNS	32	13.5%
C82-C86, C88 and C96 Non-Hodgkin lymphoma	26	11.0%
C40-C41 Bone and articular cartilage	16	6.8%
C64-C65 Kidney & Renal pelvis	16	6.8%

Table 37 - Distribution of top five pediatric cancer cases by primary sites in UAE, 2023

Figure 33 presents the distribution of the top five pediatric cancer cases in the UAE for 2023. The most common primary site for pediatric cancer was Leukemia, accounting for 30.8% of the total cases. The second most common site was the Brain & Central Nervous System, representing 13.5% of the total pediatric cancer cases. Non-Hodgkin lymphoma followed, making up 11.0% of the total cases. Both Bone and Articular Cartilage and Kidney & Renal Pelvis cancers each accounted for 6.8% of the cases.

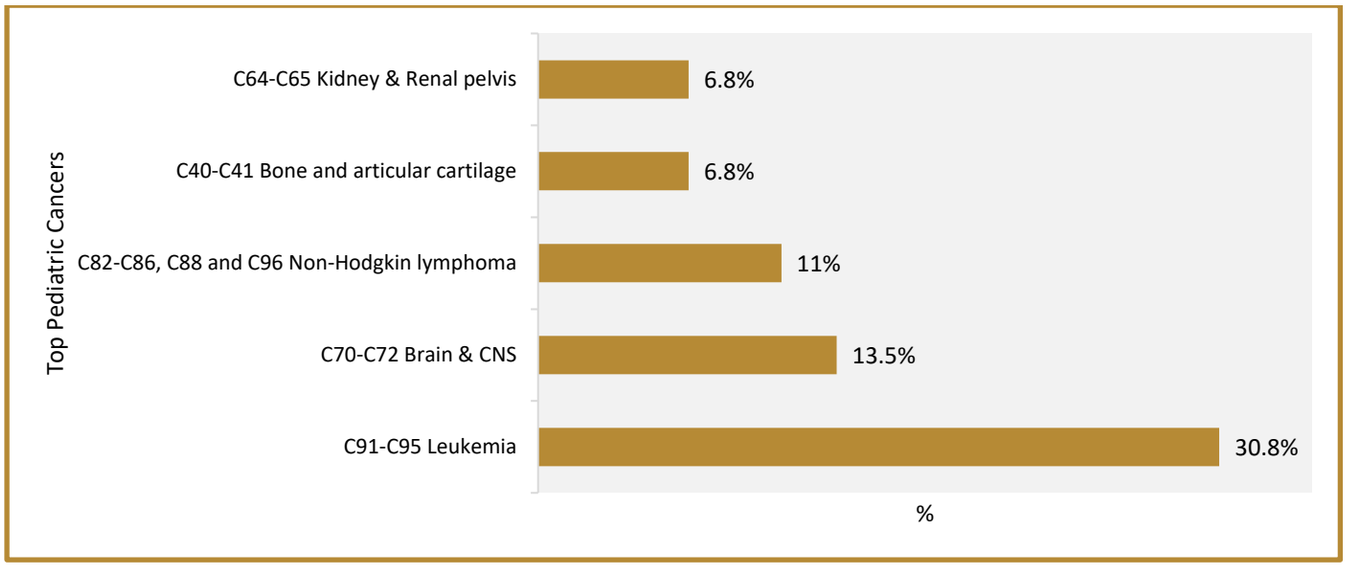


Figure 33 - Distribution of top five pediatric cancer cases in UAE, 2023

CHAPTER 5

CHAPTER 5 - CANCER MORTALITY, 2023

Total Number of Deaths

Cancer mortality has been contributed as the third leading cause of death in the United Arab Emirates in 2023, a total number of 11514 death cases (all causes of death) were reported in UAE among both Emirati and Non-Emirati regardless of the gender.

The number of deaths from cancer totaled 1432 (738 in males, 693 in females and 1 unknown) and accounted for 12.4% of all deaths regardless of nationality, type of cancer or gender.

This represents an estimated age-standardized cancer mortality rate of 30.37 deaths per 100,000 for both genders, 34.8 deaths per 100,000 females and 28.6 deaths per 100,000 males, 2023.

Figure 34 demonstrates the percentage of cancer deaths from total number of deaths (all causes) among UAE population in 2023, which represents12.4% of all deaths regardless of nationality, type of cancer or gender.

