UNITED ARAB EMIRATES
MINISTRY OF HEALTH & PREVENTION

# CANCER INCIDENCE IN UNITED ARAB EMIRATES ANNUAL REPORT OF THE UAE - NATIONAL CANCER REGISTRY - 2021

Statistics and Research Center

www.mohap.gov.ae

# WORD FROM THE ASSISTANT UNDERSECRETARY (PUBLIC HEALTH)

The Ministry of Health and Prevention, as the leading governmental authority in healthcare, is committed to addressing the growing challenge of Non-Communicable Diseases (NCDs) our population. Through strategic leadership and proactive stewardship in the health sector, our mission is to implement comprehensive initiatives that focus on prevention, early detection, and advanced treatment modalities. By prioritizing research, public awareness, and collaboration with healthcare partners, we aim to reduce the burden of NCDs, enhance the quality of life for our citizens, and contribute to the overall well-being of the nation.

The Ministry of Health and Prevention is also actively making substantial efforts to address Non-Communicable Diseases (NCDs), emphasizing the development of national NCD strategies alongside the increased expansion of healthcare services.

Our efforts extend across the spectrum of cancer care, from promoting public awareness and education to fostering early detection programs and advancing state-of-the-art treatments. Through collaborative partnerships with healthcare professionals, research institutions, and advocacy groups, we aim to create a unified front against cancer, leveraging innovation and evidence-based practices.

The Ministry prioritizes the importance of supporting individuals affected by cancer, ensuring equitable access to quality care, and enhancing survivorship programs. We remain committed to investing in research, technology, and infrastructure to stay at the forefront of the battle against this complex and challenging disease.

By fostering a culture of prevention, early intervention, and continuous improvement, the Ministry of Health and Prevention is dedicated to reducing the burden of cancer, enhancing the well-being of our population, and contributing to the global endeavor to conquer this formidable health challenge.

Together, with a shared commitment and resilience, we strive to build a future where cancer is not just treatable but preventable, and where every individual has the opportunity to lead a healthy and fulfilling life.

This report aims to shed light on the cancer burden in the United Arab Emirates, presenting a valuable opportunity to comprehend the prevailing environment. It is anticipated that this understanding will pave the way for future improvements and transformative changes.

I express my gratitude to all stakeholders who have provided support to the UAE National Cancer Registry, including the Department of Health - Abu Dhabi (DOH), the Dubai Health Authority (DHA), and all healthcare providers, both public and private, throughout the UAE. Your collaboration and commitment are instrumental in advancing our collective efforts in cancer research and management.

**DR. HUSSAIN ABDULRAHMAN AL RAND**

**Assistant Undersecretary (Public Health)**

# WORD FROM THE DIRECTOR OF THE STATISTICS AND RESEARCH CENTER

I'm delighted to present the annual report of UAE national cancer registry 2021, which is a collaborative effort by the team of UAE National Cancer Registry (UAE-NCR) and all stakeholders, healthcare providers. (UAE-NCR) is a population-based Cancer Registry with epidemiological and public health aspects in mind and has always remained the cornerstone of the National Cancer Program particularly from the public health point of view. UAE-NCR is the only source which provides authentic data on incidence and mortality of cancer in various parts of the nation.

The availability of data on a continuous basis has a special importance as uniformly collected long term data helps in understanding the trends in cancer occurrence in our country. The annual cancer registries make this continuous data available for research and evaluation of cancer control efforts to effectively confront the disease. Countrywide figures on the incidence of cancer are published online, while experts and academics will have access to more detailed data on request.

This consolidated report is the 8th annual report of UAE-NCR since the establishment of the UAE National Diseases Registry. It provides insight into the data collected from all healthcare providers across UAE for the year 2021.

We are certain that this will help the decision makers in healthcare of our great nation to understand the burden of cancer and shall execute measures to keep it under control.

The international comparison of cancer rates with the UAE-NCR and cancer trends for the data collected from three oldest UAE-NCR reports would be of interest for all readers, the data will also allow UAE cancer patterns to be compared with those of other countries, through organizations such as the International Agency for Cancer Research at the World Health Organization.

The staff working in the UAE-NCR have put in a lot of hard work to collect, abstract, verify and made good efforts to ensure that the data reported is of international standards.

Many thanks to the UAE National Cancer Registry team in Ministry of Health & Prevention for their great efforts, and many thanks to all stakeholders and healthcare providers who shared the success of this endeavor.

Looking forward to seeing forthcoming reports in this series and reports on an annual basis related to trends and developments in the treatment of cancer.

**Dr. Alya Zaid Mohammed Harbi**
**Director of Statistics and Research Center**

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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**
  Public Health Information Department
- **Health Authority Dubai (DHA)**
  Data Analysis, Research, & Studies Department
- **Emirates Health Services (EHS)**
  Data and Statistics / Executive Office of the Clinical Support Services Sector
- **MOPA**
  Health information management

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, CTR'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:

- Mr. Wael Ahmed Shelpai
- Ms. Fatima Matar AlMuhairi
- 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:<br>• Staging helps the doctor plan the appropriate treatment.<br>• Cancer stage can be used in estimating a person's prognosis.<br>• Knowing the stage identifying clinical trials that may be a suitable treatment option for a patient.<br>• 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.<br><br>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.<br>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' |

| Term | Full Form |
|---|---|
| | population in the same age group 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 8th annual report of the UAE National Cancer Registry. This report summarizes cancer incidence and mortality in United Arab Emiratis for the period 2021.

Between 1st January – 31st December 2021, the total number of newly diagnosed invasive and non-invasive cancer cases (malignant and in-situ) reported to the UAE National Cancer Registry (UAE-NCR) was 5830. Of which 5612 (96%) were invasive cancers (malignant) and 218 (4%) were non-invasive cancers (In-situ). Overall cancer was more among females than males; it affected 3210 (55.1%) females and 2620 (44.9%) males.

Among Emirati, a total number of 1493 cases were newly diagnosed with cancer (malignant and in-situ); out of which 1431 (95.8%) cases were invasive cancers (malignant) and 62 (4.2 %) were non-invasive cancers (in-situ). Overall cancer was more among females than males; it affected 866 (58%) females and 627 (42%) males.

Similarly, in non-Emirati, 4337 cases were newly diagnosed with cancer (malignant and in-situ), 4181 (96.4%) cases were invasive cancers (malignant) and 156 (3.6 %) were non-invasive (in-situ). Overall cancer was more among females than males; it affected 2344 (54%) females and 1993 (46%) males.

Representing an overall crude incidence rate of 60.5/100,000 for both genders. Figures showed a clear female predominance for cancer incidence. The crude incidence rate was higher for females 108.7/100,000 than for males 39.5/100,000.

The overall age-standardized incidence rate (ASR) for both genders was 107.8/100,000, for females 149.4/100,000 and for males 96.6/100.000.

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

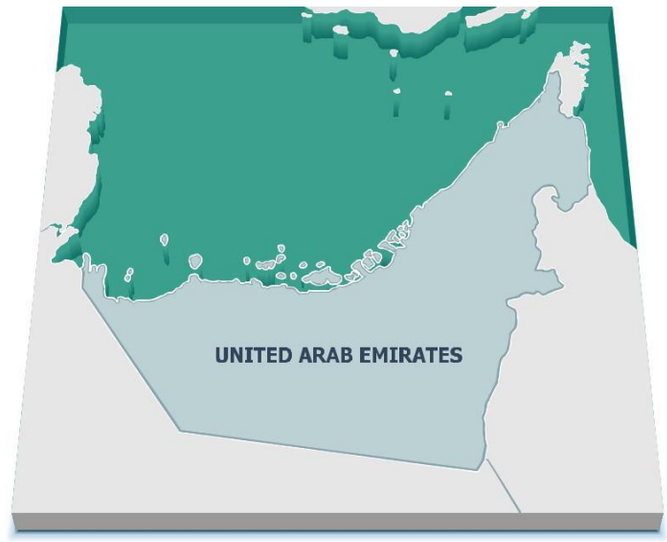
In the year of 2021, there were 154 children at the age group of 0-14 years diagnosed with new invasive cancer in UAE (45% were females and 55% were males). This constitutes about (2.7%) of all registered invasive cancer cases (malignant cases).
Leukemia, brain & CNS, Non-Hodgkin lymphoma, kidney & renal pelvis were the most common cancers in boys and girls, Figure 37.

The number of deaths from invasive cancer totaled 975 (506 in males, 469 in females) and accounted for 8.2% of all deaths regardless of nationality, type of cancer or gender.
This represents an estimated age-standardized mortality rate of 29.6 deaths per 100,000 for both genders, 33.4 deaths per 100,000 females and 29.3 deaths per 100,000 males per year.

Colon cancer was the leading cause of cancer deaths in 2021, with an estimated average of 112 colon cancer deaths which represents 11.49% of all cancer deaths. Lung cancer was the second most common cause of cancer death in both sexes, with an estimated average of 96 (9.85%) deaths. Breast cancer was the third common cause of cancer death, with an estimated average of 94 (9.64%) deaths. Leukemia was the fourth common cause of cancer death, with an estimated average of 48 (4.92%) deaths. Stomach cancer was the fifth common cause of cancer death, with an estimated average of 42 (4.31%) deaths.

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 diagnosed and/or treated in UAE [10]. 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

Mr. Wael Ahmed Shelpai
Ms. Fatima Matar AlMuhairi
Ms. Amira Kashwani
Ms. Vineetha Thomas
Dr. Shyni Noel Noel
Ms. Nada Alheloo

## 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. 2021 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.

Incidence and mortality rates were calculated by using total UAE Resident Population as estimated by Federal Competitiveness and Statistics Centre (FCSC)

## 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 supplied for this report were coded to ICD-10 and ICD-O-3 and then were converted to ICD-10 for analysis and report writing to ensure data comparability. All cases notified to the UAE-NCR must follow the IARC rules.
All relevant information of new cases would be checked for possible duplication against a master index. The clinical data would then be verified by CTR staff.
Registered cases of carcinoma in-situ were not included in the computation of crude or age-standardized incidence rate (ASR). All the results refer to the resident population (Emirati and Non-Emirati).
The data is used for monitoring the trends in incidence, research, planning, and evaluation of cancer care facilities.

The information presented in this report are based on the cancer data collected about patients newly diagnosed during January 1 to December 31, 2021, in 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

A ministerial decree has categorized cancer as a mandatory notifiable disease. This ensures the opportunity for comprehensive data collection. The UAE-NCR strives for full access to cancer data from all MOHAP and other governmental and private hospitals, as well as clinics and laboratories throughout the UAE.
Every item relating to the patient was collated and updated. The registry registered all new cases of cancer diagnosed in UAE. Multiple sources of data had assisted in optimizing completeness of collection; however, this could create problem of multiple notification of a patient. This issue was addressed by cross checking Emirates ID number, names, age, gender, date of birth and address, which is a good quality indicator and shows good coverage and completeness of cancer cases in UAE. Emirates identification card number is a unique number given to each Emirati and Non-Emirati.
After checking and filtering cancer data received, we updated the data and excluded any duplicate and already registered cases.
Every effort was made to ensure that all the variables were completed. In the event if there was incomplete information, the notification forms with incomplete information were sent back to the respective data providers for further clarification and returned to the registry upon completion.
All updated information collected on softcopies, either passively or actively, was entered into the computer database. Electronic data maintained in the cancer registry databases were subjected to on-going quality control.

## The UAE population used to calculate rates.

In this report, we have used the UAE Resident Population for 2020 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

The incidence and mortality rates are essential epidemiological measures to quantify the pattern of cancer occurrence in a specific society, and in different sub-groups of the population [12]. These cancer rates can be used for predicting the occurrence of cancers and their future magnitude and also in estimating the future demands for treatment, diagnosis and prevention of cancers across the community. The natural data source on the cancer occurrence has long been considered to be a hospital based, where majority of the cancer patients are offered treatments [12].

In the 8th annual report for the year 2021, we have presented the number of new cancer cases among Emirati and Non-Emirati, who were diagnosed and / or treated in UAE. Malignant and in-situ behaviors are reportable to UAE-NCR, while benign and borderline malignancies are not reportable in this registry in the year 2021.

## Cancer Incidence (malignant and in-situ) in UAE, 2021

Between 1st January – 31st December 2021, the total number of newly diagnosed invasive and non-invasive cancer cases (malignant and in-situ) reported to the UAE National Cancer Registry (UAE-NCR) was 5830. Of which 5612 (96%) were invasive cancers (malignant) and 218 (4%) were non-invasive cancers (In-situ). Overall cancer was more among females than males; it affected 3210 (55.1%) females and 2620 (44.9%) males.

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Similarly, in non-Emirati, 4337 cases were newly diagnosed with cancer (malignant and in-situ), 4181 (96.4%) cases were invasive cancers (malignant) and 156 (3.6 %) were non-invasive (in-situ). Overall cancer was more among females than males; it affected 2344 (54%) females and 1993 (46%) males.

**Table 1** represents the distribution of all types of cancer cases among UAE population (Emirati and Non-Emirati) according to gender.

| Primary site ICD-10 | Non-Emirati | | | Emirati | | | Grand Total |
|---|---|---|---|---|---|---|---|
| | Female | Male | Total | Female | Male | Total | |
| (C00-C96) All invasive cancers (Malignant Cases) | 2237 | 1944 | 4181 | 822 | 609 | 1431 | 5612 |
| C00-C14 Lip, Oral cavity & pharynx | 27 | 97 | 124 | 10 | 20 | 30 | 154 |
| C15 Esophagus | 3 | 15 | 18 | 5 | 4 | 9 | 27 |
| C16 Stomach | 25 | 79 | 104 | 14 | 16 | 30 | 134 |
| C17 Small intestine | 6 | 14 | 20 | 2 | 4 | 6 | 26 |
| C18-C21 Colorectal | 132 | 240 | 372 | 81 | 79 | 160 | 532 |
| C22 Liver and intrahepatic bile ducts | 22 | 62 | 84 | 11 | 19 | 30 | 114 |
| C23, C24 Gallbladder, other and unspecified part of biliary tract | 15 | 19 | 34 | 8 | 4 | 12 | 46 |
| C25 Pancreas | 29 | 50 | 79 | 12 | 19 | 31 | 110 |
| C26 Other and ill-defined digestive organs | 1 | 5 | 6 | 1 | 1 | 2 | 8 |
| C30, C31 Nasal cavity, middle ear, accessory sinuses | 2 | 9 | 11 | | 1 | 1 | 12 |
| C32 Larynx | | 17 | 17 | | 12 | 12 | 29 |
| C34 Bronchus and Lung | 53 | 118 | 171 | 17 | 43 | 60 | 231 |
| C37 Thymus | 3 | 4 | 7 | | 3 | 3 | 10 |
| C38 Heart, mediastinum, and pleura | | 6 | 6 | | | | 6 |
| C40-C41 Bone and articular cartilage | 2 | 20 | 22 | 5 | 7 | 12 | 34 |
| C43 Skin melanoma | 18 | 30 | 48 | 2 | 1 | 3 | 51 |
| C44 Skin (Carcinoma) | 94 | 155 | 249 | 15 | 9 | 24 | 273 |
| C45 Mesothelioma | 4 | 1 | 5 | 1 | | 1 | 6 |
| C46 Kaposi sarcoma | | 2 | 2 | | 1 | 1 | 3 |
| C48 Retroperitoneum and peritoneum | 5 | 7 | 12 | 5 | 1 | 6 | 18 |
| C49 Connective and soft tissue | 7 | 23 | 30 | 9 | 8 | 17 | 47 |
| C50 Breast | 915 | 6 | 921 | 213 | 5 | 218 | 1139 |
| C51 Vulva | 2 | | 2 | 1 | | 1 | 3 |
| C52 Vagina | 2 | | 2 | 1 | | 1 | 3 |
| C53 Cervix uteri | 118 | | 118 | 23 | | 23 | 141 |
| C54-C55 Uterus | 113 | | 113 | 60 | | 60 | 173 |
| C56 Ovary | 85 | | 85 | 23 | | 23 | 108 |
| C57 Other and unspecified female genital organs | 5 | | 5 | 1 | | 1 | 6 |
| C58 Placenta | 4 | | 4 | | | | 4 |
| C61 Prostate | | 180 | 180 | | 71 | 71 | 251 |
| C62 Testis | | 45 | 45 | | 15 | 15 | 60 |
| C64-C65 Kidney & Renal pelvis | 29 | 80 | 109 | 14 | 28 | 42 | 151 |
| C66, C68 Ureter and other urinary organs | 1 | 2 | 3 | | 2 | 2 | 5 |
| C67 Urinary bladder | 12 | 65 | 77 | 11 | 38 | 49 | 126 |
| C69 Eye | 3 | 1 | 4 | | 1 | 1 | 5 |
| C70-C72 Brain & CNS | 28 | 77 | 105 | 22 | 22 | 44 | 149 |
| C73 Thyroid | 266 | 136 | 402 | 155 | 38 | 193 | 595 |
| C74-C75 Other endocrine glands | 4 | 5 | 9 | 1 | 1 | 2 | 11 |
| C76-C80 Unknown or unspecified sites | 17 | 21 | 38 | 11 | 12 | 23 | 61 |
| C81 Hodgkin's lymphoma | 26 | 33 | 59 | 13 | 19 | 32 | 91 |
| C82-C85, C96 Non-Hodgkin lymphoma | 53 | 98 | 151 | 32 | 45 | 77 | 228 |
| C88, C90 Multiple myeloma | 22 | 45 | 67 | 13 | 9 | 22 | 89 |
| C91-C95 Leukemia | 69 | 163 | 232 | 26 | 46 | 72 | 304 |
| Other hematopoietic malignancies | 15 | 13 | 28 | 3 | 5 | 8 | 36 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Other Malignancy** | | 1 | **1** | 1 | | **1** | **2** |
| **(D00-D09) Non-invasive cancers (In-Situ Cases)** | **107** | **49** | **156** | **44** | **18** | **62** | **218** |
| **D01 Carcinoma in situ of other and unspecified digestive organs** | 2 | 3 | **5** | 3 | 1 | **4** | **9** |
| **D02 Carcinoma in situ of middle are and respiratory system** | | 1 | **1** | | | | **1** |
| **D03 Melanoma in situ** | 3 | 4 | **7** | | | | **7** |
| **D04 Carcinoma in situ of skin** | | 1 | **1** | 3 | 1 | **4** | **5** |
| **D05 Carcinoma in situ of breast** | 45 | 3 | **48** | 20 | | **20** | **68** |
| **D06 Carcinoma in situ of cervix uteri** | 51 | | **51** | 17 | | **17** | **68** |
| **D07 Carcinoma in situ of other and unspecified genital organs** | 2 | 9 | **11** | 1 | 2 | **3** | **14** |
| **D09 Carcinoma in situ of other and unspecified sites** | 4 | 28 | **32** | | 14 | **14** | **46** |
| **Grand Total - Invasive and Non-invasive** | **2344** | **1993** | **4337** | **866** | **627** | **1493** | **5830** |

*Table 1 - Number of cancer cases according to primary site, gender, and nationality, 2021*

**Figure 1** demonstrates the distribution of cancer cases among UAE population by the type of tumor in 2021, with 96% of invasive cancers and 4% of non-invasive cancers.