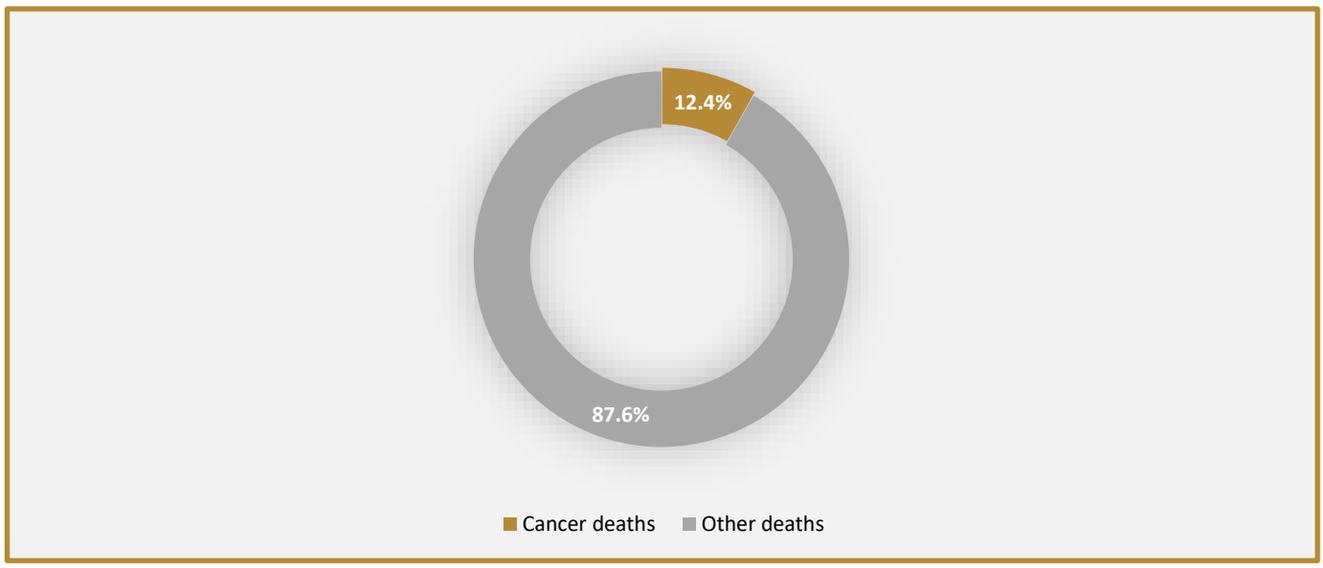


Figure 34 - Percentage of reported cancer deaths among UAE population, 2023

Mortality according to the primary sites

Table 38 provides data on cancer-related deaths in the UAE for both females and males, showing the number of deaths and their corresponding percentages for each cancer type. Colorectal cancer is the leading cause of cancer-related death, accounting for 10.6% of all cancer deaths in the UAE. A total of 152 deaths were reported, with 65 females and 87 males. This indicates a higher number of deaths among males compared to females. Breast cancer follows as the second most common cause of cancer death, contributing to 10.0% of total cancer-related deaths. There were 143 deaths, with 142 females and only 1 male. Lung cancer is the third most common cause, with 127 deaths (representing 8.9% of the total). Of these, 31 were females and 96 were males, suggesting a higher incidence of lung cancer deaths in males. Pancreatic cancer caused 98 deaths (representing 6.8% of all cancer deaths), with 44 females and 54 males. This indicates a relatively higher mortality in males. Stomach cancer resulted in 72 deaths (5.0% of the total), with 34 females and 38 males. The number of deaths is fairly balanced between genders, though slightly more common in males. Leukemia contributed to 71 deaths (5.0% of total cancer deaths), with 27 females and 44 males, again showing a higher mortality in males.Cervical cancer caused 20 deaths (1.4% of the total), and all deaths occurred in females, as this cancer affects only women.

Underlying cause of death	Female	Male	Total	%
C18 - C21 Malignant Neoplasm of Colorectal	65	87	**152**	**10.6%**
C50 - C50 Malignant Neoplasm of Breast	142	1	**143**	**10.0%**
C33 - C34 Malignant Neoplasm of Trachea, bronchus & Lung	31	96	**127**	**8.9%**
C25 Pancreas	44	54	**98**	**6.8%**
C16 - C16 Malignant Neoplasm of Stomach	34	38	**72**	**5.0%**
C91 - C95 Leukemia	27	44	**71**	**5.0%**
C53 Malignant Neoplasm of Cervix Uteri	20	0	**20**	**1.4%**

Table 38 - Distribution of malignant cancer deaths by type of cancer in UAE, 2023

CHAPTER 6

CHAPTER 6 - CANCER INCIDENCE AND MORTALITY RATES

Cancer Incidence Rates

The UAE population has substantially increased over the past few decades, primarily due to the high net inward migration of expatriate workers.