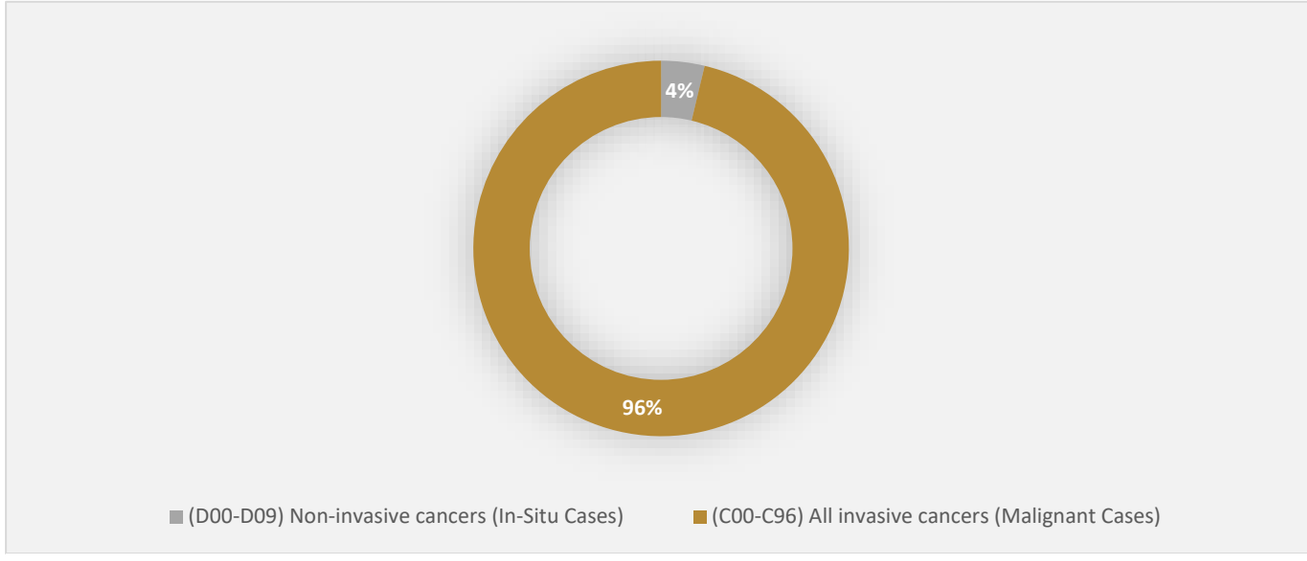


*Figure 1 - Distribution of cancer cases by type of tumor, 2021*

**Figure 2** demonstrates the distribution of cancer cases by nationality and type of tumor in 2021. 1431 invasive cancer cases (malignant) were reported among Emirati and 4181 invasive cancer cases (malignant) were reported among non-Emirati, while 62 were non-invasive cases (in-situ) reported among Emirati and 156 were non-invasive cases (in-situ) reported among non-Emirati.

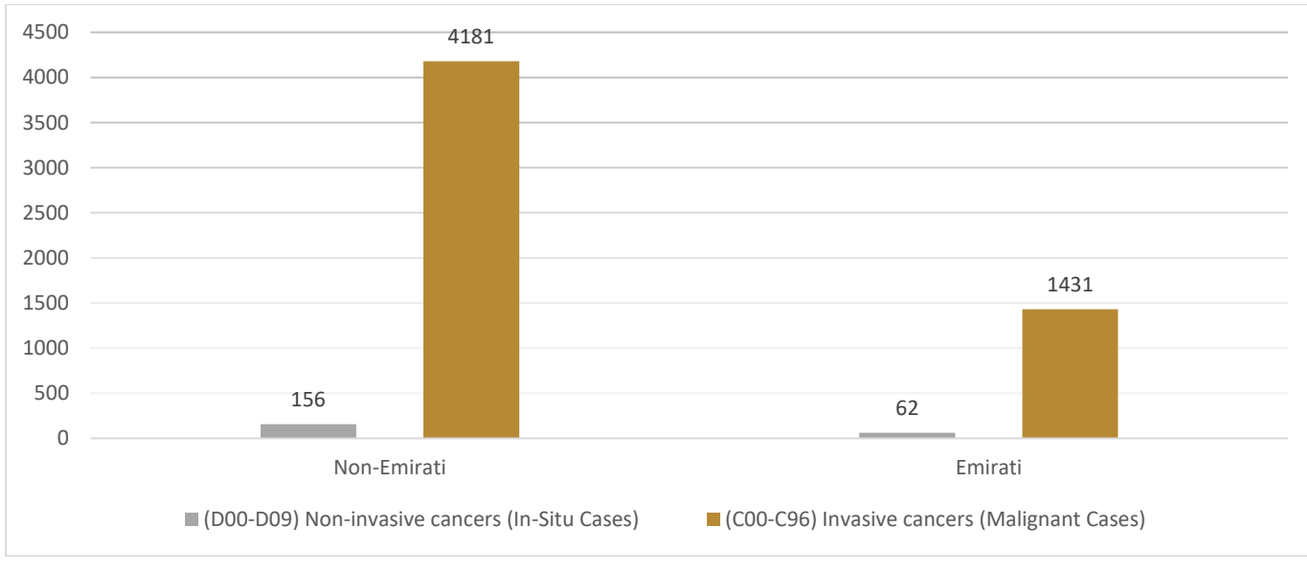


*Figure 2 - Distribution of cancer cases by nationality and type of tumor, 2021*

**Figure 3** demonstrates the distribution of cancer cases among UAE population by gender and type of tumor in 2021, with 2553 cases being malignant (invasive) reported among males, and 3059 cases being malignant (invasive) among females, while 67 cases were in-situ (non-invasive) reported among males and 151 were in-situ (non-invasive) reported among females.

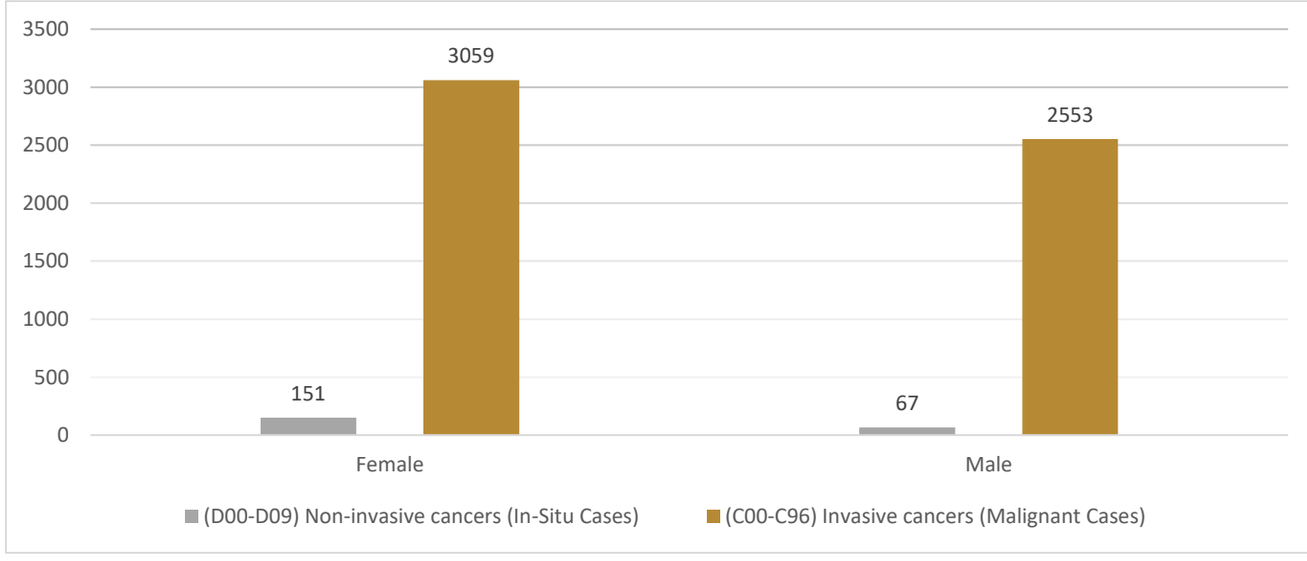


*Figure 3 - Distribution of cancer cases by gender and type of tumor, 2021*

# CANCER CASES (MALIGNANT ONLY), 2021

A total number of 5612 invasive cancer cases (malignant) were newly diagnosed in UAE among both Emirati and Non-Emirati during the period of January to December, of which represented 96% of all new cancer cases (invasive and non-invasive) were diagnosed in 2021.

## Malignant cases by nationality in UAE, 2021

**Table 2** demonstrates that 1431 and 4181 patients having invasive cancer cases (malignant) were Emirati and non-Emirati respectively.

| Primary site ICD-10 | Non-Emirati | Emirati | Total |
|---|---|---|---|
| **(C00-C96) Invasive cancers (Malignant Cases)** | 4181 | 1431 | **5612** |

*Table 2 - Distribution of invasive cancer cases (malignant) by nationality, 2021*

**Figure 4** demonstrates the distribution of invasive cancer cases (malignant) based on nationality in 2021. 25% of total Invasive cancer cases (malignant) were Emirati and the remaining 75% were non-Emirati.

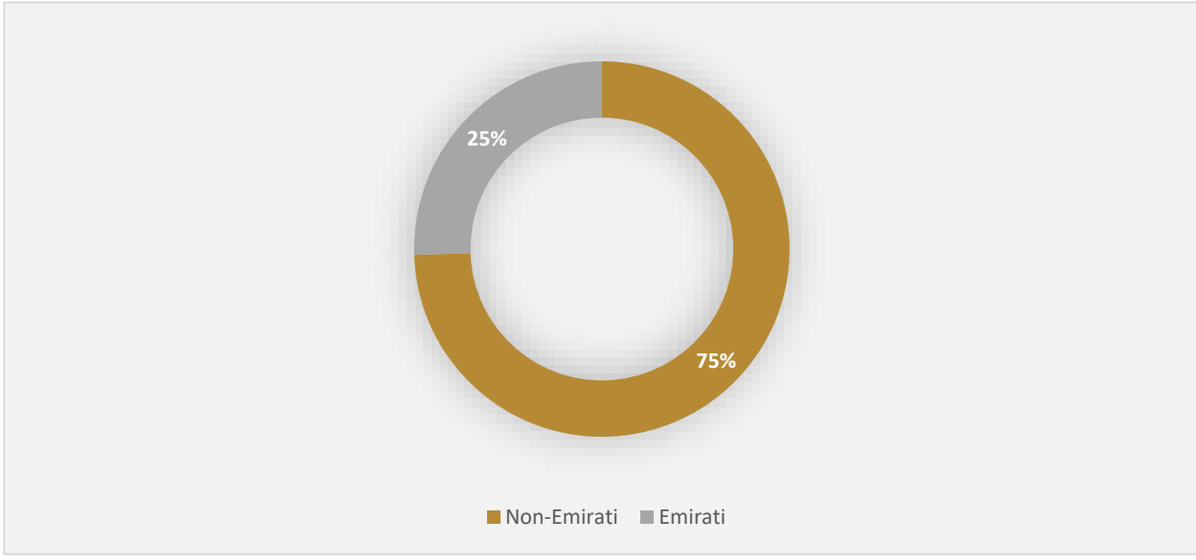


*Figure 4 - Distribution of Invasive cancer cases (malignant) by nationality, 2021*

# Invasive cancer cases (malignant) by gender in UAE, 2021

**Table 3** represents a total of 5612 invasive cancer cases (malignant), overall cancers were more among females than males; it affected 3059 (55%) females and 2553 (45%) males.

| Primary site ICD-10 | Female | Male | Total |
|---|---|---|---|
| **(C00-C96) Invasive cancers (Malignant Cases)** | 3059 | 2553 | **5612** |

*Table 3 - Distribution of invasive cancer cases (malignant) by gender among all, 2021*

**Figure 5** demonstrates the distribution of invasive cancers (malignant) by gender. Overall Invasive cancer cases (malignant), 45% were males and 55% were females. The distribution of frequency indicates that more females were diagnosed with cancer than males in 2021.

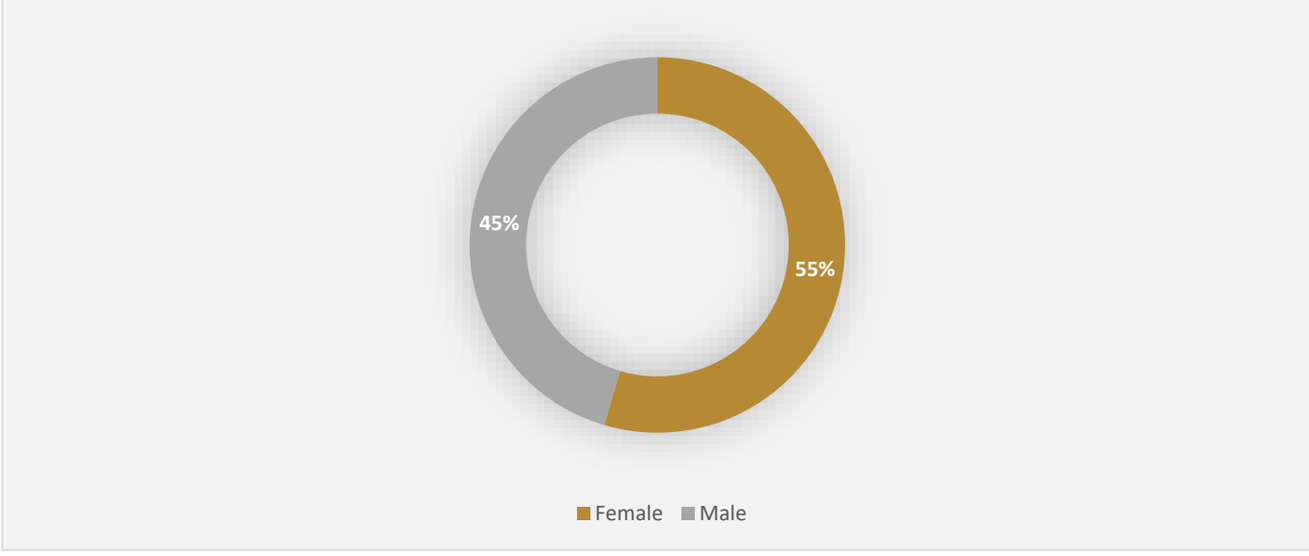


*Figure 5 - Distribution of Invasive cancer cases (malignant) by gender, 2021*

## Invasive cancer cases (malignant) by gender in Emirati, 2021

From 1st January to 31st December 2021, the total number of newly diagnosed invasive cancer cases (malignant) among Emirati reported to the UAE national cancer registry (UAE-NCR) was 1431 cases. Overall cancer was more among females than males; it affected 822 females and 609 males. **Table 4**

| Primary site ICD-10 | Female | Male | Total |
|---|---|---|---|
| **(C00-C96) Invasive cancers (Malignant Cases)** | 822 | 609 | **1431** |

*Table 4 - Distribution of invasive cancer cases (malignant) by gender among Emirati, 2021*

**Figure 6** demonstrates the distribution of Invasive cancer cases (malignant) by gender. Out of 1431 invasive cancer cases (malignant), 43% males and 57% were females.

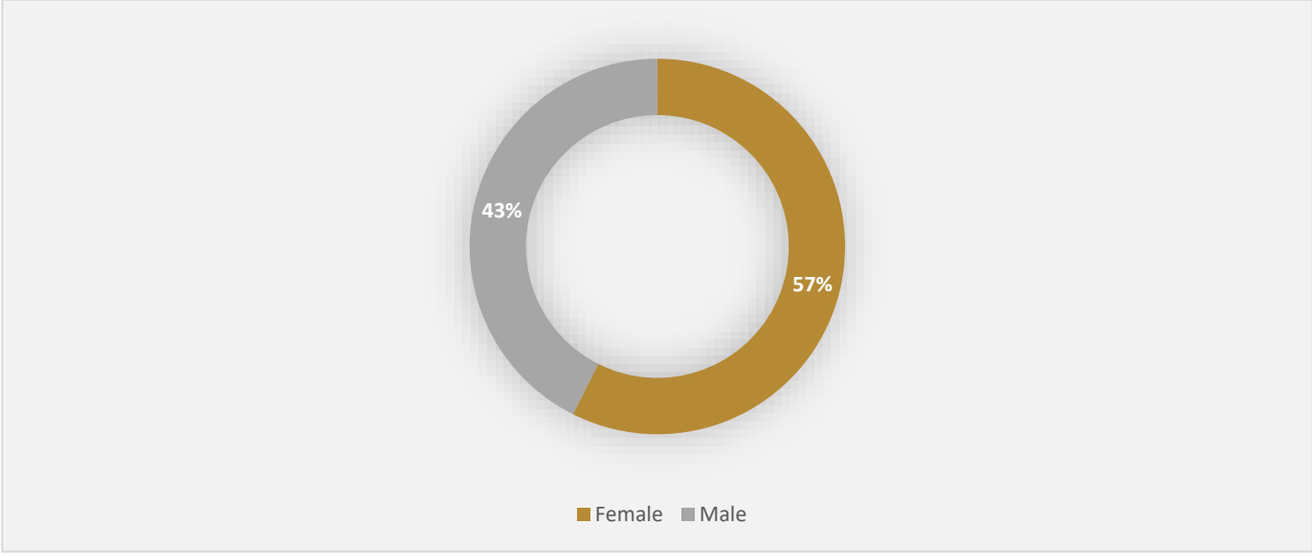


*Figure 6 - Distribution of Invasive cancer cases (malignant) among Emirati by gender, 2021*

# Invasive cancer cases (malignant) by gender among non-Emirati, 2021

A total of 4181 new invasive cancer cases (malignant) among non-Emirati were diagnosed in 2021. Overall invasive cancer cases were more among females than males; it affected 2237 females and 1944 males. **Table 5**

| Primary site ICD-10 | Female | Male | Total |
|---|---|---|---|
| **(C00-C96) Invasive cancers (Malignant Cases)** | 2237 | 1944 | **4181** |

*Table 5 - Distribution of invasive cancer cases (malignant) among non-Emirati by gender, 2021*

**Figure 7** demonstrates the distribution of invasive cancer cases (malignant) among non-Emirati by gender. Out of 4181 Invasive cancer cases (malignant), 46% were males and 54% were females.

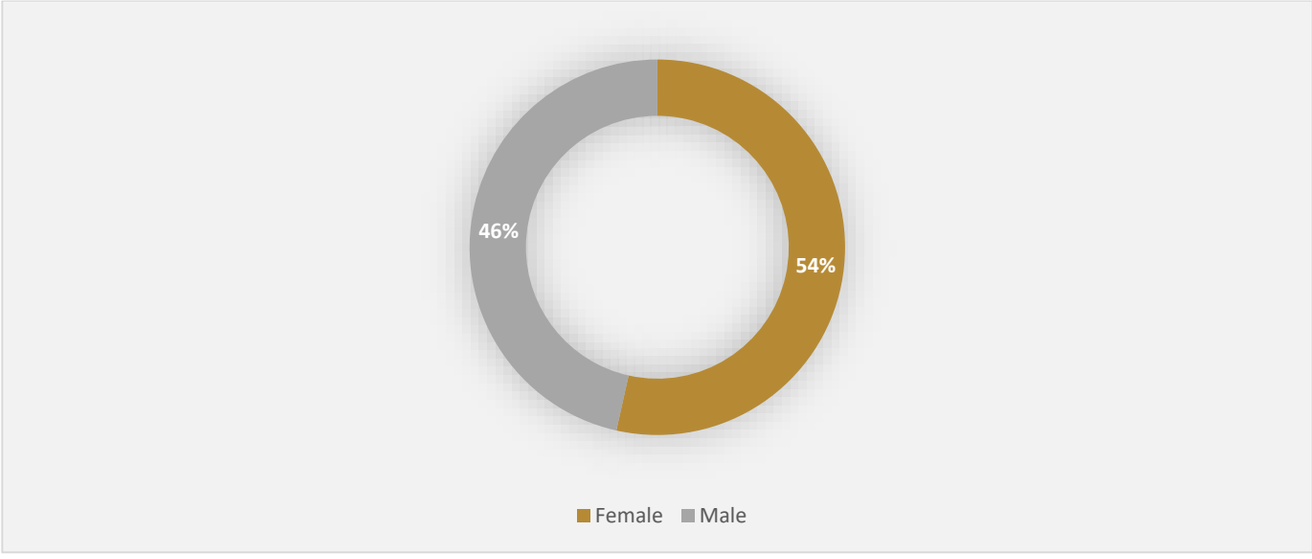


*Figure 7 - Distribution of Invasive cancer cases (malignant) among non-Emirati by gender, 2021*

# 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, 2021

Between January and December 2021, the total number of invasive cancer cases (malignant) were reported to the UAE National Cancer Registry was 5612. Of those, 3059 invasive cancer cases were females and 2553 were males, **Table 6**

| Primary Site ICD-10 | Female | Male | Grand Total |
|---|---|---|---|
| C00-C14 Lip, Oral cavity & pharynx | 37 | 117 | 154 |
| C15 Esophagus | 8 | 19 | 27 |
| C16 Stomach | 39 | 95 | 134 |
| C17 Small intestine | 8 | 18 | 26 |
| C18-C21 Colorectal | 213 | 319 | 532 |
| C22 Liver and intrahepatic bile ducts | 33 | 81 | 114 |
| C23, C24 Gallbladder, other and unspecified part of biliary tract | 23 | 23 | 46 |
| C25 Pancreas | 41 | 69 | 110 |
| C26 Other and ill-defined digestive organs | 2 | 6 | 8 |
| C30, C31 Nasal cavity, middle ear, accessory sinuses | 2 | 10 | 12 |
| C32 Larynx | | 29 | 29 |
| C34 Bronchus and Lung | 70 | 161 | 231 |
| C37 Thymus | 3 | 7 | 10 |
| C38 Heart, mediastinum, and pleura | | 6 | 6 |
| C40-C41 Bone and articular cartilage | 7 | 27 | 34 |
| C43 Skin melanoma | 20 | 31 | 51 |
| C44 Skin (Carcinoma) | 109 | 164 | 273 |
| C45 Mesothelioma | 5 | 1 | 6 |
| C46 Kaposi sarcoma | | 3 | 3 |
| C48 Retroperitoneum and peritoneum | 10 | 8 | 18 |
| C49 Connective and soft tissue | 16 | 31 | 47 |
| C50 Breast | 1128 | 11 | 1139 |
| C51 Vulva | 3 | | 3 |
| C52 Vagina | 3 | | 3 |
| C53 Cervix uteri | 141 | | 141 |
| C54-C55 Uterus | 173 | | 173 |
| C56 Ovary | 108 | | 108 |
| C57 Other and unspecified female genital organs | 6 | | 6 |
| C58 Placenta | 4 | | 4 |
| C61 Prostate | | 251 | 251 |
| C62 Testis | | 60 | 60 |
| C64-C65 Kidney & Renal pelvis | 43 | 108 | 151 |
| C66, C68 Ureter and other urinary organs | 1 | 4 | 5 |
| C67 Urinary bladder | 23 | 103 | 126 |
| C69 Eye | 3 | 2 | 5 |
| C70-C72 Brain & CNS | 50 | 99 | 149 |
| C73 Thyroid | 421 | 174 | 595 |
| C74-C75 Other endocrine glands | 5 | 6 | 11 |
| C76-C80 Unknown or unspecified sites | 28 | 33 | 61 |
| C81 Hodgkin's lymphoma | 39 | 52 | 91 |
| C82-C85, C96 Non-Hodgkin lymphoma | 85 | 143 | 228 |
| C88, C90 Multiple myeloma | 35 | 54 | 89 |
| C91-C95 Leukemia | 95 | 209 | 304 |
| Other hematopoietic malignancies | 18 | 18 | 36 |
| Other Malignancy | 1 | 1 | 2 |
| (C00-C96) All invasive cancers (Malignant Cases) | 3059 | 2553 | 5612 |

*Table 6 - Distribution of primary sites (invasive cancer cases) by gender among all, 2021*

# Primary site (malignant) distribution by gender among Emirati, 2021

Between January and December 2021, the total number of invasive cancer cases (malignant) were reported to the UAE National Cancer Registry among Emirati was 1431. Of those, 822 cases were females and 609 were males, **Table 7**

| Primary Site ICD-10 | Female | Male | Grand Total |
|---|---|---|---|
| C00-C14 Lip, Oral cavity & pharynx | 10 | 20 | 30 |
| C15 Esophagus | 5 | 4 | 9 |
| C16 Stomach | 14 | 16 | 30 |
| C17 Small intestine | 2 | 4 | 6 |
| C18-C21 Colorectal | 81 | 79 | 160 |
| C22 Liver and intrahepatic bile ducts | 11 | 19 | 30 |
| C23, C24 Gallbladder, other and unspecified part of biliary tract | 8 | 4 | 12 |
| C25 Pancreas | 12 | 19 | 31 |
| C26 Other and ill-defined digestive organs | 1 | 1 | 2 |
| C30, C31 Nasal cavity, middle ear, accessory sinuses | | 1 | 1 |
| C32 Larynx | | 12 | 12 |
| C34 Bronchus and Lung | 17 | 43 | 60 |
| C37 Thymus | | 3 | 3 |
| C40-C41 Bone and articular cartilage | 5 | 7 | 12 |
| C43 Skin melanoma | 2 | 1 | 3 |
| C44 Skin (Carcinoma) | 15 | 9 | 24 |
| C45 Mesothelioma | 1 | | 1 |
| C46 Kaposi sarcoma | | 1 | 1 |
| C48 Retroperitoneum and peritoneum | 5 | 1 | 6 |
| C49 Connective and soft tissue | 9 | 8 | 17 |
| C50 Breast | 213 | 5 | 218 |
| C51 Vulva | 1 | | 1 |
| C52 Vagina | 1 | | 1 |
| C53 Cervix uteri | 23 | | 23 |
| C54-C55 Uterus | 60 | | 60 |
| C56 Ovary | 23 | | 23 |
| C57 Other and unspecified female genital organs | 1 | | 1 |
| C61 Prostate | | 71 | 71 |
| C62 Testis | | 15 | 15 |
| C64-C65 Kidney & Renal pelvis | 14 | 28 | 42 |
| C66, C68 Ureter and other urinary organs | | 2 | 2 |
| C67 Urinary bladder | 11 | 38 | 49 |
| C69 Eye | | 1 | 1 |
| C70-C72 Brain & CNS | 22 | 22 | 44 |
| C73 Thyroid | 155 | 38 | 193 |
| C74-C75 Other endocrine glands | 1 | 1 | 2 |
| C76-C80 Unknown or unspecified sites | 11 | 12 | 23 |
| C81 Hodgkin's lymphoma | 13 | 19 | 32 |
| C82-C85, C96 Non-Hodgkin lymphoma | 32 | 45 | 77 |
| C88, C90 Multiple myeloma | 13 | 9 | 22 |
| C91-C95 Leukemia | 26 | 46 | 72 |
| Other hematopoietic malignancies | 3 | 5 | 8 |
| Other Malignancy | 1 | | 1 |
| (C00-C96) All invasive cancers (Malignant Cases) | 822 | 609 | 1431 |

*Table 7 - Primary site (invasive cancer cases) distribution by gender among Emirati, 2021*

## Primary site (malignant) distribution by gender among non-Emirati, 2021

Between January and December 2021, the total number of invasive cancer cases (malignant) were reported to the UAE National Cancer Registry among Non- Emirati was 4181. Of those, 2237 cases were females and 1944 were males, **Table 8**

| Primary Site ICD-10 | Female | Male | Grand Total |
|---|---|---|---|
| C00-C14 Lip, Oral cavity & pharynx | 27 | 97 | 124 |
| C15 Esophagus | 3 | 15 | 18 |
| C16 Stomach | 25 | 79 | 104 |
| C17 Small intestine | 6 | 14 | 20 |
| C18-C21 Colorectal | 132 | 240 | 372 |
| C22 Liver and intrahepatic bile ducts | 22 | 62 | 84 |
| C23, C24 Gallbladder, other and unspecified part of biliary tract | 15 | 19 | 34 |
| C25 Pancreas | 29 | 50 | 79 |
| C26 Other and ill-defined digestive organs | 1 | 5 | 6 |
| C30, C31 Nasal cavity, middle ear, accessory sinuses | 2 | 9 | 11 |
| C32 Larynx | | 17 | 17 |
| C34 Bronchus and Lung | 53 | 118 | 171 |
| C37 Thymus | 3 | 4 | 7 |
| C38 Heart, mediastinum, and pleura | | 6 | 6 |
| C40-C41 Bone and articular cartilage | 2 | 20 | 22 |
| C43 Skin melanoma | 18 | 30 | 48 |
| C44 Skin (Carcinoma) | 94 | 155 | 249 |
| C45 Mesothelioma | 4 | 1 | 5 |
| C46 Kaposi sarcoma | | 2 | 2 |
| C48 Retroperitoneum and peritoneum | 5 | 7 | 12 |
| C49 Connective and soft tissue | 7 | 23 | 30 |
| C50 Breast | 915 | 6 | 921 |
| C51 Vulva | 2 | | 2 |
| C52 Vagina | 2 | | 2 |
| C53 Cervix uteri | 118 | | 118 |
| C54-C55 Uterus | 113 | | 113 |
| C56 Ovary | 85 | | 85 |
| C57 Other and unspecified female genital organs | 5 | | 5 |
| C58 Placenta | 4 | | 4 |
| C61 Prostate | | 180 | 180 |
| C62 Testis | | 45 | 45 |
| C64-C65 Kidney & Renal pelvis | 29 | 80 | 109 |
| C66, C68 Ureter and other urinary organs | 1 | 2 | 3 |
| C67 Urinary bladder | 12 | 65 | 77 |
| C69 Eye | 3 | 1 | 4 |
| C70-C72 Brain & CNS | 28 | 77 | 105 |
| C73 Thyroid | 266 | 136 | 402 |
| C74-C75 Other endocrine glands | 4 | 5 | 9 |
| C76-C80 Unknown or unspecified sites | 17 | 21 | 38 |
| C81 Hodgkin's lymphoma | 26 | 33 | 59 |
| C82-C85, C96 Non-Hodgkin lymphoma | 53 | 98 | 151 |
| C88, C90 Multiple myeloma | 22 | 45 | 67 |
| C91-C95 Leukemia | 69 | 163 | 232 |
| Other hematopoietic malignancies | 15 | 13 | 28 |
| Other Malignancy | | 1 | 1 |
| (C00-C96) All invasive cancers (Malignant Cases) | 2237 | 1944 | 4181 |

*Table 8 - Primary site (invasive cancer cases) distribution by gender among non-Emirati, 2021*

# Age group distribution of invasive cancer cases (malignant) in UAE, all gender, 2021

The distribution of invasive cancer cases (malignant) in UAE by age group in the year 2021. Most patients aged 40–44 years (707 cases [12.6%]), followed by 50–54 years (626 cases [11.2%]), 45-49 years (624 cases [11.1%]), 55-59 years (604 cases [10.8%]), 35-39 years (577 cases [10.3%]), with less frequency of cancer patients aged 5-9 years (39 cases [0.7%]). **Table 9**

| Age Group | Number of invasive cancer cases (malignant), 2021 | % |
|---|---|---|
| **0-4** | 72 | 1.3% |
| **5-9** | 39 | 0.7% |
| **10-14** | 43 | 0.8% |
| **15-19** | 52 | 0.9% |
| **20-24** | 82 | 1.5% |
| **25-29** | 171 | 3.0% |
| **30-34** | 386 | 6.9% |
| **35-39** | 577 | 10.3% |
| **40-44** | 707 | 12.6% |
| **45-49** | 624 | 11.1% |
| **50-54** | 626 | 11.2% |
| **55-59** | 604 | 10.8% |
| **60-64** | 494 | 8.8% |
| **65-69** | 411 | 7.3% |
| **70-74** | 347 | 6.2% |
| **75-79** | 184 | 3.3% |
| **80-84** | 116 | 2.1% |
| **85+** | 77 | 1.4% |
| **Grand Total** | **5612** | **100.0%** |

*Table 9 - Age group distribution of invasive cancer cases (malignant) in UAE, all gender, 2021*

**Figure 8** shows and summarizes the distribution of invasive cancer cases (malignant) by age group in UAE for the year 2021. The (40-44) year age group reached its highest peak showing highest frequency of cancer cases, but in contrast, Invasive cancer cases (malignant) occurred relatively less frequently at (5-9) year age group.

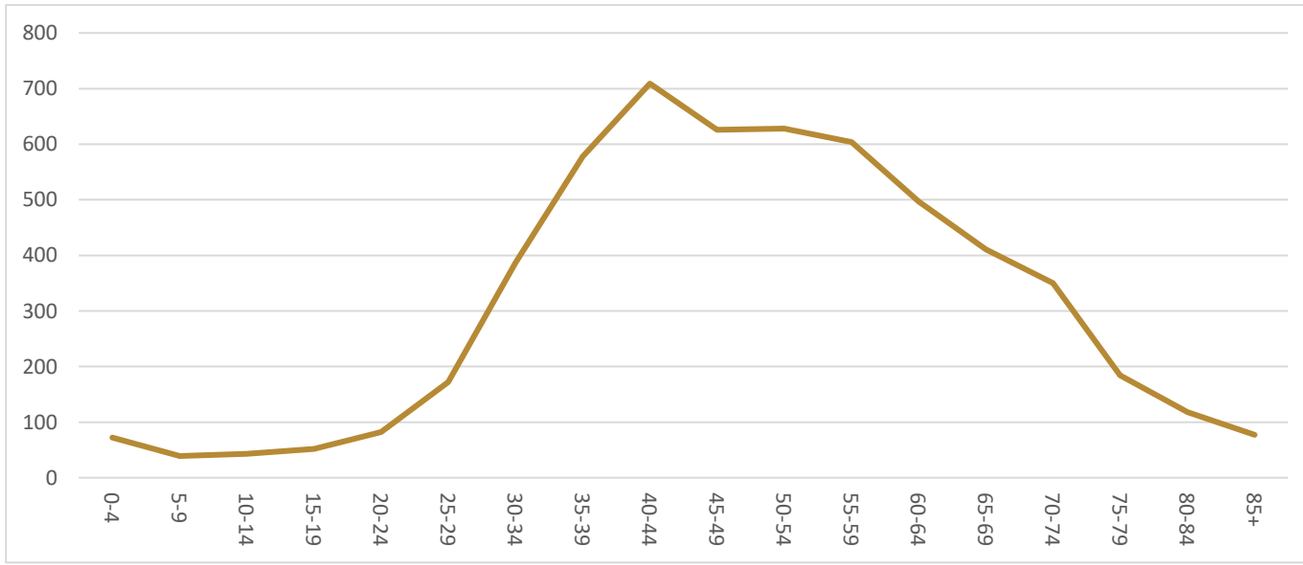


*Figure 8 - Age group distribution of invasive cancer cases (malignant) in UAE, All gender, 2021*

## Age group distribution of invasive cancer cases (malignant) in UAE, among females, 2021

**Table 10** reveals the distribution of invasive cancer cases (malignant) among females in UAE by age group in the year 2021. Most female patients aged 40–44 years (472 cases [15.4%]), followed by 45-49 years (370 cases [12.1%]), 50-54 years (366 cases [12.0%]), 35-39 years (360 cases [11.8%]), 55-59 years (303 cases [9.9%]), with less frequency of cancer patients aged 5-9 years (14 cases [0.5%]).

| Age Group | Number of invasive cancer cases (malignant), 2021 | % |
|---|---|---|
| **0-4** | 37 | 1.2% |
| **5-9** | 14 | 0.5% |
| **10-14** | 19 | 0.6% |
| **15-19** | 27 | 0.9% |
| **20-24** | 41 | 1.3% |
| **25-29** | 104 | 3.4% |
| **30-34** | 240 | 7.8% |
| **35-39** | 360 | 11.8% |
| **40-44** | 472 | 15.4% |
| **45-49** | 370 | 12.1% |
| **50-54** | 366 | 12.0% |
| **55-59** | 303 | 9.9% |
| **60-64** | 227 | 7.4% |
| **65-69** | 185 | 6.0% |
| **70-74** | 142 | 4.6% |
| **75-79** | 72 | 2.4% |
| **80-84** | 50 | 1.6% |
| **85+** | 30 | 1.0% |
| **Grand Total** | **3059** | **100.0%** |

*Table 10 - Age group distribution of invasive cancer cases (malignant) in UAE, among females, 2021*

**Figure 9** shows and summarizes the distribution of invasive cancer cases (malignant) among females in UAE in year 2021. The 40-44 years age group reached its highest peak showing highest frequency of invasive cancer, but in contrast, Invasive cancer cases (malignant) occurred relatively less frequently at young ages 5-9 years.

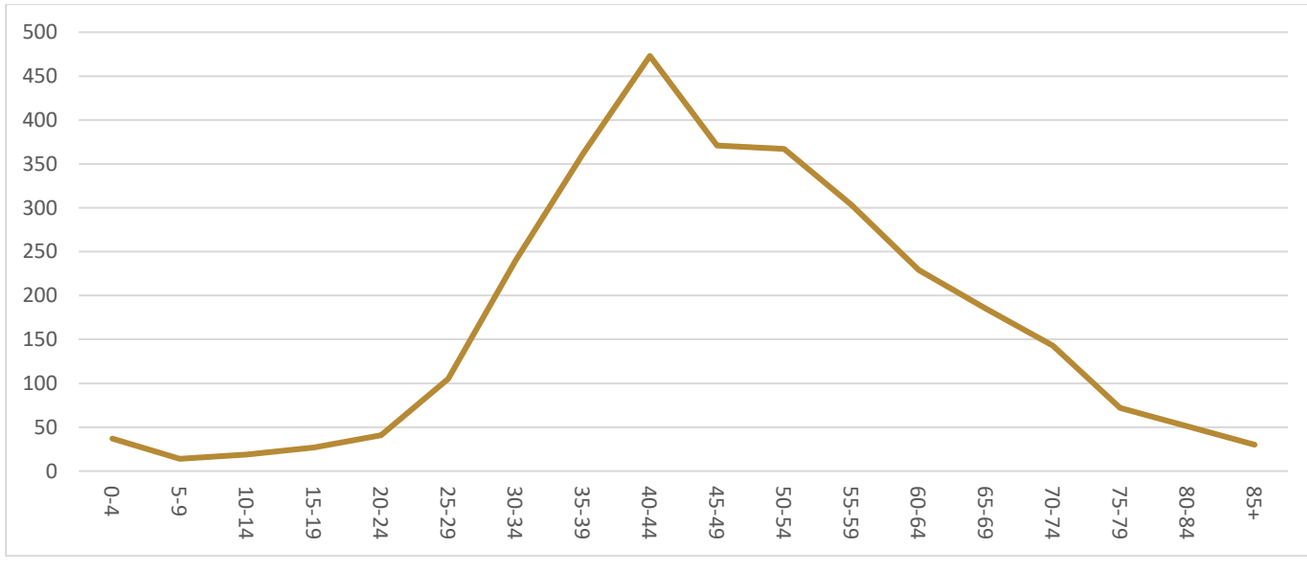


*Figure 9 - Age group distribution of invasive cancer cases (malignant) in UAE, among females, 2021*

## Age group distribution of invasive cancer cases (malignant) in UAE, among males, 2021

**Table 11** reveals the distribution of invasive cancer cases (malignant) among males in UAE by age group in the year 2021. Most male patients aged 55-59 years (301 cases [11.8%]), followed by 60-64 years (267 cases [10.5%]), 50-54 years (260 cases [10.2%]), 45-49 years (254 cases [9.9%]), 40-44 years (235 cases [9.2%]), with less frequency of cancer patients aged 10-14 years (24 cases [0.9%]).

| Age Group | Number of invasive cancer cases (malignant), 2021 | % |
|---|---|---|
| **0-4** | 35 | 1.4% |
| **5-9** | 25 | 1.0% |
| **10-14** | 24 | 0.9% |
| **15-19** | 25 | 1.0% |
| **20-24** | 41 | 1.6% |
| **25-29** | 67 | 2.6% |
| **30-34** | 146 | 5.7% |
| **35-39** | 217 | 8.5% |
| **40-44** | 235 | 9.2% |
| **45-49** | 254 | 9.9% |
| **50-54** | 260 | 10.2% |
| **55-59** | 301 | 11.8% |
| **60-64** | 267 | 10.5% |
| **65-69** | 226 | 8.9% |
| **70-74** | 205 | 8.0% |
| **75-79** | 112 | 4.4% |
| **80-84** | 66 | 2.6% |
| **85+** | 47 | 1.8% |
| **Grand Total** | **2553** | **100.0%** |

*Table 11 - Age group distribution of invasive cancer cases (malignant) in UAE, among males, 2021*

**Figure 10** shows and summarizes the distribution of invasive cancer cases (malignant) among males in UAE in year 2021. The 55-59 years age group reached its highest peak showing highest frequency of invasive cancer, but in contrast, Invasive cancer cases (malignant) occurred relatively less frequently at young ages 10-14 years.