A total of 7,487 new cancer cases (both invasive and non-invasive) were registered between January 1st and December 31st, 2023, corresponding to an overall crude incidence rate of 70.1 per 100,000 population for both genders. Of these, 7,098 cases were invasive, while 389 cases were non-invasive.

Records for all invasive cancer cases (malignant) accounted for 94.8% of all registered cancer cases, with 7,098 cases reported, corresponding to an overall crude incidence rate of 66.5 per 100,000 population for both genders. The data show a clear female predominance in cancer incidence. The crude incidence rate for malignant cancers was higher in females (102.9 per 100,000) compared to males (46.1 per 100,000). A summary of the crude incidence rates for individual invasive cancers in 2023 is presented in **Table 39.**

For both invasive and non-invasive (malignant and in-situ) cases, the overall age-standardized incidence rate (ASR) for both genders was 110/100,000, for females 146/100,000 and for males 93.7/100,000.

For invasive cases (malignant cases only), the overall age-standardized incidence rate (ASR) for both genders was 105.4/100,000, for females 139.1/100,000 and for males 90.1/100,000.

Table 39 presents the distribution of cancer incidence cases in the UAE for 2023, categorized by primary site and gender. The table includes both malignant (invasive) and non-invasive (in-situ) cancers, presenting the total number of cases and the crude incidence rates per 100,000 population. A total of 7,487 cases (both malignant and in-situ) were reported, with 4,200 cases in females and 3,287 cases in males. The overall crude incidence rate is 70.1 per 100,000 population, with a rate of 48.0 for males and 109.5 for females.

For invasive cancers (malignant), there were 7,098 cases reported, with overall crude incidence rate of 66.5 per 100,000 population, among females, there were 3,946 cases, with a crude incidence rate of 102.9 per 100,000 population and among males, there were 3,152 cases, with a crude incidence rate of 46.1 per 100,000 population.

The most common cancers among the UAE population for both genders are breast, thyroid, and colorectal cancers. The crude incidence rate for breast cancer was 37.7 per 100,000 in the female population. Thyroid cancer had a crude incidence rate of 14.8 per 100,000 in females and 3.3 per 100,000 in males. For colorectal cancer, the crude incidence rate was 5.9 per 100,000 in females and 5.3 per 100,000 in males.

Primary site ICD-10	Cancer incidence cases 2023		Total	Crude incidence rates per 100,000 population		Total
	Female	Male		Female	Male	
All invasive cancers (Malignant Cases)	**3946**	**3152**	**7098**	**102.9**	**46.1**	**66.5**
C00-C14 Lip, Oral cavity & pharynx	53	144	**197**	1.4	2.1	**1.8**
C15 Esophagus	8	33	**41**	0.2	0.5	**0.4**
C16 Stomach	59	104	**163**	1.5	1.5	**1.5**
C17 Small intestine	7	20	**27**	0.2	0.3	**0.3**
C18-C21 Colorectal	226	362	**588**	5.9	5.3	**5.5**
C22 Liver and intrahepatic bile ducts	58	99	**157**	1.5	1.4	**1.5**
C23, C24 Gallbladder, other and unspecified part of biliary tract	27	29	**56**	0.7	0.4	**0.5**
C25 Pancreas	55	92	**147**	1.4	1.3	**1.4**
C26 Other and ill-defined digestive organs	3	2	**5**	0.1	0.0	**0.0**
C30, C31 Nasal cavity, middle ear, accessory sinuses	4	9	**13**	0.1	0.1	**0.1**
C32 Larynx	0	27	**27**	0.0	0.4	**0.3**
C33 Trachea	1	1	**2**	0.0	0.0	**0.0**
C34 Bronchus and Lung	69	161	**230**	1.8	2.4	**2.2**
C37 Thymus	3	6	**9**	0.1	0.1	**0.1**
C38 Heart, mediastinum, and pleura	3	5	**8**	0.1	0.1	**0.1**
C40-C41 Bone and articular cartilage	26	27	**53**	0.7	0.4	**0.5**
C43 Skin melanoma	32	38	**70**	0.8	0.6	**0.7**
C44 Skin (Carcinoma)	134	199	**333**	3.5	2.9	**3.1**
C45 Mesothelioma	1	6	**7**	0.0	0.1	**0.1**
C46 Kaposi sarcoma	0	1	**1**	0.0	0.0	**0.0**
C47 Peripheral nerves and autonomic nervous system	0	3	**3**	0.0	0.0	**0.0**
C48 Retroperitoneum and peritoneum	10	4	**14**	0.3	0.1	**0.1**
C49 Connective and soft tissue	28	39	**67**	0.7	0.6	**0.6**
C50 Breast	1445	11	**1456**	37.7	0.2	
C51 Vulva	5	0	**5**	0.1	-	
C52 Vagina	4	0	**4**	0.1	-	
C53 Cervix uteri	146	0	**146**	3.8	-	
C54-C55 Uterus	215	0	**215**	5.6	-	
C56 Ovary	125	0	**125**	3.3	-	
C57 Other and unspecified female genital organs	2	0	**2**	0.1	-	
C58 Placenta	1	0	**1**	0.0	-	
C60 Penis	0	6	**6**	-	0.1	
C61 Prostate	0	324	**324**	-	4.7	
C62 Testis	0	52	**52**	-	0.8	
C63 Other and unspecified male genital organs	0	2	**2**	-	0.0	
C64-C65 Kidney & Renal pelvis	42	143	**185**	1.1	2.1	**1.7**
C66, C68 Ureter and other urinary organs	1	3	**4**	0.0	0.0	**0.0**
C67 Urinary bladder	24	72	**96**	0.6	1.1	**0.9**
C69 Eye and adnexa	3	4	**7**	0.1	0.1	**0.1**