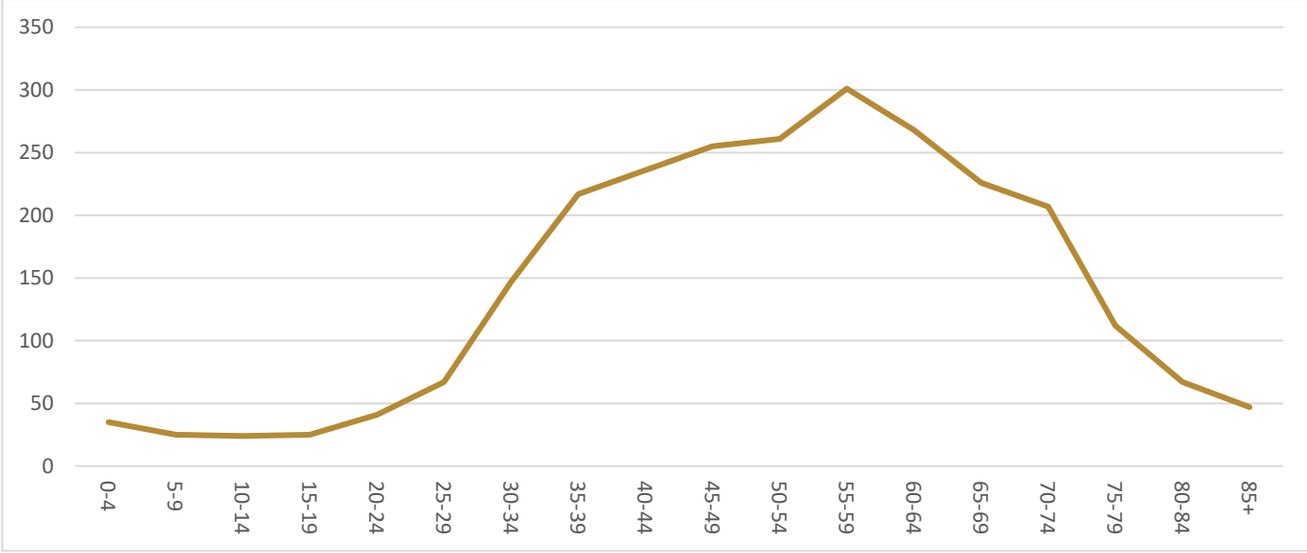


*Figure 10 - Age group distribution of invasive cancer cases (malignant) in UAE, among males, 2021*

## Age group distribution of invasive cancer cases (malignant) among Emirati, 2021

**Table 12** reveals the distribution of invasive cancer cases (malignant) among Emirati by age group in the year 2021. Most patients aged 55-59 years (138 cases [9.6%]), followed by 50–54 years (137 cases [9.6%]), 70-74 years (130 cases [9.1%]), 40-44 years (128 cases [8.9%]), 60-64 years (125 cases [8.7%]), with less frequency of cancer patients aged 5-9 years (12 cases [0.8%]).

| Age Group | Number of invasive cancer cases (malignant), 2021 | % |
|---|---|---|
| **0-4** | 24 | 1.7% |
| **5-9** | 12 | 0.8% |
| **10-14** | 25 | 1.7% |
| **15-19** | 31 | 2.2% |
| **20-24** | 37 | 2.6% |
| **25-29** | 46 | 3.2% |
| **30-34** | 60 | 4.2% |
| **35-39** | 108 | 7.5% |
| **40-44** | 128 | 8.9% |
| **45-49** | 106 | 7.4% |
| **50-54** | 137 | 9.6% |
| **55-59** | 138 | 9.6% |
| **60-64** | 125 | 8.7% |
| **65-69** | 124 | 8.7% |
| **70-74** | 130 | 9.1% |
| **75-79** | 92 | 6.4% |
| **80-84** | 65 | 4.5% |
| **85+** | 43 | 3.0% |
| **Grand Total** | **1431** | **100.0%** |

*Table 12 - Age group distribution of invasive cancer cases (malignant) among Emirati, 2021*

**Figure 11** shows and summarizes the distribution of invasive cancer cases (malignant) among Emirati in 2021. The 55-59 years age group reached its highest peak showing highest frequency of cancer, but in contrast, Invasive cancer cases (malignant) occurred relatively less frequently at young ages 5-9 years.

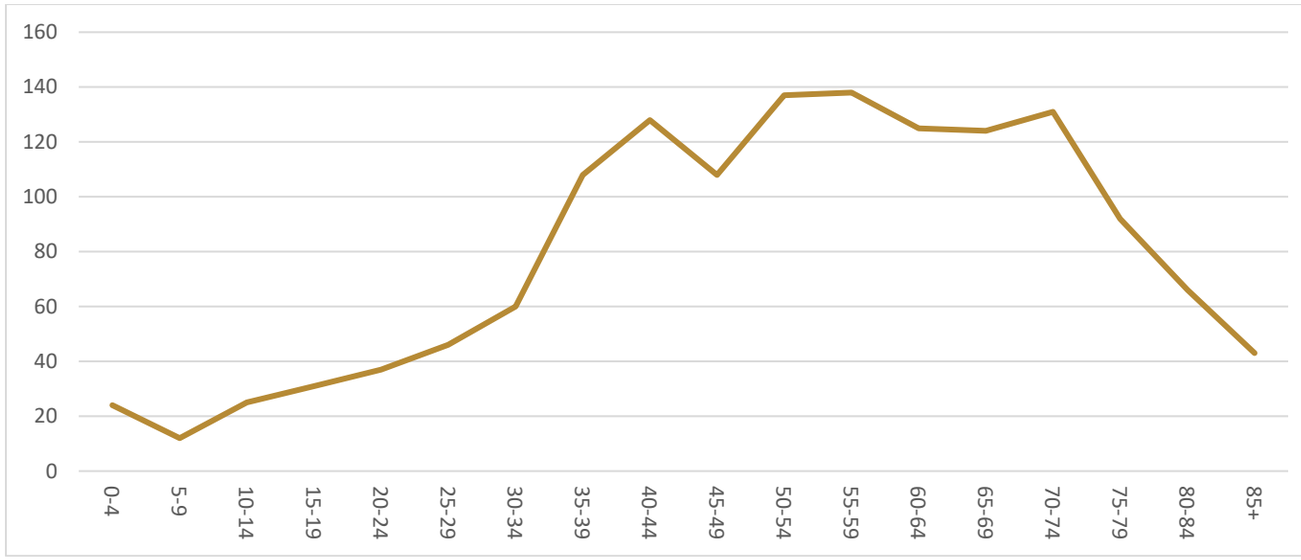


*Figure 11 - Age group distribution of invasive cancer cases (malignant) among Emirati, 2021*

## Age group distribution of invasive cancer cases (malignant) among Emirati females, 2021

**Table 13** reveals the distribution of invasive cancer cases (malignant) among Emirati females by age group in the year 2021. Most patients aged 40-44 years (94 cases [11.4%]), followed by 50-54 years (92 cases [11.2%]), 55-59 years (91 cases [11.1%]), 45-49 years (73 cases [8.9%]), 35-39 years (70 cases [8.5%]), with less frequency of cancer patients aged 5-9 years (5 cases [0.6%]).

| Age Group | Number of invasive cancer cases (malignant), 2021 | % |
|---|---|---|
| **0-4** | 9 | 1.1% |
| **5-9** | 5 | 0.6% |
| **10-14** | 10 | 1.2% |
| **15-19** | 17 | 2.1% |
| **20-24** | 24 | 2.9% |
| **25-29** | 31 | 3.8% |
| **30-34** | 34 | 4.1% |
| **35-39** | 70 | 8.5% |
| **40-44** | 94 | 11.4% |
| **45-49** | 73 | 8.9% |
| **50-54** | 92 | 11.2% |
| **55-59** | 91 | 11.1% |
| **60-64** | 62 | 7.5% |
| **65-69** | 65 | 7.9% |
| **70-74** | 65 | 7.9% |
| **75-79** | 35 | 4.3% |
| **80-84** | 31 | 3.8% |
| **85+** | 14 | 1.7% |
| **Grand Total** | **822** | **100.0%** |

*Table 13 - Age group distribution of invasive cancer cases (malignant) among Emirati females, 202*

**Figure 12** demonstrates and summarizes the distribution of invasive cancer cases (malignant) by age group among Emirati females in 2021. The age groups 40-44 years reached its highest peak showing highest frequency of cancer, but in contrast, Invasive cancer cases (malignant) occurred relatively less frequently in age groups 5-9 year.

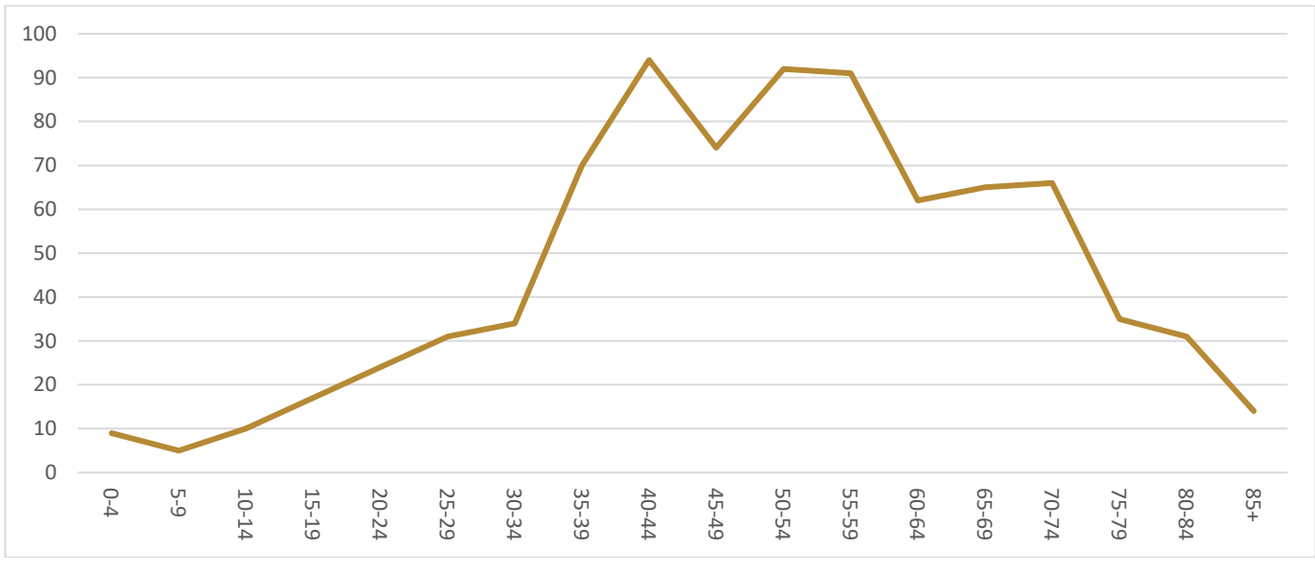


*Figure 12 - Age group distribution of invasive cancer cases (malignant) among Emirati females, 2021*

# Age group distribution of invasive cancer cases (malignant) among Emirati males, 2021

**Table 14** reveals the distribution of invasive cancer cases (malignant) among Emirati males by age group in the year 2021. Most patients aged 70-74 years (65 cases [10.7%]), followed by 60-64 years (63 cases [10.3%]), 65-69 years (59 cases [9.7%]), 75-79 years (57 cases [9.4%]), 55-59 years (47 cases [7.7%]), with less frequency of cancer patients aged 5-9 years (7 cases [1.1%]).

| Age Group | Number of invasive cancer cases (malignant), 2021 | % |
|---|---|---|
| **0-4** | 15 | 2.5% |
| **5-9** | 7 | 1.1% |
| **10-14** | 15 | 2.5% |
| **15-19** | 14 | 2.3% |
| **20-24** | 13 | 2.1% |
| **25-29** | 15 | 2.5% |
| **30-34** | 26 | 4.3% |
| **35-39** | 38 | 6.2% |
| **40-44** | 34 | 5.6% |
| **45-49** | 33 | 5.4% |
| **50-54** | 45 | 7.4% |
| **55-59** | 47 | 7.7% |
| **60-64** | 63 | 10.3% |
| **65-69** | 59 | 9.7% |
| **70-74** | 65 | 10.7% |
| **75-79** | 57 | 9.4% |
| **80-84** | 34 | 5.6% |
| **85+** | 29 | 4.8% |
| **Grand Total** | **609** | **100.0%** |

*Table 14 - Age group distribution of invasive cancer cases (malignant) among Emirati males, 2021*

**Figure 13** demonstrates and summarizes the distribution of invasive cancer cases (malignant) by age group among Emirati males in 2021.The age group 70-74 years reached its highest peak showing highest frequency of cancer, but in contrast, Invasive cancer cases (malignant) occurred relatively less frequently at young ages 5-9 years.

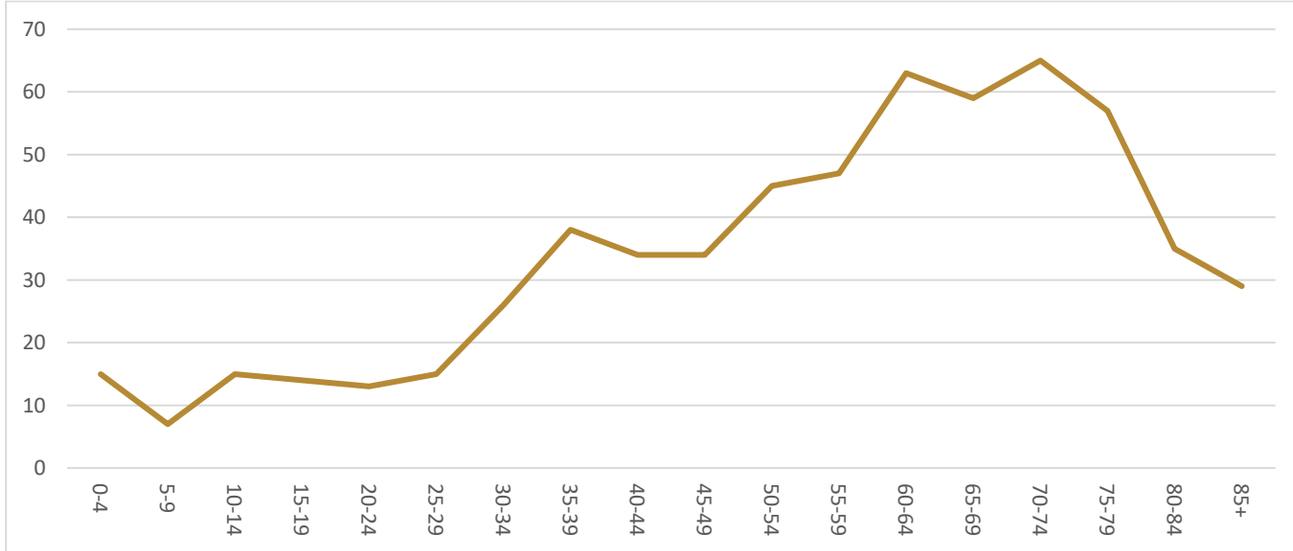


*Figure 13 - Age group distribution of invasive cancer cases (malignant) among Emirati males, 2021*

# Age group distribution of invasive cancer cases (malignant) among non-Emirati, 2021

**Table 15** reveals the distribution of invasive cancer cases (malignant) among non-Emirati by age group in the year 2021. Most patients aged 40-44 years (579 cases [13.9%]), followed by 45-49 years (518 cases [12.4%]), 50-54 years (489 cases [11.7%]), 35-39 years (469 cases [11.2%]), 55-59 years (466 cases [11.1%]), with less frequency of cancer patients aged 10-14 years (18 cases [0.4%]).

| Age Group | Number of invasive cancer cases (malignant), 2021 | % |
|---|---|---|
| **0-4** | 48 | 1.1% |
| **5-9** | 27 | 0.6% |
| **10-14** | 18 | 0.4% |
| **15-19** | 21 | 0.5% |
| **20-24** | 45 | 1.1% |
| **25-29** | 125 | 3.0% |
| **30-34** | 326 | 7.8% |
| **35-39** | 469 | 11.2% |
| **40-44** | 579 | 13.8% |
| **45-49** | 518 | 12.4% |
| **50-54** | 489 | 11.7% |
| **55-59** | 466 | 11.1% |
| **60-64** | 369 | 8.8% |
| **65-69** | 287 | 6.9% |
| **70-74** | 217 | 5.2% |
| **75-79** | 92 | 2.2% |
| **80-84** | 51 | 1.2% |
| **85+** | 34 | 0.8% |
| **Grand Total** | 4181 | 100.0% |

*Table 15 - Age group distribution of invasive cancer cases (malignant) among non-Emirati, 2021*

**Figure 14** demonstrates and summarizes the distribution of invasive cancer cases (malignant) by age group among non-Emirati in 2021. The age group 40-44year reached its highest peak showing the highest frequency of cancer, but in contrast, Invasive cancer cases (malignant) occurred relatively less frequently in the age group 10-14.

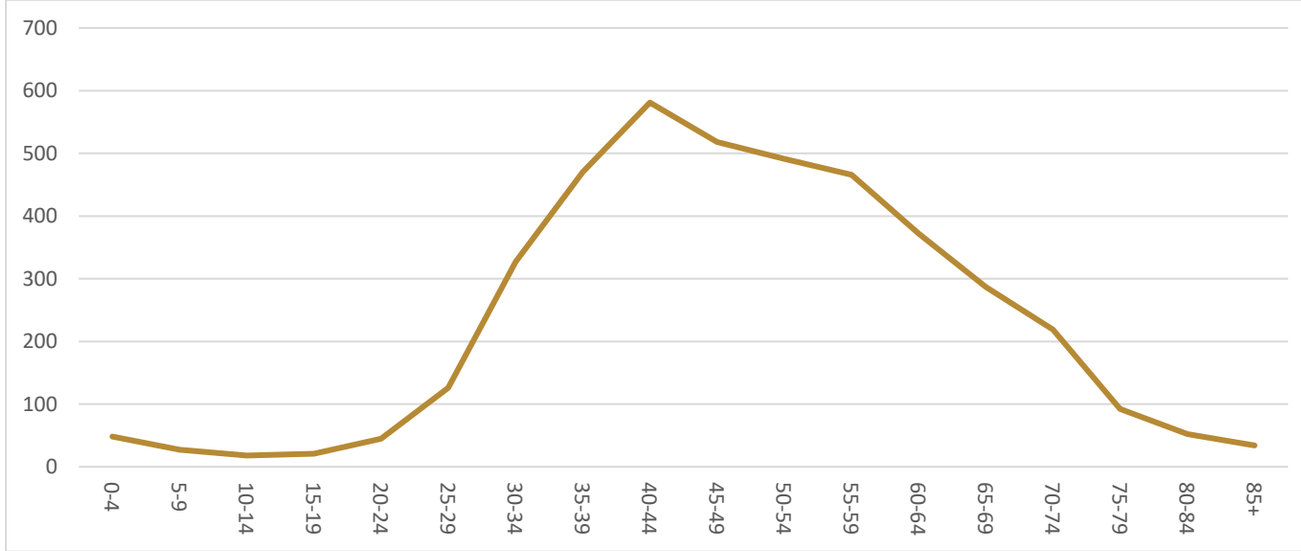


*Figure 14 - Age group distribution of invasive cancer cases (malignant) among non-Emirati, 2021*

# Age group distribution of invasive cancer cases (malignant) among non-Emirati females, 2021

**Table 16** reveals the distribution of invasive cancer cases (malignant) among non-Emirati females by age group in the year 2021. Most patients aged 40-44 years (378 cases [16.9%]), followed by 45-49 years (297 cases [13.3%]), 35-39 years (290 cases [13%]), 50-54 years (274 cases [12.2%]), 55-59 years (212 cases [9.5%]), with less frequency of cancer patients aged 5-9 and 10-14 years (9 cases [0.4%]).

| Age Group | Number of invasive cancer cases (malignant), 2021 | % |
|---|---|---|
| 0-4 | 28 | 1.3% |
| 5-9 | 9 | 0.4% |
| 10-14 | 9 | 0.4% |
| 15-19 | 10 | 0.4% |
| 20-24 | 17 | 0.8% |
| 25-29 | 73 | 3.3% |
| 30-34 | 206 | 9.2% |
| 35-39 | 290 | 13.0% |
| 40-44 | 378 | 16.9% |
| 45-49 | 297 | 13.3% |
| 50-54 | 274 | 12.2% |
| 55-59 | 212 | 9.5% |
| 60-64 | 165 | 7.4% |
| 65-69 | 120 | 5.4% |
| 70-74 | 77 | 3.4% |
| 75-79 | 37 | 1.7% |
| 80-84 | 19 | 0.8% |
| 85+ | 16 | 0.7% |
| Grand Total | 2237 | 100.0% |

*Table 16 - Age group distribution of invasive cancer cases (malignant) among non-Emirati females, 2021*

**Figure 15** demonstrates and summarizes the distribution by age group of Invasive cancer cases (malignant) among non-Emirati females in the year 2021. The age group 40-44 years reached its highest peak showing the highest frequency of cancer, but in contrast, malignant cancer occurred relatively less frequently in the age group 5-9 and 10-14 years.

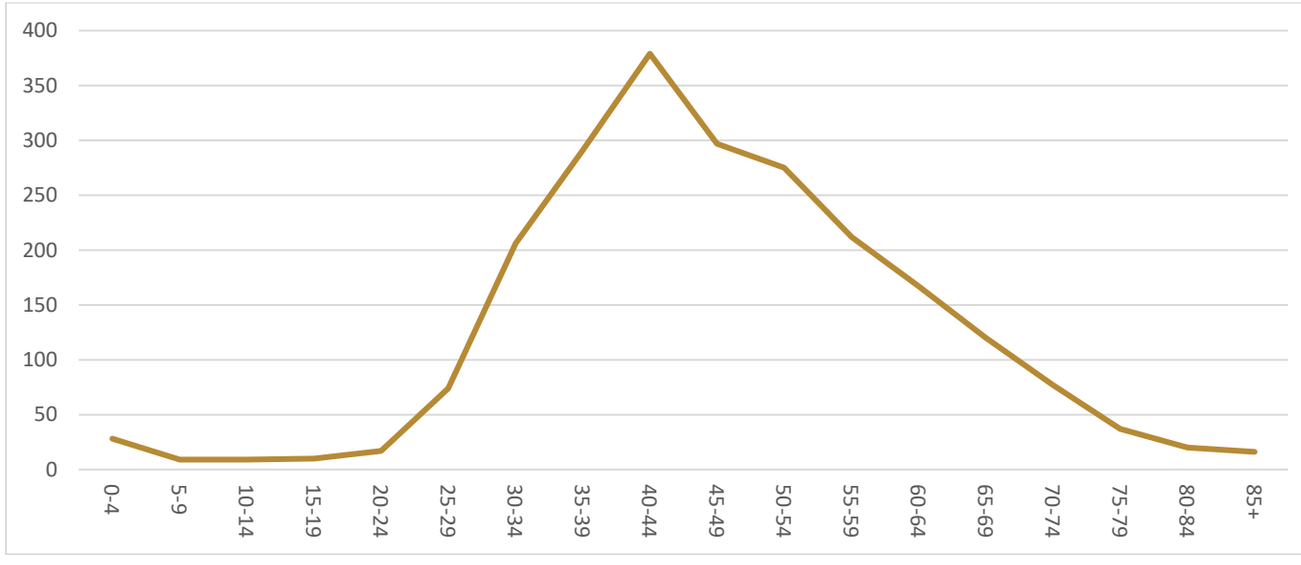


*Figure 15 - Age group distribution of invasive cancer cases (malignant) among non-Emirati females, 202*

## Age group distribution of invasive cancer cases (malignant) among non-Emirati males, 2021

**Table 17** reveals the distribution of invasive cancer cases (malignant) among non-Emirati males by age group in the year 2021. Most patients aged 55-59 years (254 cases [13.1%]), followed by 45-49 years (221 cases [11.4%]), 50-54 years (215 cases [11.1%]), 60-64 years (204 cases [10.5%]), 40-44 years (201 cases [10.3%]), with less frequency of cancer patients aged 10-14 years (9 cases [0.5%]).

| Age Group | Number of invasive cancer cases (malignant), 2021 | % |
|---|---|---|
| 0-4 | 20 | 1.0% |
| 5-9 | 18 | 0.9% |
| 10-14 | 9 | 0.5% |
| 15-19 | 11 | 0.6% |
| 20-24 | 28 | 1.4% |
| 25-29 | 52 | 2.7% |
| 30-34 | 120 | 6.2% |
| 35-39 | 179 | 9.2% |
| 40-44 | 201 | 10.3% |
| 45-49 | 221 | 11.4% |
| 50-54 | 215 | 11.1% |
| 55-59 | 254 | 13.1% |
| 60-64 | 204 | 10.5% |
| 65-69 | 167 | 8.6% |
| 70-74 | 140 | 7.2% |
| 75-79 | 55 | 2.8% |
| 80-84 | 32 | 1.6% |
| 85+ | 18 | 0.9% |
| Grand Total | 1944 | 100.0% |

*Table 17 - Age group distribution of invasive cancer cases (malignant) among non-Emirati males, 2021*

**Figure 16** demonstrates and summarizes the distribution by age group of Invasive cancer cases (malignant) among non-Emirati males in 2021. The age group 55-59 years indicated the highest frequency of cancer, but less frequently at young, age group 10-14 years.

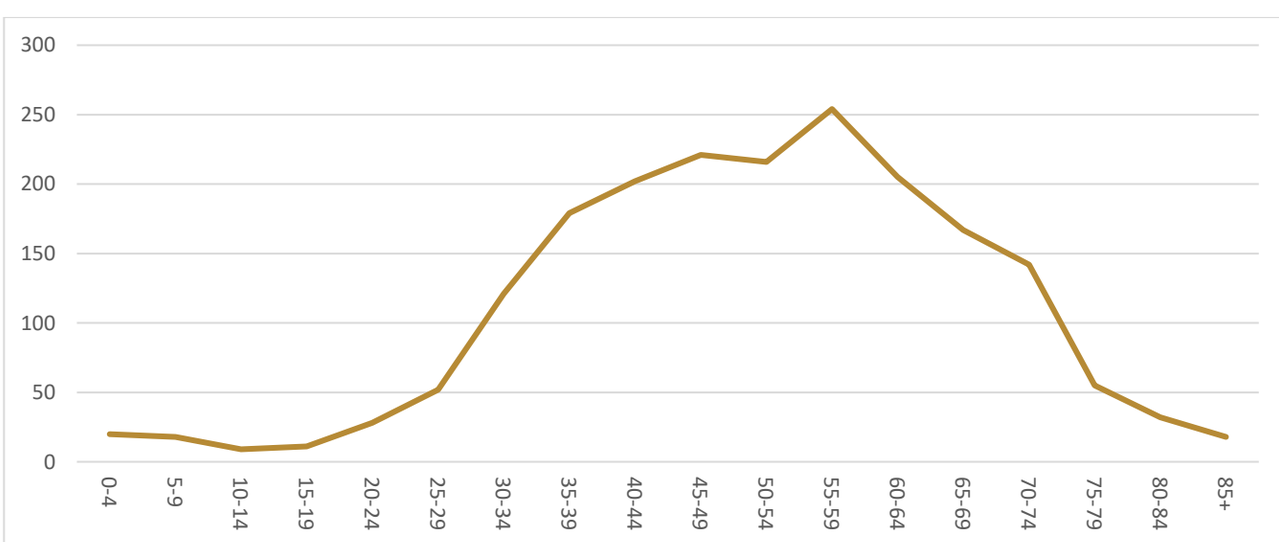


*Figure 16 - Age group distribution of invasive cancer cases (malignant) among non-Emirati males, 2021*

## Primary site (malignant) distribution by age group, among all, 2021

The most commonly diagnosed cancers in the UAE population vary considerably by age group, with particular differences in the cancer types diagnosed in children 0-14, teenagers 15-24, young adults 25-49, adults 50-74 compared with the types diagnosed in older people 75 and over. The highest frequencies of invasive cancer cases were found among age groups 40-49 years. It was also noted that the smallest frequencies of invasive cancer cases were diagnosed in the age group of 10-19 years. The highest frequencies of breast cancer cases were found among age groups 40-49 years, thyroid cancer cases 30-39 years and colorectal cancer 50-59 years. **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** | 0 | 1 | 3 | 24 | 42 | 43 | 28 | 7 | 6 |
| **C15 Esophagus** | 0 | 0 | 2 | 4 | 7 | 4 | 1 | 6 | 3 |
| **C16 Stomach** | 0 | 0 | 5 | 15 | 29 | 25 | 33 | 24 | 3 |
| **C17 Small intestine** | 0 | 0 | 3 | 4 | 6 | 6 | 4 | 2 | 1 |
| **C18-C21 Colorectal** | 1 | 2 | 10 | 69 | 107 | 129 | 112 | 77 | 25 |
| **C22 Liver and intrahepatic bile ducts** | 0 | 0 | 3 | 10 | 8 | 33 | 23 | 31 | 6 |
| **C23, C24 Gallbladder, other and unspecified part of biliary tract** | 0 | 0 | 0 | 4 | 9 | 8 | 14 | 7 | 4 |
| **C25 Pancreas** | 0 | 0 | 1 | 11 | 15 | 32 | 29 | 14 | 8 |
| **C26 Other and ill-defined digestive organs** | 0 | 0 | 0 | 0 | 4 | 1 | 1 | 1 | 1 |
| **C30, C31 Nasal cavity, middle ear, accessory sinuses** | 0 | 0 | 0 | 1 | 3 | 5 | 3 | 0 | 0 |
| **C32 Larynx** | 0 | 0 | 0 | 0 | 5 | 10 | 7 | 7 | 0 |
| **C34 Bronchus and Lung** | 0 | 0 | 4 | 16 | 32 | 62 | 47 | 50 | 20 |
| **C37 Thymus** | 0 | 0 | 0 | 5 | 4 | 1 | 0 | 0 | 0 |
| **C38 Heart, mediastinum, and pleura** | 0 | 0 | 2 | 2 | 1 | 0 | 0 | 1 | 0 |
| **C40-C41 Bone and articular cartilage** | 1 | 11 | 1 | 6 | 7 | 4 | 2 | 1 | 1 |
| **C43 Skin melanoma** | 0 | 0 | 6 | 13 | 12 | 15 | 3 | 2 | 0 |
| **C44 Skin (Carcinoma)** | 0 | 1 | 7 | 44 | 70 | 77 | 39 | 24 | 11 |
| **C45 Mesothelioma** | 0 | 0 | 1 | 0 | 2 | 1 | 1 | 1 | 0 |
| **C46 Kaposi sarcoma** | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 |
| **C48 Retroperitoneum and peritoneum** | 2 | 1 | 0 | 2 | 5 | 3 | 2 | 2 | 1 |
| **C49 Connective and soft tissue** | 2 | 7 | 1 | 12 | 10 | 8 | 4 | 2 | 1 |
| **C50 Breast** | 0 | 0 | 13 | 223 | 407 | 275 | 149 | 55 | 17 |
| **C51 Vulva** | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 |
| **C52 Vagina** | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 |
| **C53 Cervix uteri** | 0 | 0 | 5 | 38 | 45 | 34 | 14 | 4 | 1 |
| **C54-C55 Uterus** | 0 | 0 | 2 | 21 | 37 | 42 | 46 | 24 | 1 |
| **C56 Ovary** | 0 | 1 | 4 | 19 | 27 | 33 | 12 | 9 | 3 |
| **C57 Other and unspecified female genital organs** | 0 | 1 | 0 | 0 | 0 | 3 | 2 | 0 | 0 |
| **C58 Placenta** | 0 | 0 | 2 | 0 | 1 | 1 | 0 | 0 | 0 |
| **C61 Prostate** | 0 | 0 | 0 | 1 | 9 | 56 | 107 | 60 | 18 |
| **C62 Testis** | 2 | 1 | 17 | 30 | 9 | 1 | 0 | 0 | 0 |
| **C64-C65 Kidney & Renal pelvis** | 10 | 0 | 3 | 19 | 43 | 32 | 27 | 12 | 5 |
| **C66, C68 Ureter and other urinary organs** | 0 | 0 | 1 | 0 | 0 | 2 | 1 | 0 | 1 |
| **C67 Urinary bladder** | 0 | 0 | 1 | 4 | 16 | 24 | 37 | 26 | 18 |
| **C69 Eye** | 1 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 0 |
| **C70-C72 Brain & CNS** | 13 | 12 | 9 | 30 | 25 | 29 | 21 | 8 | 2 |
| **C73 Thyroid** | 2 | 16 | 69 | 206 | 169 | 94 | 27 | 8 | 4 |
| **C74-C75 Other endocrine glands** | 2 | 0 | 3 | 4 | 1 | 1 | 0 | 0 | 0 |
| **C76-C80 Unknown or unspecified sites** | 6 | 2 | 1 | 5 | 8 | 13 | 11 | 8 | 7 |
| **C81 Hodgkin's lymphoma** | 2 | 16 | 29 | 21 | 14 | 3 | 2 | 3 | 1 |
| **C82-C85, C96 Non-Hodgkin lymphoma** | 7 | 8 | 19 | 35 | 41 | 52 | 32 | 24 | 10 |
| **C88, C90 Multiple myeloma** | 0 | 0 | 2 | 3 | 20 | 22 | 27 | 10 | 5 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **C91-C95 Leukemia** | 59 | 15 | 23 | 56 | 64 | 36 | 28 | 19 | 4 |
| **Other hematopoietic malignancies** | 0 | 0 | 0 | 3 | 11 | 10 | 6 | 2 | 4 |
| **Other Malignancy** | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| **Grand Total** | **111** | **95** | **253** | **963** | **1331** | **1230** | **905** | **531** | **193** |

*Table 18 - Primary site (invasive cancer cases) distribution by age group, among all, 2021*

## Primary site (malignant) distribution by age group among Emirati, 2021

The most commonly diagnosed cancers among Emirati varies considerably by age group, with particular differences in the cancer types diagnosed in children 0-14, teenagers 15-24, young adults 25-49, adults 50-74 compared with the types diagnosed in older people 75 and over. The highest frequencies of invasive cancer cases were found among age groups 50-59 years. It was also noted that the smallest frequencies of invasive cancer cases were diagnosed in the age group of 0-9 years. The highest frequencies of breast cancer cases were found among age groups 50-59 years, thyroid cancer cases 40-49 years and colorectal cancer 50-59 years. **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** | 0 | 0 | 0 | 5 | 5 | 7 | 5 | 4 | 4 |
| **C15 Esophagus** | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 3 | 3 |
| **C16 Stomach** | 0 | 0 | 2 | 3 | 4 | 4 | 9 | 6 | 2 |
| **C17 Small intestine** | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 2 | 0 |
| **C18-C21 Colorectal** | 1 | 1 | 2 | 17 | 13 | 39 | 37 | 33 | 17 |
| **C22 Liver and intrahepatic bile ducts** | 0 | 0 | 0 | 1 | 1 | 3 | 4 | 17 | 4 |
| **C23, C24 Gallbladder, other and unspecified part of biliary tract** | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 5 | 1 |
| **C25 Pancreas** | 0 | 0 | 0 | 1 | 7 | 10 | 4 | 7 | 2 |
| **C26 Other and ill-defined digestive organs** | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| **C30, C31 Nasal cavity, middle ear, accessory sinuses** | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| **C32 Larynx** | 0 | 0 | 0 | 0 | 2 | 3 | 4 | 3 | 0 |
| **C34 Bronchus and Lung** | 0 | 0 | 1 | 1 | 7 | 11 | 15 | 14 | 11 |
| **C37 Thymus** | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 |
| **C40-C41 Bone and articular cartilage** | 0 | 6 | 1 | 0 | 2 | 1 | 0 | 1 | 1 |
| **C43 Skin melanoma** | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 |
| **C44 Skin (Carcinoma)** | 0 | 0 | 2 | 3 | 3 | 3 | 3 | 4 | 6 |
| **C45 Mesothelioma** | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| **C46 Kaposi sarcoma** | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| **C48 Retroperitoneum and peritoneum** | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 |
| **C49 Connective and soft tissue** | 1 | 5 | 0 | 2 | 3 | 2 | 2 | 1 | 1 |
| **C50 Breast** | 0 | 0 | 3 | 35 | 55 | 60 | 38 | 22 | 5 |
| **C51 Vulva** | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| **C52 Vagina** | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| **C53 Cervix uteri** | 0 | 0 | 2 | 0 | 9 | 7 | 3 | 1 | 1 |
| **C54-C55 Uterus** | 0 | 0 | 0 | 5 | 12 | 12 | 18 | 12 | 1 |
| **C56 Ovary** | 0 | 1 | 0 | 3 | 4 | 9 | 1 | 3 | 2 |
| **C57 Other and unspecified female genital organs** | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| **C61 Prostate** | 0 | 0 | 0 | 0 | 0 | 11 | 30 | 21 | 9 |
| **C62 Testis** | 1 | 1 | 3 | 9 | 0 | 1 | 0 | 0 | 0 |
| **C64-C65 Kidney & Renal pelvis** | 1 | 0 | 1 | 5 | 11 | 5 | 10 | 7 | 2 |
| **C66, C68 Ureter and other urinary organs** | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| **C67 Urinary bladder** | 0 | 0 | 0 | 0 | 4 | 6 | 14 | 14 | 11 |
| **C69 Eye** | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| **C70-C72 Brain & CNS** | 7 | 8 | 2 | 6 | 3 | 6 | 7 | 4 | 1 |
| **C73 Thyroid** | 1 | 10 | 37 | 49 | 50 | 29 | 9 | 4 | 4 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **C74-C75 Other endocrine glands** | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **C76-C80 Unknown or unspecified sites** | 4 | 1 | 1 | 1 | 2 | 2 | 4 | 3 | 5 |
| **C81 Hodgkin's lymphoma** | 0 | 9 | 12 | 1 | 5 | 1 | 2 | 1 | 1 |
| **C82-C85, C96 Non-Hodgkin lymphoma** | 0 | 4 | 7 | 11 | 8 | 14 | 12 | 14 | 7 |
| **C88, C90 Multiple myeloma** | 0 | 0 | 0 | 1 | 1 | 9 | 5 | 4 | 2 |
| **C91-C95 Leukemia** | 16 | 9 | 6 | 4 | 13 | 9 | 4 | 9 | 2 |
| **Other hematopoietic malignancies** | 0 | 0 | 0 | 0 | 1 | 1 | 3 | 1 | 2 |
| **Other Malignancy** | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Grand Total** | **36** | **56** | **83** | **168** | **234** | **275** | **249** | **222** | **108** |

*Table 19 - Primary site (invasive cancer cases) distribution by age group among Emirati, 2021*