C70-C72 Brain & CNS	55	79	**134**	1.4	1.2	**1.3**
C73 Thyroid	568	226	**794**	14.8	3.3	**7.4**
C74-C75 Other endocrine glands	6	11	**17**	0.2	0.2	**0.2**
C76-C80 Unknown or unspecified sites	80	106	**186**	2.1	1.5	**1.7**
C81 Hodgkin's lymphoma	41	68	**109**	1.1	1.0	**1.0**
C82-C86, C88 and C96 Non-Hodgkin lymphoma	127	197	**324**	3.3	2.9	**3.0**
C90 Multiple myeloma	45	68	**113**	1.2	1.0	**1.1**
C91-C95 Leukemia	111	213	**324**	2.9	3.1	**3.0**
D45 MPD	17	88	**105**	0.4	1.3	**1.0**
D46 MDS	27	30	**57**	0.7	0.4	**0.5**
D47 MPD	49	38	**87**	1.3	0.6	**0.8**
Non-invasive cancers (In-Situ Cases)	**254**	**135**	**389**	**6.6**	**2.0**	**3.6**
D00 Carcinoma in situ of oral cavity, oesophagus and stomach	2	3	**5**	0.1	0.0	**0.0**
D01 Carcinoma in situ of other and unspecified digestive organs	13	25	**38**	0.3	0.4	**0.4**
D02 Carcinoma in situ of middle ear and respiratory system	1	3	**4**	0.0	0.0	**0.0**
D03 Melanoma in situ	15	18	**33**	0.4	0.3	**0.3**
D04 Carcinoma in situ of skin	5	10	**15**	0.1	0.1	**0.1**
D05 Carcinoma in situ of breast	126	1	**127**	3.3	0.0	**1.2**
D06 Carcinoma in situ of cervix uteri	76	0	**76**	2.0	0.0	**0.7**
D07 Carcinoma in situ of other and unspecified genital organs	6	8	**14**	0.2	0.1	**0.1**
D09 Carcinoma in situ of other and unspecified sites	10	67	**77**	0.3	1.0	**0.7**
Grand Total	**4200**	**3287**	**7487**	**109.5**	**48.0**	**70.1**

Table 39 - Crude incidence rates per 100,000 population, 2023

Crude incidence rate: number of new cases per 100,000 population per year, we used the 2023 UAE resident population to calculate crude incidence rates.

Figure 35 provides the Age-Specific Incidence Rates (ASIR) for all invasive cancer cases (malignant only) across various age groups for both genders combined in the UAE for 2023. The ASIR is expressed as the number of cancer cases per 100,000 population in each age group.The data demonstrates a clear age-related increase in cancer incidence, with the highest rates observed in the 70-79 age group. Cancer incidence remains low in childhood and adolescence but escalates significantly in adulthood, particularly after the age of 40. The risk continues to rise with age, peaking among those aged 75-79.

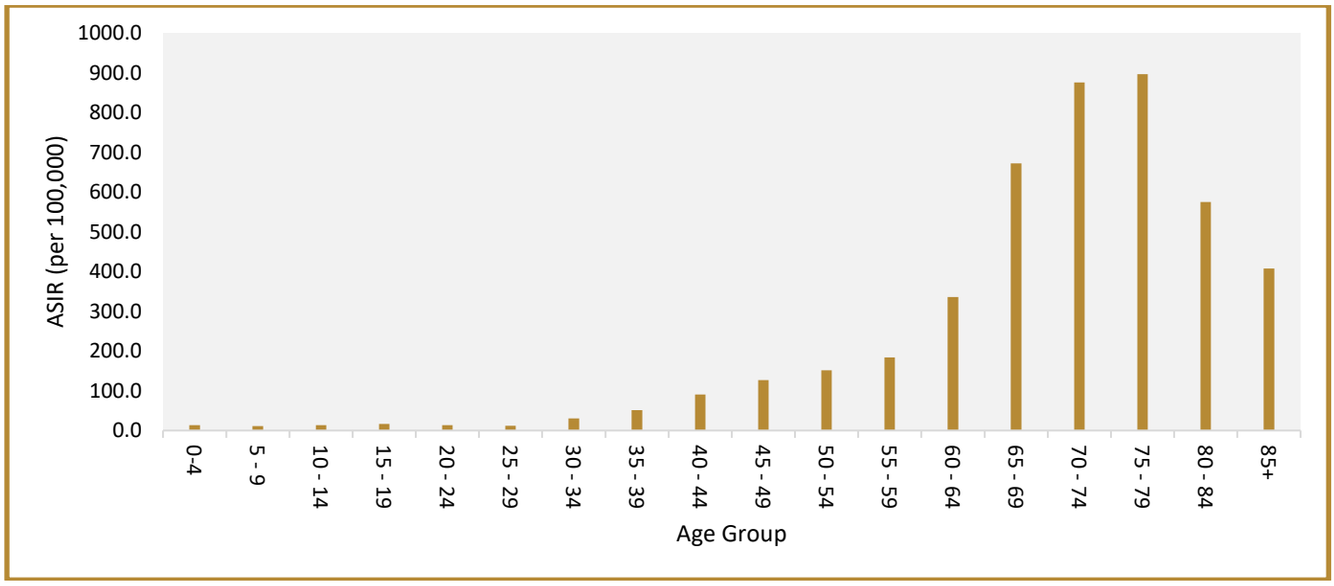


Figure 35 - Distribution of age-specific incidence rates (ASIR) for both genders, 2023

Figure 36 provides the Age-Specific Incidence Rates (ASIR) for female invasive cancer cases across various age groups in the UAE for 2023. The ASIR is expressed as the number of cancer cases per 100,000 females in each age group.The data clearly shows that cancer incidence among females in the UAE increases with age. Incidence rates remain low in childhood and adolescence but rise significantly as females enter adulthood, with the sharpest increases occurring in the 40-49 age group. The incidence rate peaks in the 70-79 age group, highlighting a particularly high burden of cancer among older females. Although there is a slight decline in the 80+ age group.