## Primary site (malignant) distribution by age group among non-Emirati, 2021

The commonly diagnosed cancer among non-Emirati varies considerably by age group, with particular differences in the cancer types diagnosed in children 0-14, teenagers 15-24, young adults 25-49, adults 50-74 compared with the types diagnosed in older people 75 and over. The highest frequencies of invasive cancer cases were found among age groups 40-49 years. It was also noted that the smallest frequencies of invasive cancer cases were diagnosed in the age group of 10-19 years. The highest frequencies of breast cancer cases were found among age groups 40-49 years. It was also noted that the smallest frequencies of breast cancer cases were diagnosed in the age group of 20-29. The highest frequencies of thyroid cancer cases were found among age groups 30-39 years and colorectal cancer cases 40-49 years. **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 | 1 | 3 | 19 | 37 | 36 | 23 | 3 | 2 |
| **C15 Esophagus** | 0 | 0 | 2 | 3 | 6 | 3 | 1 | 3 | 0 |
| **C16 Stomach** | 0 | 0 | 3 | 12 | 25 | 21 | 24 | 18 | 1 |
| **C17 Small intestine** | 0 | 0 | 2 | 4 | 5 | 5 | 3 | 0 | 1 |
| **C18-C21 Colorectal** | 0 | 1 | 8 | 52 | 94 | 90 | 75 | 44 | 8 |
| **C22 Liver and intrahepatic bile ducts** | 0 | 0 | 3 | 9 | 7 | 30 | 19 | 14 | 2 |
| **C23, C24 Gallbladder, other and unspecified part of biliary tract** | 0 | 0 | 0 | 4 | 9 | 5 | 11 | 2 | 3 |
| **C25 Pancreas** | 0 | 0 | 1 | 10 | 8 | 22 | 25 | 7 | 6 |
| **C26 Other and ill-defined digestive organs** | 0 | 0 | 0 | 0 | 3 | 1 | 1 | 0 | 1 |
| **C30, C31 Nasal cavity, middle ear, accessory sinuses** | 0 | 0 | 0 | 1 | 3 | 4 | 3 | 0 | 0 |
| **C32 Larynx** | 0 | 0 | 0 | 0 | 3 | 7 | 3 | 4 | 0 |
| **C34 Bronchus and Lung** | 0 | 0 | 3 | 15 | 25 | 51 | 32 | 36 | 9 |
| **C37 Thymus** | 0 | 0 | 0 | 4 | 2 | 1 | 0 | 0 | 0 |
| **C38 Heart, mediastinum, and pleura** | 0 | 0 | 2 | 2 | 1 | 0 | 0 | 1 | 0 |
| **C40-C41 Bone and articular cartilage** | 1 | 5 | 0 | 6 | 5 | 3 | 2 | 0 | 0 |
| **C43 Skin melanoma** | 0 | 0 | 6 | 11 | 11 | 15 | 3 | 2 | 0 |
| **C44 Skin (Carcinoma)** | 0 | 1 | 5 | 41 | 67 | 74 | 36 | 20 | 5 |
| **C45 Mesothelioma** | 0 | 0 | 1 | 0 | 2 | 0 | 1 | 1 | 0 |
| **C46 Kaposi sarcoma** | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| **C48 Retroperitoneum and peritoneum** | 1 | 0 | 0 | 2 | 4 | 2 | 1 | 1 | 1 |
| **C49 Connective and soft tissue** | 1 | 2 | 1 | 10 | 7 | 6 | 2 | 1 | 0 |
| **C50 Breast** | 0 | 0 | 10 | 188 | 352 | 215 | 111 | 33 | 12 |
| **C51 Vulva** | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| **C52 Vagina** | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| **C53 Cervix uteri** | 0 | 0 | 3 | 38 | 36 | 27 | 11 | 3 | 0 |
| **C54-C55 Uterus** | 0 | 0 | 2 | 16 | 25 | 30 | 28 | 12 | 0 |
| **C56 Ovary** | 0 | 0 | 4 | 16 | 23 | 24 | 11 | 6 | 1 |
| **C57 Other and unspecified female genital organs** | 0 | 1 | 0 | 0 | 0 | 2 | 2 | 0 | 0 |
| **C58 Placenta** | 0 | 0 | 2 | 0 | 1 | 1 | 0 | 0 | 0 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **C61 Prostate** | 0 | 0 | 0 | 1 | 9 | 45 | 77 | 39 | 9 |
| **C62 Testis** | 1 | 0 | 14 | 21 | 9 | 0 | 0 | 0 | 0 |
| **C64-C65 Kidney & Renal pelvis** | 9 | 0 | 2 | 14 | 32 | 27 | 17 | 5 | 3 |
| **C66, C68 Ureter and other urinary organs** | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 |
| **C67 Urinary bladder** | 0 | 0 | 1 | 4 | 12 | 18 | 23 | 12 | 7 |
| **C69 Eye** | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 |
| **C70-C72 Brain & CNS** | 6 | 4 | 7 | 24 | 22 | 23 | 14 | 4 | 1 |
| **C73 Thyroid** | 1 | 6 | 32 | 157 | 119 | 65 | 18 | 4 | 0 |
| **C74-C75 Other endocrine glands** | 0 | 0 | 3 | 4 | 1 | 1 | 0 | 0 | 0 |
| **C76-C80 Unknown or unspecified sites** | 2 | 1 | 0 | 4 | 6 | 11 | 7 | 5 | 2 |
| **C81 Hodgkin's lymphoma** | 2 | 7 | 17 | 20 | 9 | 2 | 0 | 2 | 0 |
| **C82-C85, C96 Non-Hodgkin lymphoma** | 7 | 4 | 12 | 24 | 33 | 38 | 20 | 10 | 3 |
| **C88, C90 Multiple myeloma** | 0 | 0 | 2 | 2 | 19 | 13 | 22 | 6 | 3 |
| **C91-C95 Leukemia** | 43 | 6 | 17 | 52 | 51 | 27 | 24 | 10 | 2 |
| **Other hematopoietic malignancies** | 0 | 0 | 0 | 3 | 10 | 9 | 3 | 1 | 2 |
| **Other Malignancy** | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| **Grand Total** | **75** | **39** | **170** | **795** | **1097** | **955** | **656** | **309** | **85** |

*Table 20 - Primary site (invasive cancer cases) distribution by age group among non-Emirati, 2021*

## Primary site (malignant) distribution by nationality, 2021

Between January 1st and December 31st, 2021, the total number of newly diagnosed invasive cancer cases (malignant) reported to the UAE National Cancer Registry (UAE-NCR) was 5612. Total of 1431 cases were reported among Emirati, 4181 among Non-Emirati. **Table 21** demonstrates that the three most commonly diagnosed cancers in both Emirati and Non-Emirati are breast, thyroid and colorectal cancers.

| Primary site ICD-10 | Non-Emirati | Emirati | Grand Total |
|---|---|---|---|
| C00-C14 Lip, Oral cavity & pharynx | 124 | 30 | 154 |
| C15 Esophagus | 18 | 9 | 27 |
| C16 Stomach | 104 | 30 | 134 |
| C17 Small intestine | 20 | 6 | 26 |
| C18-C21 Colorectal | 372 | 160 | 532 |
| C22 Liver and intrahepatic bile ducts | 84 | 30 | 114 |
| C23, C24 Gallbladder, other and unspecified part of biliary tract | 34 | 12 | 46 |
| C25 Pancreas | 79 | 31 | 110 |
| C26 Other and ill-defined digestive organs | 6 | 2 | 8 |
| C30, C31 Nasal cavity, middle ear, accessory sinuses | 11 | 1 | 12 |
| C32 Larynx | 17 | 12 | 29 |
| C34 Bronchus and Lung | 171 | 60 | 231 |
| C37 Thymus | 7 | 3 | 10 |
| C38 Heart, mediastinum, and pleura | 6 | | 6 |
| C40-C41 Bone and articular cartilage | 22 | 12 | 34 |
| C43 Skin melanoma | 48 | 3 | 51 |
| C44 Skin (Carcinoma) | 249 | 24 | 273 |
| C45 Mesothelioma | 5 | 1 | 6 |
| C46 Kaposi sarcoma | 2 | 1 | 3 |
| C48 Retroperitoneum and peritoneum | 12 | 6 | 18 |
| C49 Connective and soft tissue | 30 | 17 | 47 |
| C50 Breast | 921 | 218 | 1139 |
| C51 Vulva | 2 | 1 | 3 |
| C52 Vagina | 2 | 1 | 3 |
| C53 Cervix uteri | 118 | 23 | 141 |
| C54-C55 Uterus | 113 | 60 | 173 |
| C56 Ovary | 85 | 23 | 108 |
| C57 Other and unspecified female genital organs | 5 | 1 | 6 |
| C58 Placenta | 4 | | 4 |
| C61 Prostate | 180 | 71 | 251 |
| C62 Testis | 45 | 15 | 60 |
| C64-C65 Kidney & Renal pelvis | 109 | 42 | 151 |
| C66, C68 Ureter and other urinary organs | 3 | 2 | 5 |
| C67 Urinary bladder | 77 | 49 | 126 |
| C69 Eye | 4 | 1 | 5 |
| C70-C72 Brain & CNS | 105 | 44 | 149 |
| C73 Thyroid | 402 | 193 | 595 |
| C74-C75 Other endocrine glands | 9 | 2 | 11 |
| C76-C80 Unknown or unspecified sites | 38 | 23 | 61 |
| C81 Hodgkin's lymphoma | 59 | 32 | 91 |
| C82-C85, C96 Non-Hodgkin lymphoma | 151 | 77 | 228 |
| C88, C90 Multiple myeloma | 67 | 22 | 89 |

| | | | |
|---|---|---|---|
| C91-C95 Leukemia | 232 | 72 | 304 |
| Other hematopoietic malignancies | 28 | 8 | 36 |
| Other Malignancy | 1 | 1 | 2 |
| Grand Total | 4181 | 1431 | 5612 |

*Table 21 - Primary site (invasive cancer cases) distribution by nationality, 2021*

## Top malignant primary sites among all UAE population, 2021

Between January 1st and December 31st, 2021, the total number of breast cancer cases reported to the UAE National Cancer Registry among UAE population was 1139, representing 20.3% of all Invasive cancer cases (malignant) in 2021. **Table 22** demonstrates the 10 most common cancers among the UAE population. The five most common cancers among UAE population in both genders are breast, thyroid, colorectal, leukemia and skin (carcinoma).

| Primary site ICD-10 | Number of invasive cancer cases (malignant), 2021 | % |
|---|---|---|
| C50 Breast | 1139 | 20.3% |
| C73 Thyroid | 595 | 10.6% |
| C18-C21 Colorectal | 532 | 9.5% |
| C91-C95 Leukemia | 304 | 5.4% |
| C44 Skin (Carcinoma) | 273 | 4.9% |
| C61 Prostate | 251 | 4.5% |
| C34 Bronchus and Lung | 231 | 4.1% |
| C82-C85, C96 Non-Hodgkin lymphoma | 228 | 4.1% |
| C54-C55 Uterus | 173 | 3.1% |
| C00-C14 Lip, Oral cavity & pharynx | 154 | 2.7% |

*Table 22 - Top ten most common malignant primary sites among UAE population, 2021*

## Top malignant primary sites among all females, 2021

Among females, breast is the most common cancer, representing 36.9% of all invasive cancer cases (malignant) in 2021. **Table 23** demonstrates the 10 most common cancers among females. The five most common cancers are breast, thyroid, colorectal, uterus and cervix uteri.

| Primary site ICD-10 | Number of invasive cancer cases (malignant), 2021 | % |
|---|---|---|
| C50 Breast | 1128 | 36.9% |
| C73 Thyroid | 421 | 13.8% |
| C18-C21 Colorectal | 213 | 7.0% |
| C54-C55 Uterus | 173 | 5.7% |
| C53 Cervix uteri | 141 | 4.6% |
| C44 Skin (Carcinoma) | 109 | 3.6% |
| C56 Ovary | 108 | 3.5% |
| C91-C95 Leukemia | 95 | 3.1% |
| C82-C85, C96 Non-Hodgkin lymphoma | 85 | 2.8% |
| C34 Bronchus and Lung | 70 | 2.3% |

*Table 23 - Top ten most common malignant primary sites among females, 2021*

## Top malignant primary sites among all males, 2021

Among males, colorectal is the most common cancer, representing 12.5% of all invasive cancer cases (malignant) in 2021.**Table 24** demonstrates the 10 most common cancers among males. The five most common cancers are colorectal, prostate, leukemia, thyroid, and skin (carcinoma).

| Primary site ICD-10 | Number of invasive cancer cases (malignant), 2021 | % |
|---|---|---|
| C18-C21 Colorectal | 319 | 12.5% |
| C61 Prostate | 251 | 9.8% |
| C91-C95 Leukemia | 209 | 8.2% |
| C73 Thyroid | 174 | 6.8% |
| C44 Skin (Carcinoma) | 164 | 6.4% |
| C34 Bronchus and Lung | 161 | 6.3% |
| C82-C85, C96 Non-Hodgkin lymphoma | 143 | 5.6% |
| C00-C14 Lip, Oral cavity & pharynx | 117 | 4.6% |
| C64-C65 Kidney & Renal pelvis | 108 | 4.2% |
| C67 Urinary bladder | 103 | 4.0% |

*Table 24 - Top ten most common malignant primary sites among males, 2021*

## Top malignant primary sites among males & females, 2021

Breast cancer in females and colorectal cancer in males have shown the fastest increase in incidence over the past decade across UAE. The incidence of breast, thyroid, and colorectal cancers in females and colorectal, prostate and leukemia in males has also been observed to increase markedly in 2021, **Table 25**

| Primary site ICD-10 | % |
|---|---|
| C50 Breast | 36.9% |
| C73 Thyroid | 13.8% |
| C18-C21 Colorectal | 7.0% |
| C54-C55 Uterus | 5.7% |
| C53 Cervix uteri | 4.6% |
| C44 Skin (Carcinoma) | 3.6% |
| C56 Ovary | 3.5% |
| C91-C95 Leukemia | 3.1% |
| C82-C85, C96 Non-Hodgkin lymphoma | 2.8% |
| C34 Bronchus and Lung | 2.3% |

| Primary site ICD-10 | % |
|---|---|
| C18-C21 Colorectal | 12.5% |
| C61 Prostate | 9.8% |
| C91-C95 Leukemia | 8.2% |
| C73 Thyroid | 6.8% |
| C44 Skin (Carcinoma) | 6.4% |
| C34 Bronchus and Lung | 6.3% |
| C82-C85, C96 Non-Hodgkin lymphoma | 5.6% |
| C00-C14 Lip, Oral cavity & pharynx | 4.6% |
| C64-C65 Kidney & Renal pelvis | 4.2% |
| C67 Urinary bladder | 4.0% |

*Table 25 - Top ten most common malignant primary sites among males & females, 2021*

## Top malignant primary sites among Emirati, 2021

Between January 1st and December 31st, 2021, the total number of breast cancer cases reported to the UAE National Cancer Registry among Emirati was 218, representing 15.2% of all Emirati cancer cases (malignant) in 2021. **Table 26** demonstrates the 10 most common cancers. The five most common cancers in both genders are breast, thyroid, colorectal, non-Hodgkin lymphoma and leukemia.

| Primary site ICD-10 | Number of invasive cancer cases (malignant), 2021 | % |
|---|---|---|
| **C50 Breast** | 218 | 15.2% |
| **C73 Thyroid** | 193 | 13.5% |
| **C18-C21 Colorectal** | 160 | 11.2% |
| **C82-C85, C96 Non-Hodgkin lymphoma** | 77 | 5.4% |
| **C91-C95 Leukemia** | 72 | 5.0% |
| **C61 Prostate** | 71 | 5.0% |
| **C34 Bronchus and Lung** | 60 | 4.2% |
| **C54-C55 Uterus** | 60 | 4.2% |
| **C67 Urinary bladder** | 49 | 3.4% |
| **C70-C72 Brain & CNS** | 44 | 3.1% |

*Table 26 - Top ten most common malignant primary sites among Emirati, 2021*

## Top malignant primary sites among Emirati females, 2021

Among Emirati females, breast is the most common cancer, representing 25.9% of all invasive cancer cases (malignant) among Emirati females in 2021. **Table 27** demonstrates the 10 most common cancers among females. The five most common cancers are breast, thyroid, colorectal, uterus and non-Hodgkin lymphoma.

| Primary site ICD-10 | Number of invasive cancer cases (malignant), 2021 | % |
|---|---|---|
| **C50 Breast** | 213 | 25.9% |
| **C73 Thyroid** | 155 | 18.9% |
| **C18-C21 Colorectal** | 81 | 9.9% |
| **C54-C55 Uterus** | 60 | 7.3% |
| **C82-C85, C96 Non-Hodgkin lymphoma** | 32 | 3.9% |
| **C91-C95 Leukemia** | 26 | 3.2% |
| **C53 Cervix uteri** | 23 | 2.8% |
| **C56 Ovary** | 23 | 2.8% |
| **C70-C72 Brain & CNS** | 22 | 2.7% |
| **C34 Bronchus and Lung** | 17 | 2.1% |

*Table 27 - Top ten most common malignant primary sites among Emirati females, 2021*

## Top malignant primary sites among Emirati males, 2021

Among Emirati males, colorectal is the most common cancer, representing 13% of all invasive cancer cases (malignant) among Emirati males in 2021. **Table 28** demonstrates the 10 most common cancers among males. The five most common cancers are colorectal, prostate, leukemia, non-Hodgkin lymphoma and bronchus and lung.

| Primary site ICD-10 | Number of invasive cancer cases (malignant), 2021 | % |
|---|---|---|
| C18-C21 Colorectal | 79 | 13.0% |
| C61 Prostate | 71 | 11.7% |
| C91-C95 Leukemia | 46 | 7.6% |
| C82-C85, C96 Non-Hodgkin lymphoma | 45 | 7.4% |
| C34 Bronchus and Lung | 43 | 7.1% |
| C67 Urinary bladder | 38 | 6.2% |
| C73 Thyroid | 38 | 6.2% |
| C64-C65 Kidney & Renal pelvis | 28 | 4.6% |
| C70-C72 Brain & CNS | 22 | 3.6% |
| C00-C14 Lip, Oral cavity & pharynx | 20 | 3.3% |

*Table 28 - Top ten most common malignant primary sites among Emirati males, 2021*

## Top malignant primary sites among all Emirati, males & females, 2021

Among Emirati, breast is the most common cancer, representing 25.9% of all invasive cancer cases (malignant) among females, and colorectal cancer, representing 13% of all invasive cancer cases (malignant) among males in 2021, **Table 29**

| Primary site ICD-10 | % |
|---|---|
| C50 Breast | 25.9% |
| C73 Thyroid | 18.9% |
| C18-C21 Colorectal | 9.9% |
| C54-C55 Uterus | 7.3% |
| C82-C85, C96 Non-Hodgkin lymphoma | 3.9% |
| C91-C95 Leukemia | 3.2% |
| C53 Cervix uteri | 2.8% |
| C56 Ovary | 2.8% |
| C70-C72 Brain & CNS | 2.7% |
| C34 Bronchus and Lung | 2.1% |

| Primary site ICD-10 | % |
|---|---|
| C18-C21 Colorectal | 13.0% |
| C61 Prostate | 11.7% |
| C91-C95 Leukemia | 7.6% |
| C82-C85, C96 Non-Hodgkin lymphoma | 7.4% |
| C34 Bronchus and Lung | 7.1% |
| C67 Urinary bladder | 6.2% |
| C73 Thyroid | 6.2% |
| C64-C65 Kidney & Renal pelvis | 4.6% |
| C70-C72 Brain & CNS | 3.6% |
| C00-C14 Lip, Oral cavity & pharynx | 3.3% |

*Table 29 - Top ten most common malignant primary sites among all Emirati in both males & females, 2021*

## Top malignant primary sites among non-Emirati, 2021

Between January 1st and December 31st, 2021, the total number of breast cancer cases reported to the UAE National Cancer Registry among Non-Emirati was 921, representing 22 % of all non-Emirati cancer cases (malignant) in 2021. **Table 30** demonstrates the 10 most common cancers. The five most common cancers in both genders are breast, thyroid, colorectal, skin (carcinoma) and leukemia.

| Primary site ICD-10 | Number of invasive cancer cases (malignant), 2021 | % |
|---|---|---|
| **C50 Breast** | 921 | 22.0% |
| **C73 Thyroid** | 402 | 9.6% |
| **C18-C21 Colorectal** | 372 | 8.9% |
| **C44 Skin (Carcinoma)** | 249 | 6.0% |
| **C91-C95 Leukemia** | 232 | 5.5% |
| **C61 Prostate** | 180 | 4.3% |
| **C34 Bronchus and Lung** | 171 | 4.1% |
| **C82-C85, C96 Non-Hodgkin lymphoma** | 151 | 3.6% |
| **C00-C14 Lip, Oral cavity & pharynx** | 124 | 3.0% |
| **C53 Cervix uteri** | 118 | 2.8% |

*Table 30 - Top ten most common malignant primary sites among non-Emirati, 2021*

## Top malignant primary sites among non-Emirati females, 2021

Among non-Emirati females, breast is the most common cancer, representing 40.9% of all invasive cancer cases (malignant) among non-Emirati females in 2021. **Table 31** demonstrates the 10 most common cancers among females. The five most common cancers are breast, thyroid, colorectal, cervix uteri, and uterus.