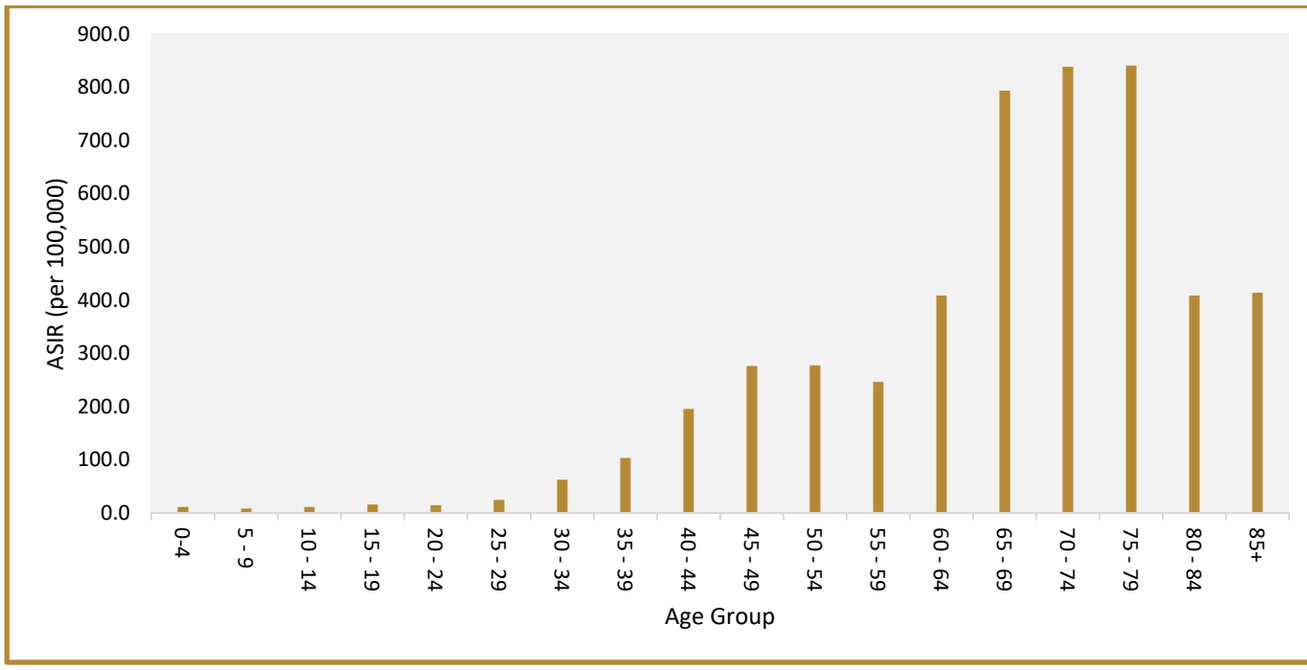


Figure 36 - Distribution of age-specific incidence rates (ASIR) for females, 2023

Figure 37 provides the Age-Specific Incidence Rates (ASIR) for male invasive cancer cases across various age groups in the UAE for 2023. The ASIR is expressed as the number of cancer cases per 100,000 males in each age group.The data highlights that cancer incidence in males increases steadily with age, with the sharpest rises occurring after the age of 40. The highest cancer incidence rates are observed in males aged 75-79, underscoring a significant cancer burden in the older population. Although there is a slight decline in incidence rates among males aged 80 and above, the rates remain high compared to younger age groups.

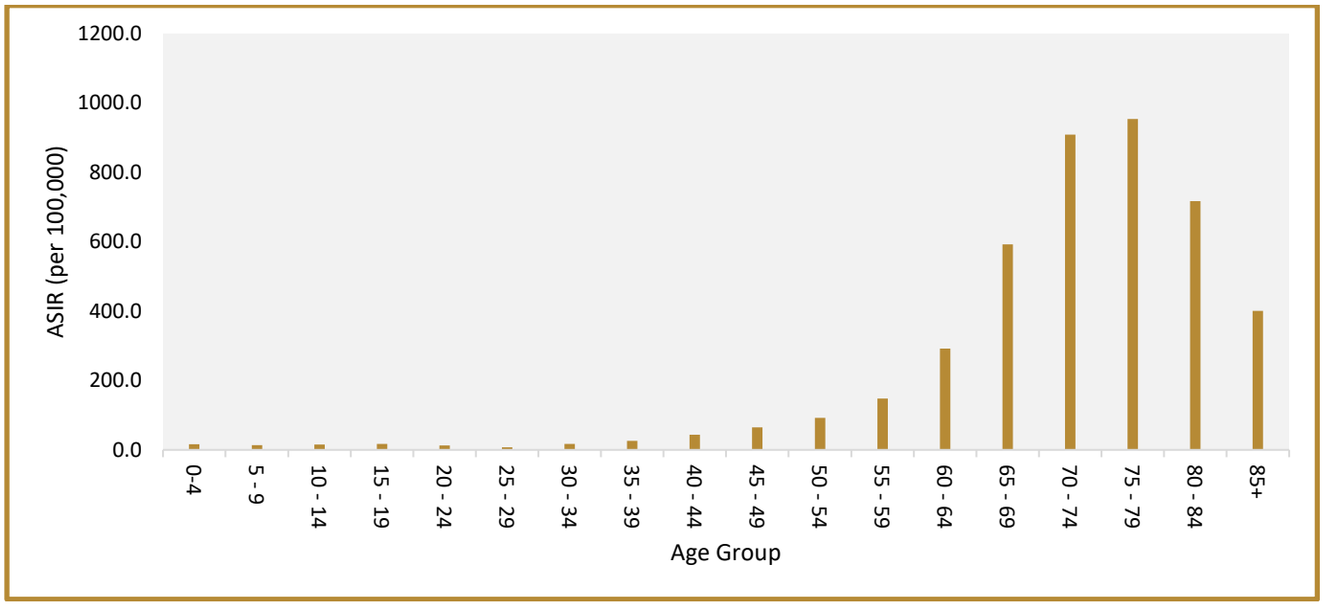


Figure 37 - Distribution of age-specific incidence rates (ASIR) for males, 2023

Cancer Mortality Rates

Cancer mortality has been contributed as the third leading cause of death in the United Arab Emirates in 2023, a total number of 11514 death cases (all causes of death) were reported in UAE among both Emirati and Non-Emirati regardless of the gender.
The number of deaths from cancer totaled 1432 (738 in males, 693 in females and 1 unknown) and accounted for 12.4% of all deaths regardless of nationality, type of cancer or gender.
This represents an estimated age-standardized cancer mortality rate of 30.37 deaths per 100,000 for both genders, 34.8 deaths per 100,000 females and 28.6 deaths per 100,000 males, 2023. And a crude mortality rate of 13.4 deaths per 100,000 of population.