| Primary site ICD-10 | Number of invasive cancer cases (malignant), 2021 | % |
|---|---|---|
| **C50 Breast** | 915 | 40.9% |
| **C73 Thyroid** | 266 | 11.9% |
| **C18-C21 Colorectal** | 132 | 5.9% |
| **C53 Cervix uteri** | 118 | 5.3% |
| **C54-C55 Uterus** | 113 | 5.1% |
| **C44 Skin (Carcinoma)** | 94 | 4.2% |
| **C56 Ovary** | 85 | 3.8% |
| **C91-C95 Leukemia** | 69 | 3.1% |
| **C34 Bronchus and Lung** | 53 | 2.4% |
| **C82-C85, C96 Non-Hodgkin lymphoma** | 53 | 2.4% |

*Table 31 - Top ten most common malignant primary sites among non-Emirati females, 2021*

## Top malignant primary sites among non-Emirati males, 2021

Among non-Emirati males, colorectal is the most common cancer, representing 12.3% of all invasive cancer cases (malignant) among non-Emirati males in 2021. **Table 32** demonstrates the 10 most common cancers among males. The five most common cancers are colorectal, prostate, leukemia, skin (Carcinoma), and thyroid.

| Primary site ICD-10 | Number of malignant cases 2016 | % |
|---|---|---|
| C18-C21 Colorectal | 240 | 12.3% |
| C61 Prostate | 180 | 9.3% |
| C91-C95 Leukemia | 163 | 8.4% |
| C44 Skin (Carcinoma) | 155 | 8.0% |
| C73 Thyroid | 136 | 7.0% |
| C34 Bronchus and Lung | 118 | 6.1% |
| C82-C85, C96 Non-Hodgkin lymphoma | 98 | 5.0% |
| C00-C14 Lip, Oral cavity & pharynx | 97 | 5.0% |
| C64-C65 Kidney & Renal pelvis | 80 | 4.1% |
| C16 Stomach | 79 | 4.1% |

*Table 32 - Top ten most common malignant primary sites among non-Emirati males, 2021*

## Top malignant primary sites among all non-Emirati, males & females, 2021

Among non-Emirati, breast is the most common cancer, representing 40.9% of all invasive cancer cases (malignant) among females, and colorectal cancer, representing 12.3% of all invasive cancer cases (malignant) among males in 2021, **Table 33**

| Primary site ICD-10 | % |
|---|---|
| C50 Breast | 40.9% |
| C73 Thyroid | 11.9% |
| C18-C21 Colorectal | 5.9% |
| C53 Cervix uteri | 5.3% |
| C54-C55 Uterus | 5.1% |
| C44 Skin (Carcinoma) | 4.2% |
| C56 Ovary | 3.8% |
| C91-C95 Leukemia | 3.1% |
| C34 Bronchus and Lung | 2.4% |
| C82-C85, C96 Non-Hodgkin lymphoma | 2.4% |

| Primary site ICD-10 | % |
|---|---|
| C18-C21 Colorectal | 12.3% |
| C61 Prostate | 9.3% |
| C91-C95 Leukemia | 8.4% |
| C44 Skin (Carcinoma) | 8.0% |
| C73 Thyroid | 7.0% |
| C34 Bronchus and Lung | 6.1% |
| C82-C85, C96 Non-Hodgkin lymphoma | 5.0% |
| C00-C14 Lip, Oral cavity & pharynx | 5.0% |
| C64-C65 Kidney & Renal pelvis | 4.1% |
| C16 Stomach | 4.1% |

*Table 33 - Top ten most common malignant primary sites among all non-Emirati in both males & females, 2021*

# CANCER CASES (IN-SITU ONLY) AMONG UAE POPULATION

## Primary site (in-situ) distribution among all, 2021

In 2021, there were 68 new carcinoma in-situ of breast cases reported to UAE National Cancer Registry. Most of the cases were reported are carcinoma in-situ of breast followed by carcinoma in-situ of cervix uteri. Thus, total distribution of primary site (in-situ) cases diagnosed among UAE population are 218 cases, **Table 34**

| Primary site ICD-10 | Grand Total |
|---|---|
| D01 Carcinoma in situ of other and unspecified digestive organs | 9 |
| D02 Carcinoma in situ of middle are and respiratory system | 1 |
| D03 Melanoma in situ | 7 |
| D04 Carcinoma in situ of skin | 5 |
| D05 Carcinoma in situ of breast | 68 |
| D06 Carcinoma in situ of cervix uteri | 68 |
| D07 Carcinoma in situ of other and unspecified genital organs | 14 |
| D09 Carcinoma in situ of other and unspecified sites | 46 |
| Grand Total | 218 |

*Table 34 - Primary site (in-situ) distribution among all, 2021*

## Top primary sites (in-situ) among all, 2021

**Table 35** demonstrates the top primary sites in-situ cases among all. Carcinoma in-situ of breast and cervix uteri (31.2%) was most commonly observed among all in-situ cases. The most common types of cancer diagnosed in UAE population are mentioned (in order of frequency): carcinoma in-situ of breast and cervix uteri (31.2%), followed by carcinoma in-situ of other and unspecified sites (21.1%) and carcinoma in situ of other and unspecified genital organs (6.4%).

| Primary site ICD-10 | Number of In-Situ cases 2021 | % |
|---|---|---|
| D05 Carcinoma in situ of breast | 68 | 31.2% |
| D06 Carcinoma in situ of cervix uteri | 68 | 31.2% |
| D09 Carcinoma in situ of other and unspecified sites | 46 | 21.1% |
| D07 Carcinoma in situ of other and unspecified genital organs | 14 | 6.4% |
| D01 Carcinoma in situ of other and unspecified digestive organs | 9 | 4.1% |
| D03 Melanoma in situ | 7 | 3.2% |
| D04 Carcinoma in situ of skin | 5 | 2.3% |
| D02 Carcinoma in situ of middle are and respiratory system | 1 | 0.5% |

*Table 35 - Top primary sites (in-situ) among all, 2021*

CHAPTER 3

# CHAPTER 3 - INCIDENCE OF MOST COMMON CANCERS DIAGNOSED IN 2021

This section demonstrates the most common cancers diagnosed among Emirati and Non-Emirati during the period between January and December 2021. It shows the distribution of the most common cancers by gender. Data presented as absolute numbers, relative frequency, incidence rates.

# FEMALE BREAST CANCER (C50)

Breast cancer is the most common of all females' cancer worldwide with an incidence of 16% and 22.9% of invasive cancers in women. 18.2% of all cancer deaths worldwide, counting both males and females, are from breast cancer [13].

Breast cancer ranked first among females, between January and December 2021, there were 1128 female breast cancer cases. Breast cancer accounted to 20.3% from all type of cancers reported among Emirati and Non-Emirati, and to 36.9% from all invasive cancer cases reported among females. The age-standardized incidence rate (ASR) was 52/100,000 for female population and crude incidence rate was 40.1/100,000 for female population.

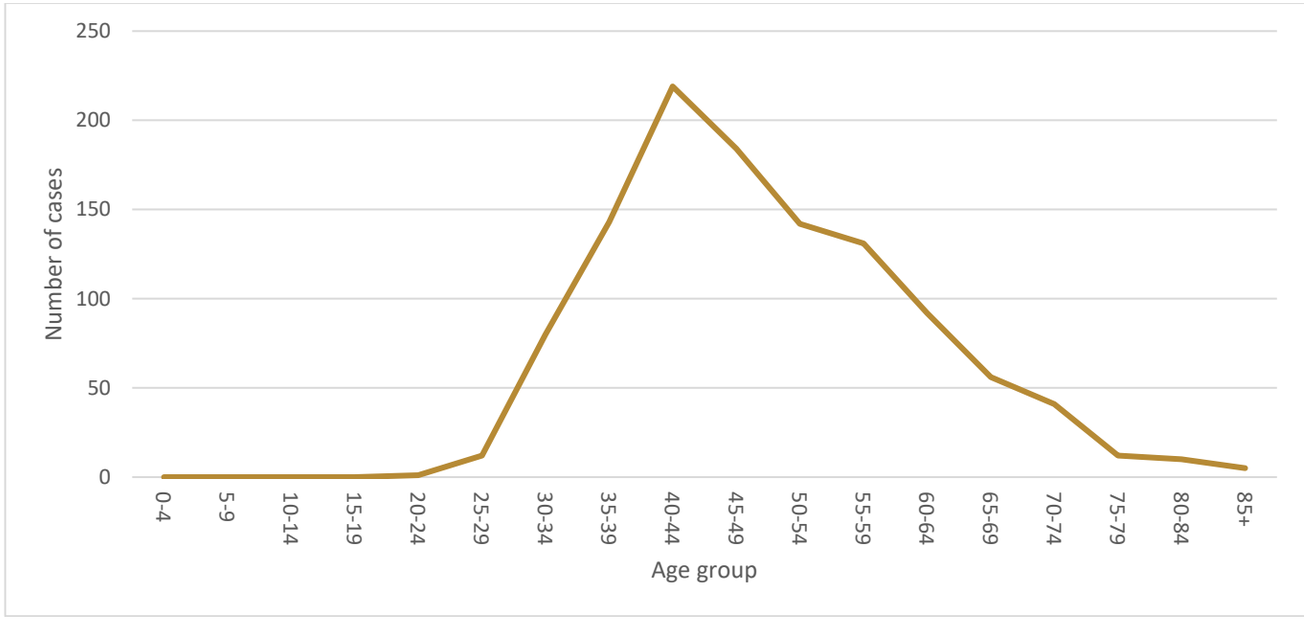


*Figure 17 - Age group distribution of female breast cancer cases in UAE, 2021*

**Figure 18** demonstrates and summarizes the distribution by age-specific incidence rate (ASIR) for breast invasive cancer cases among females in the year 2021. For female breast cancer, like most cancer types, incidence increases with age. The age-specific incidence rates rise steadily from age 25 in females. After age 74 years, age-specific breast cancer incidence decreases drastically.

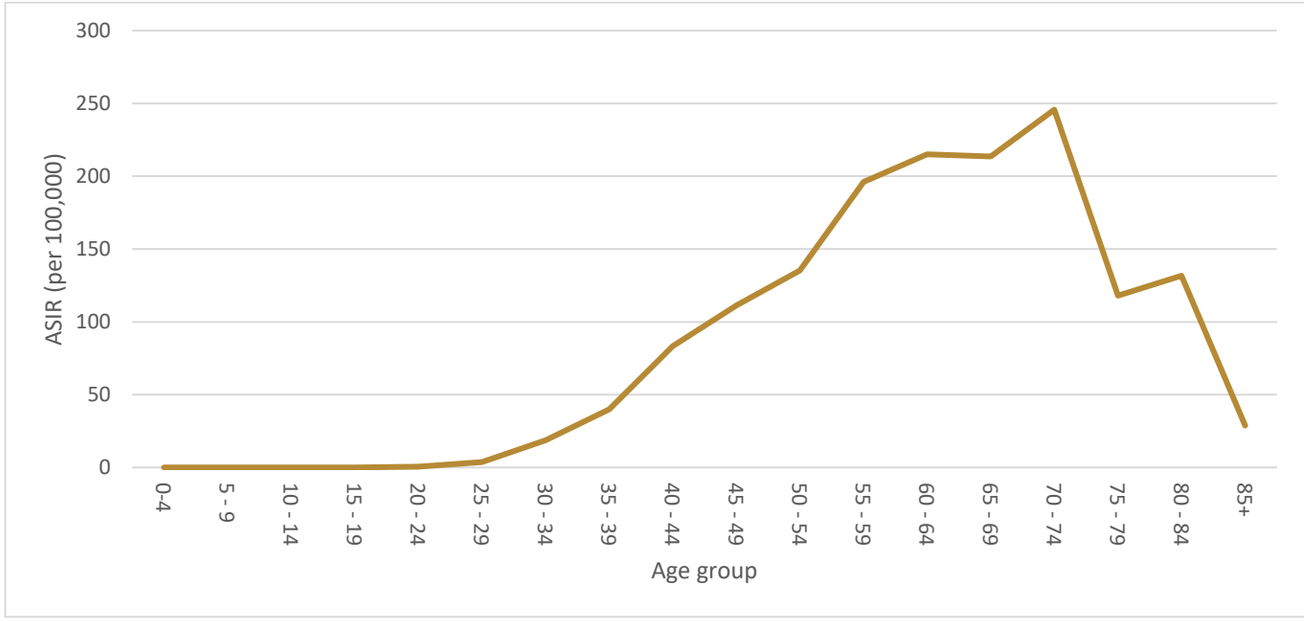


*Figure 18 - Age-Specific incidence rate (ASIR) for female breast cancer cases in UAE, 2021*

# THYROID CANCER (C73)

Thyroid cancer ranked second among females and fourth among males. There were 595 thyroid cancer cases accounting to 10.6 % from all newly diagnosed invasive cancer cases in 2021.Thyroid cancer affected 421 (71%) females and 174 (29%) males. The age-standardized incidence rate (ASR) was 2.9/100,000 for males and 13.5/100,000 for females, and crude incidence rate was 15/100,000 for females and 2.7/100,000 for males.

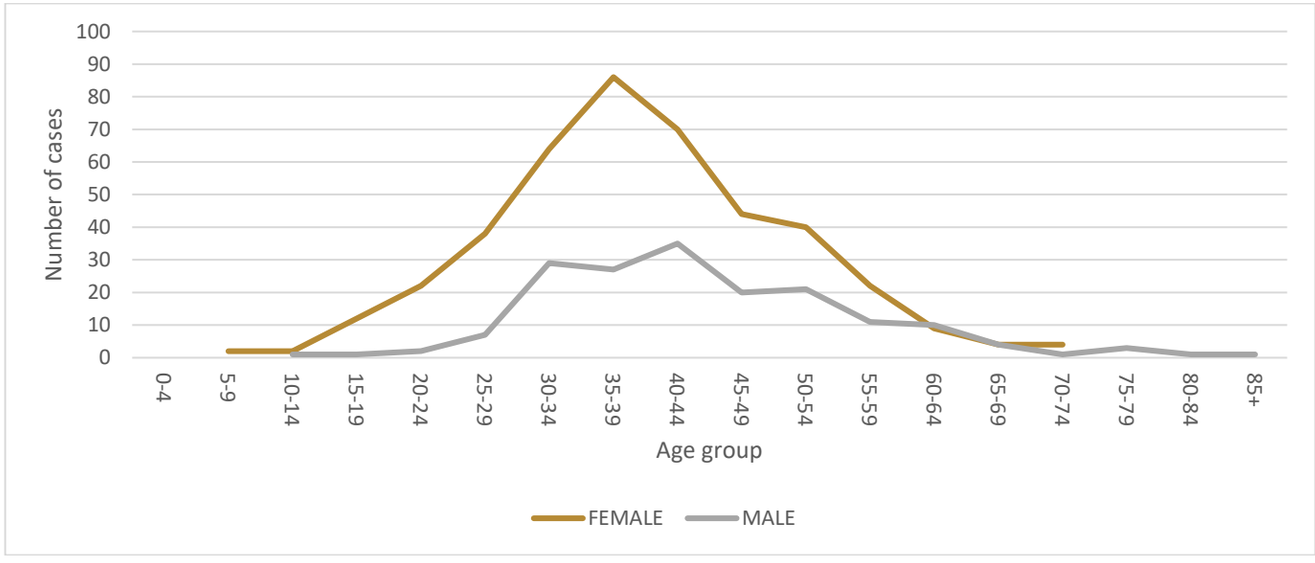


*Figure 19 - Age group distribution of thyroid cancer cases in UAE, 2021*

**Figure 20** demonstrates and summarizes the distribution by age-specific incidence rate (ASIR) for thyroid invasive cancer cases among males and females in the year 2021. The age-specific incidence rate was highest in females of the age group of 50-54 years and 75-79 in males.

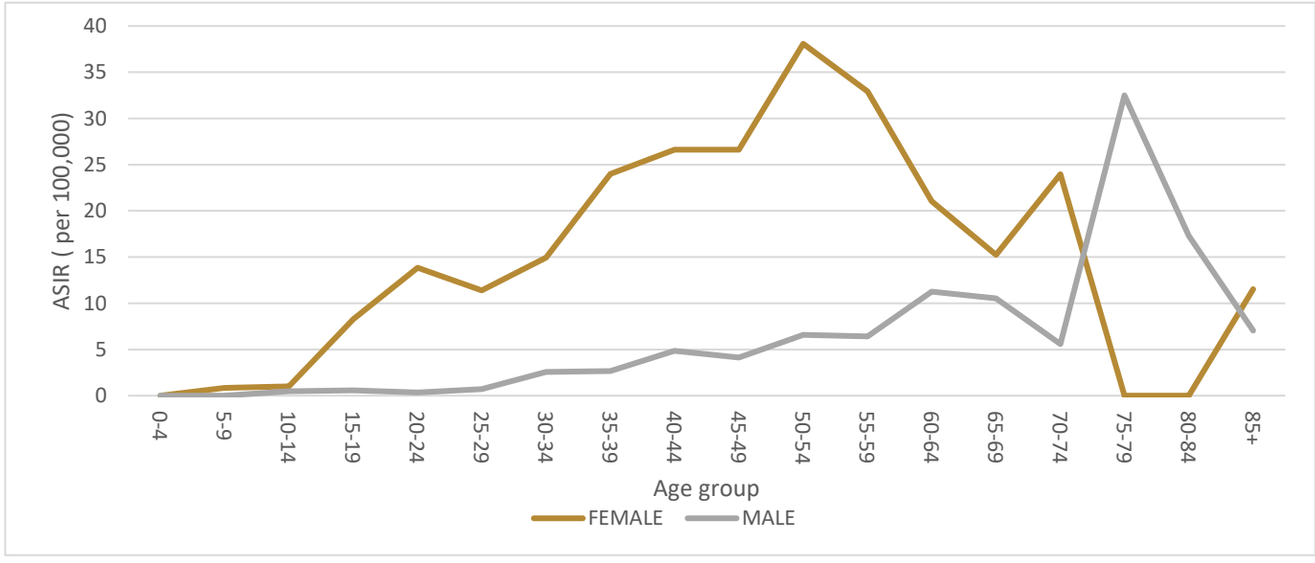


*Figure 20 - Age-Specific incidence rate (ASIR) for thyroid cancer cases in UAE, 2021*

# COLORECTAL CANCER (C18-C21)

There were 532 cases of colorectal cancer accounting for 9.5% of all newly diagnosed invasive cancer cases in the year 2021. Colorectal cancer ranked first among males and third among females. It affected 319 (60%) males and 213 (40%) females. The age-standardized incidence rate (ASR) was 13/100,000 for males and 12.8/100,000 for females, and crude incidence rate was 7.6/100,000 for females and 4.9/100,000 for males.