Figure 38 demonstrates and summarizes the distribution by age-specific cancer mortality rates (ASMR) for both genders in the year 2023. It shows the age-specific cancer mortality rates (ASMR) increased with advancing age and peak at 80-84 years.

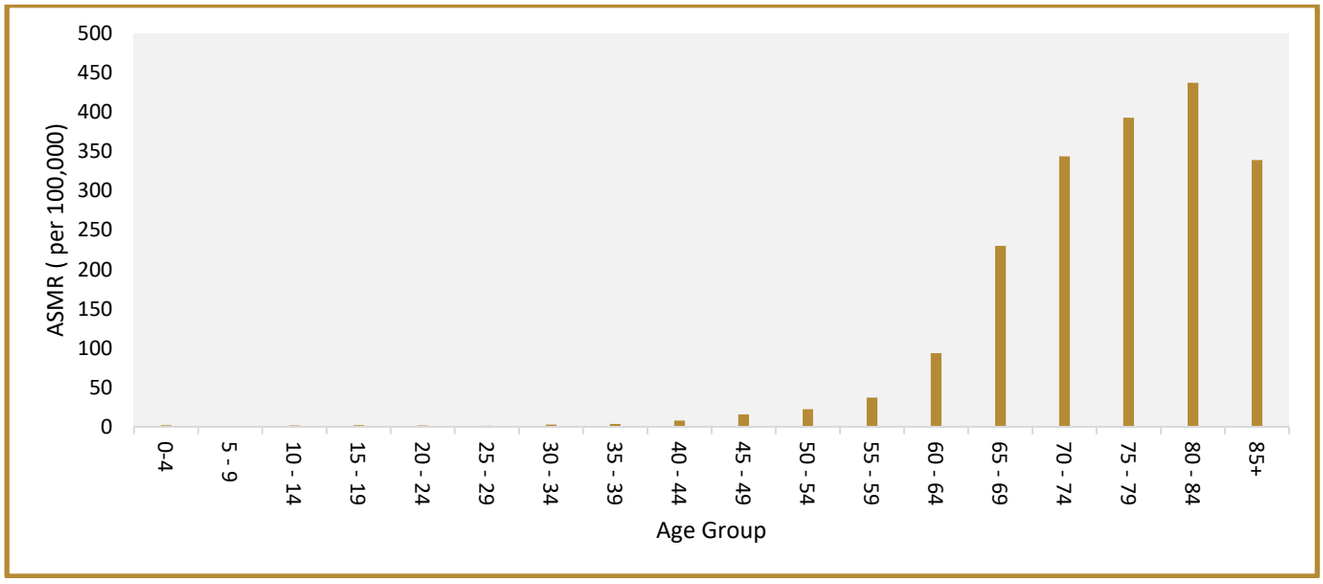


Figure 38 - Distribution of age-specific mortality rates (ASMR) for both genders, 2023

Figure 39 demonstrates and summarizes the distribution by age-specific cancer mortality rates (ASMR) among females in the year 2023. It shows the age-specific cancer mortality rates (ASMR) increased with advancing age and peak at 80-84 years.

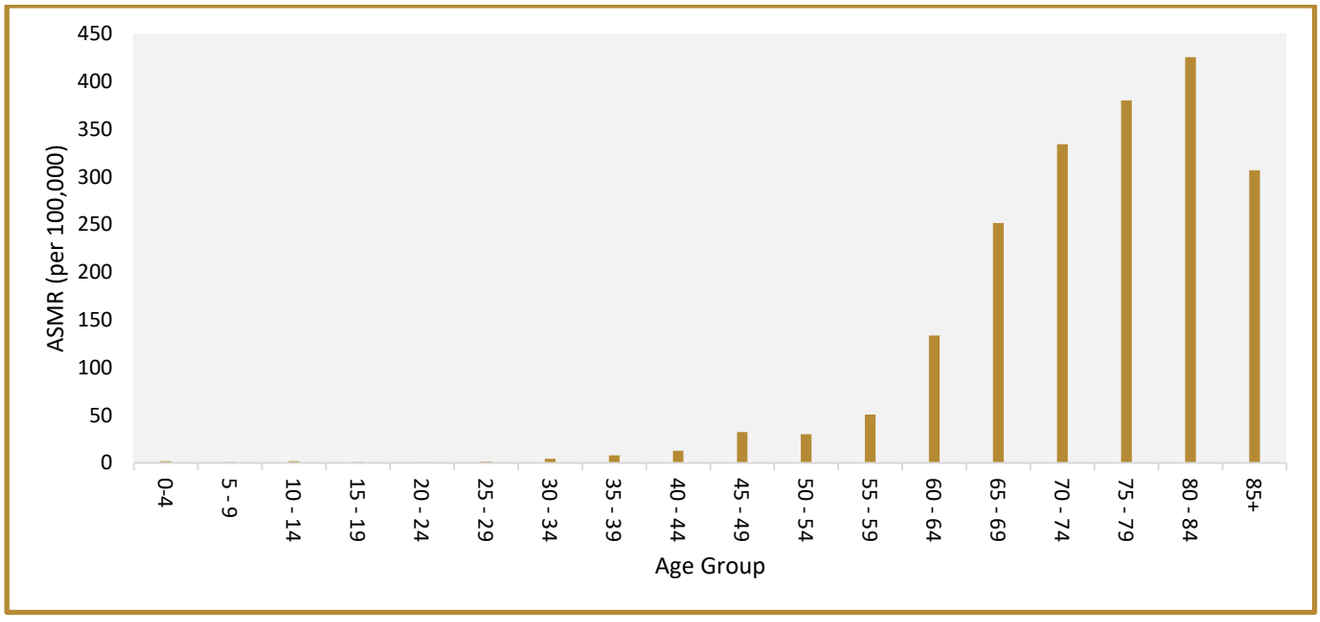


Figure 399 - Distribution of age-specific mortality rates (ASMR) for females, 2023

Figure 40 demonstrates and summarizes the distribution by age-specific cancer mortality rates (ASMR) among males in the year 2023. It shows the age-specific cancer mortality rates (ASMR) increased with advancing age and peak at 80-84 years.

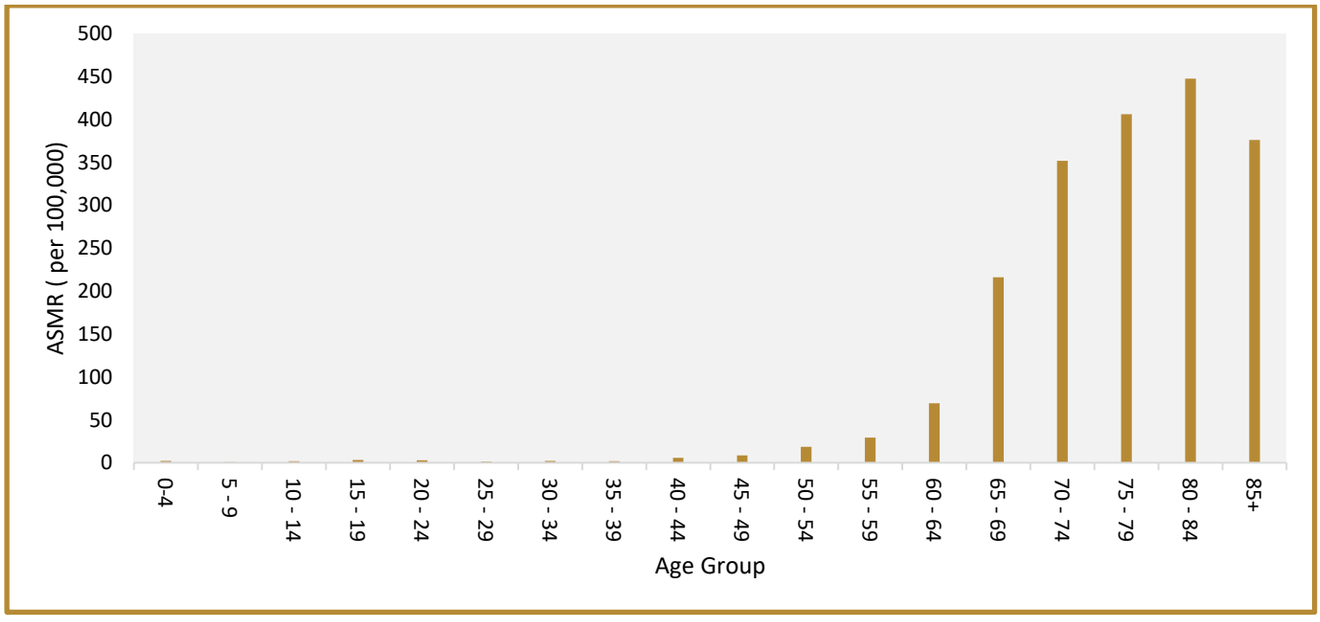


Figure 40 - Distribution of age-specific mortality rates (ASMR) for males, 2023

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