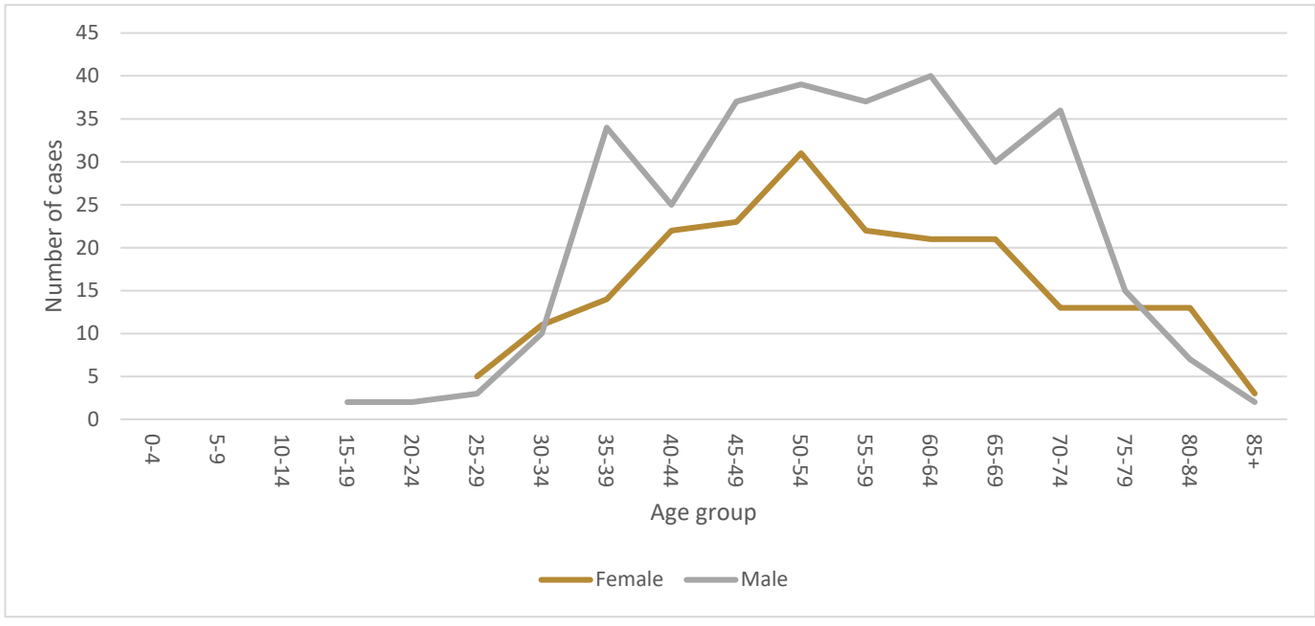


*Figure 21 - Age group distribution of colorectal cancer cases in UAE, 2021*

**Figure 22** demonstrates and summarizes the distribution by age-specific incidence rate (ASIR) for colorectal invasive cancer cases among males and females in the year 2021. For colorectal cancer, like most cancer types, incidence increases with age. The age-specific incidence rate was highest in males of the age group of 70-74 years and 80-84 in females.

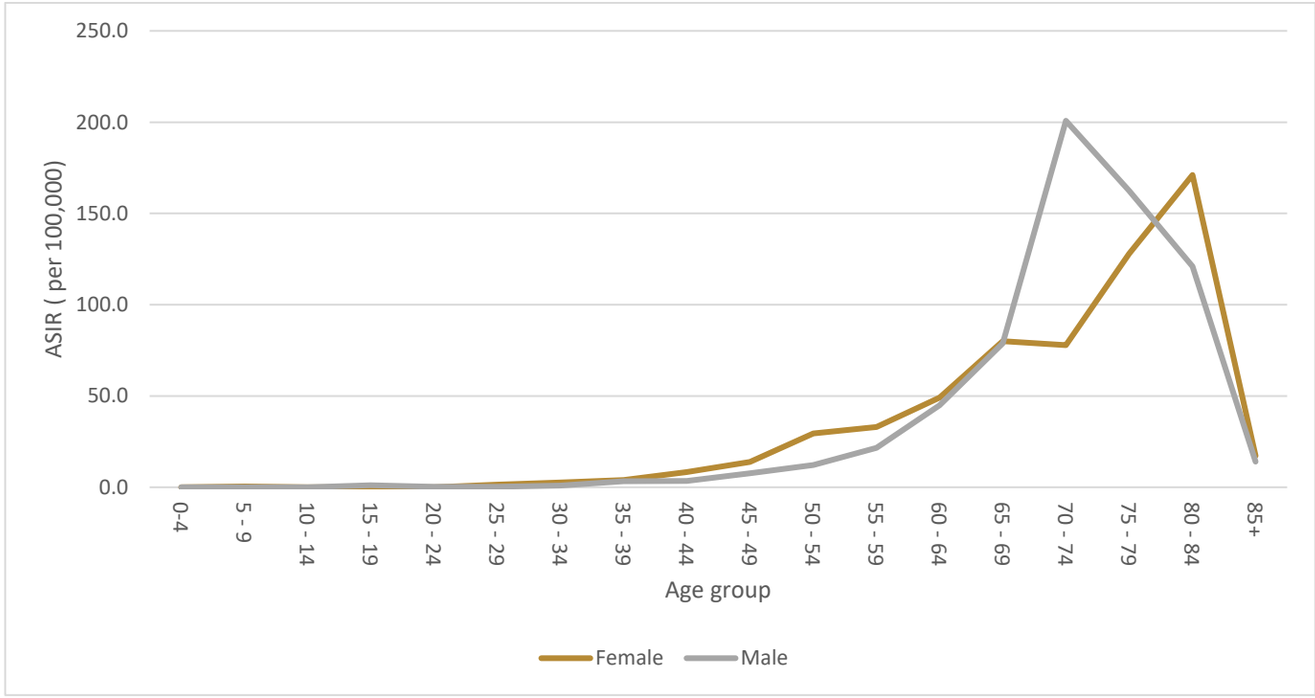


*Figure 22 - Age-Specific incidence rate (ASIR) for colorectal cancer cases in UAE, 2021*

## LEUKEMIA (C91-C95)

Leukemia ranked third among males and eighth among females, there were 304 cases accounted to 5.4% of all invasive cancer cases diagnosed in 2021. Leukemia affected 209 (69%) males and 95 (31%) females. The age-standardized incidence rate (ASR) was 4.4/100,000 for females and 6.3/100,000 for males, and crude incidence rate was 3.4/100,000 for females and 3.2/100,000 for males.

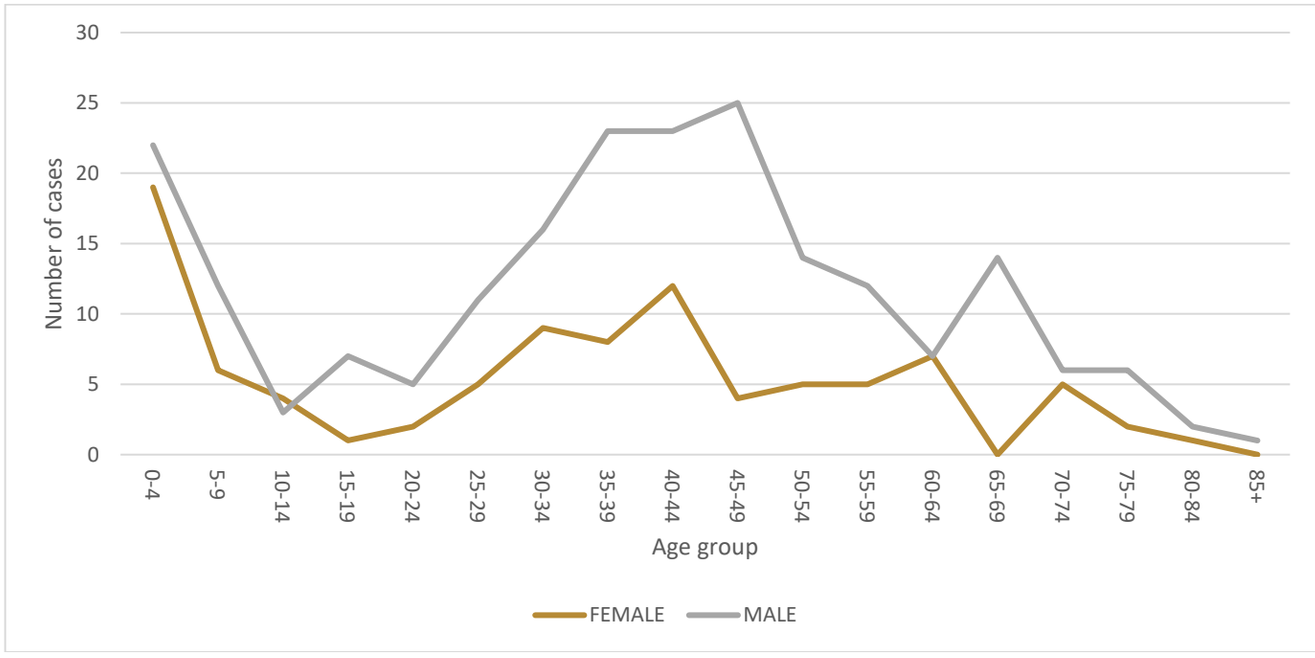


*Figure 23 - Age group distribution of leukemia cases in UAE, 2021*

**Figure 24** demonstrates and summarizes the distribution by age-specific incidence rate (ASIR) for leukemia among males and females in the year 2021. The age-specific incidence rate was highest in males of the age group of 75-79 years and 70-74 in females.

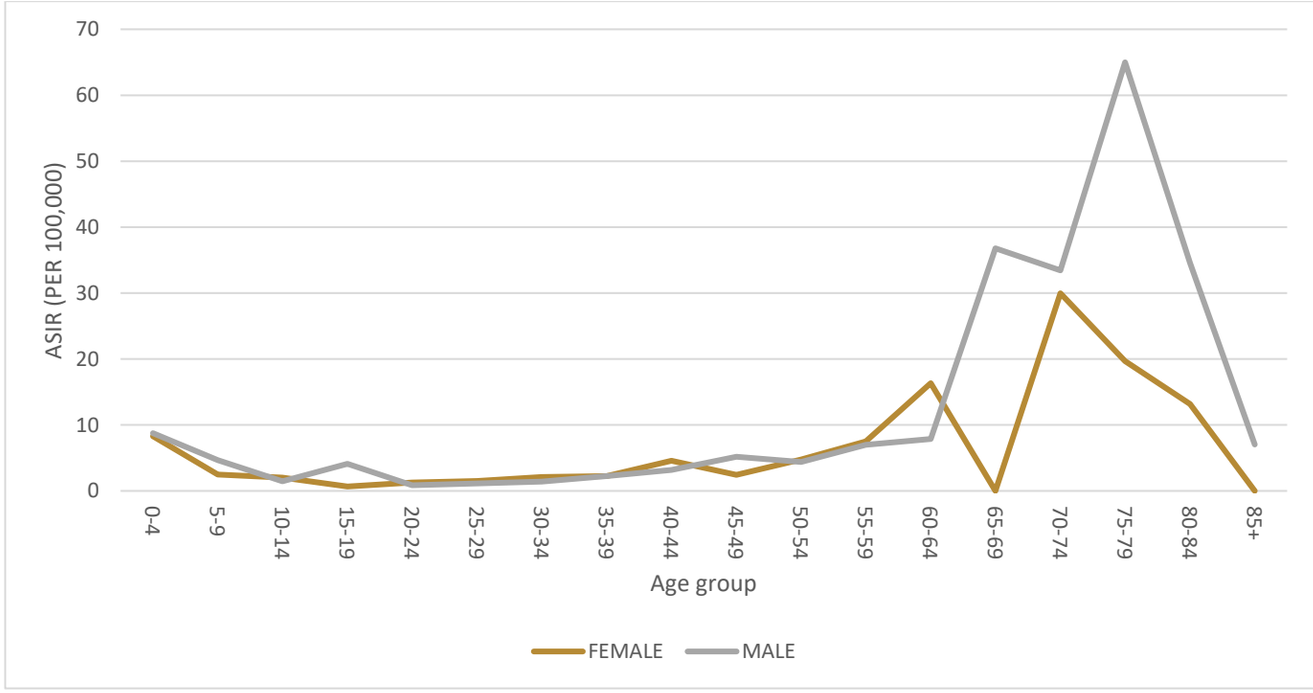


*Figure 24 - Age-Specific incidence rate (ASIR) for leukemia cases in UAE, 2021*

# PROSTATE CANCER (C61)

Prostate cancer ranked the second among males. There were 251 invasive cases of prostate cancer accounted to 4.5% of all invasive cancer cases among both genders and 9.8% of all invasive cancer cases among males diagnosed in 2021.
The age-standardized incidence rate (ASR) was 15.8 per 100,000 males and crude incidence rate was 3.9 per 100,000 males.

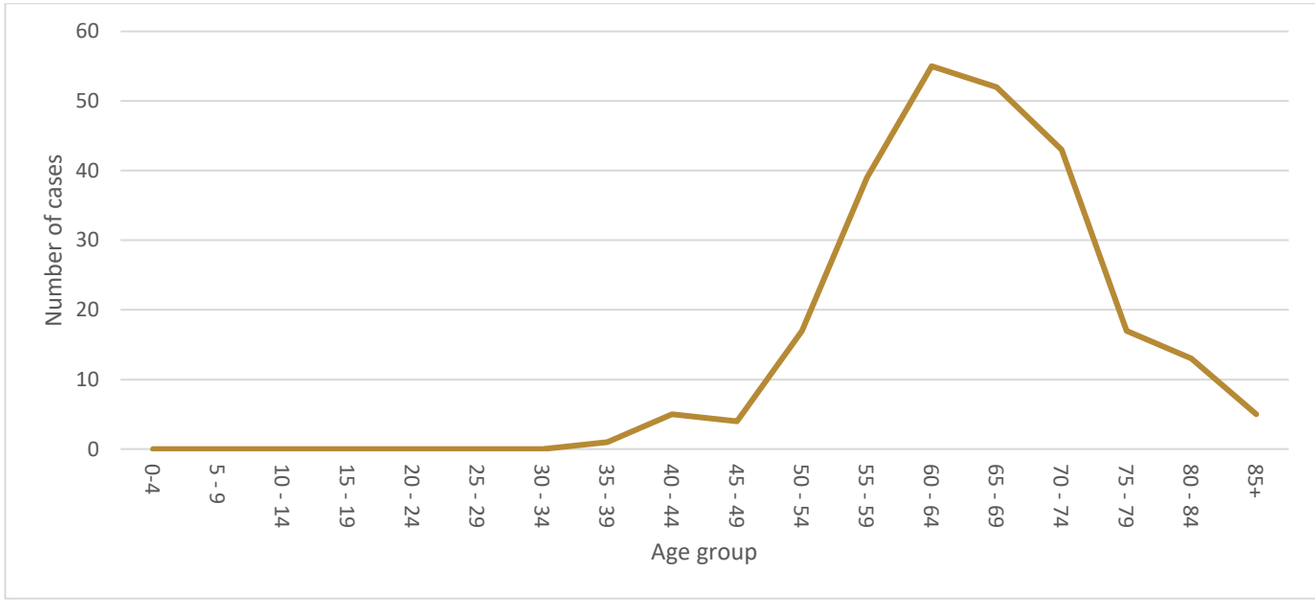


*Figure 25 - Age group distribution of prostate cancer cases in UAE, 2021*

**Figure 26** demonstrates and summarizes the distribution by age-specific incidence rate (ASIR) for prostate invasive cancer cases among males in the year 2021. For prostate cancer, like most cancer types, incidence increases with age. The age-specific incidence rate was highest in males of the age group of 70-74 years and rise steadily from age 50 year.

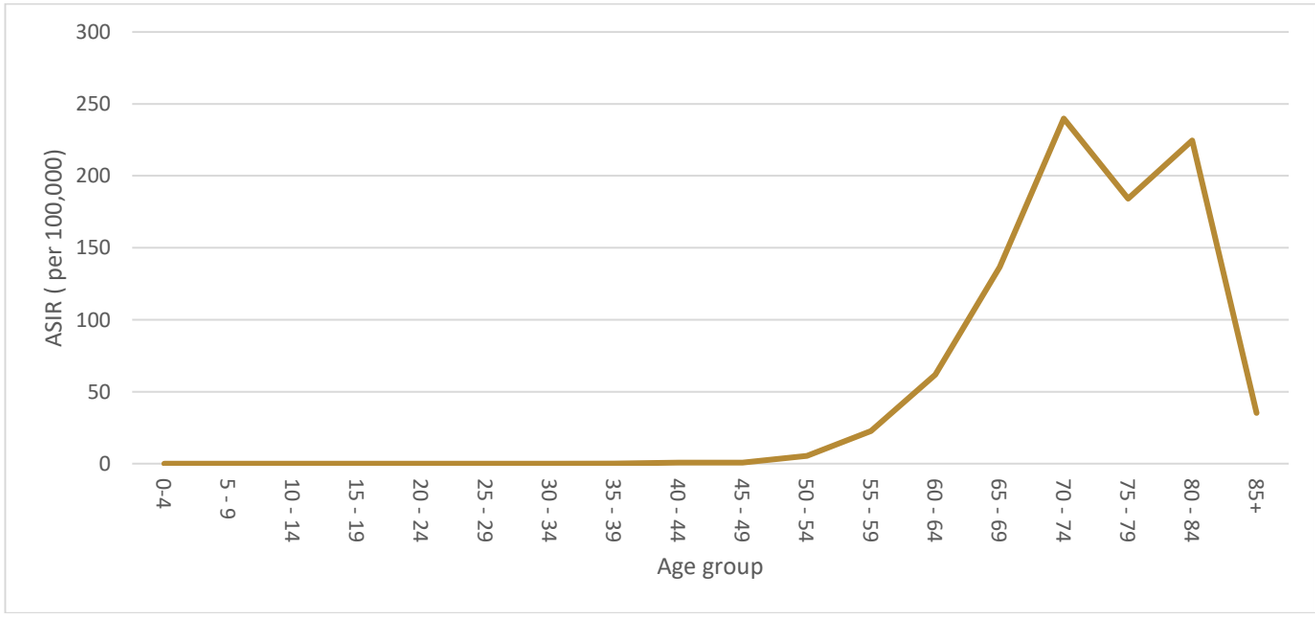


*Figure 26 - Age-Specific incidence rate (ASIR) for prostate cancer cases in UAE, 2021*

# CERVIX UTERI CANCER (C53)

Cervix uteri cancer ranked the fifth among females. There were 141 cases of cervix uteri cancer accounted to 4.6% of all invasive cancer cases among female diagnosed in 2021. The age-standardized incidence rate (ASR) was 5.8 per 100,000 for females and crude incidence rate was 5 per 100,000 females.

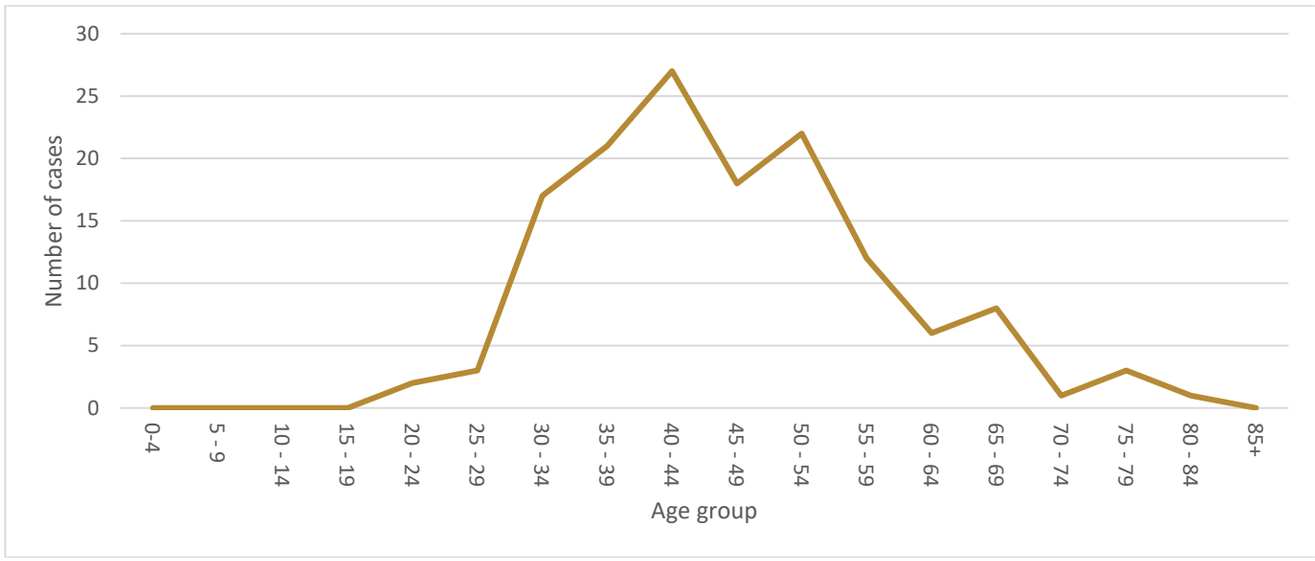


*Figure 27 - Age group distribution of cervix uteri cancer cases in UAE, 2021*

**Figure 28** demonstrates and summarizes the distribution by age-specific incidence rate (ASIR) for cervix uteri invasive cancer cases among females in the year 2021. For cervix uteri cancer incidence increases with age. The age-specific incidence rate was highest in females of the age group of 65 - 69 years and rise steadily from age 30 year.

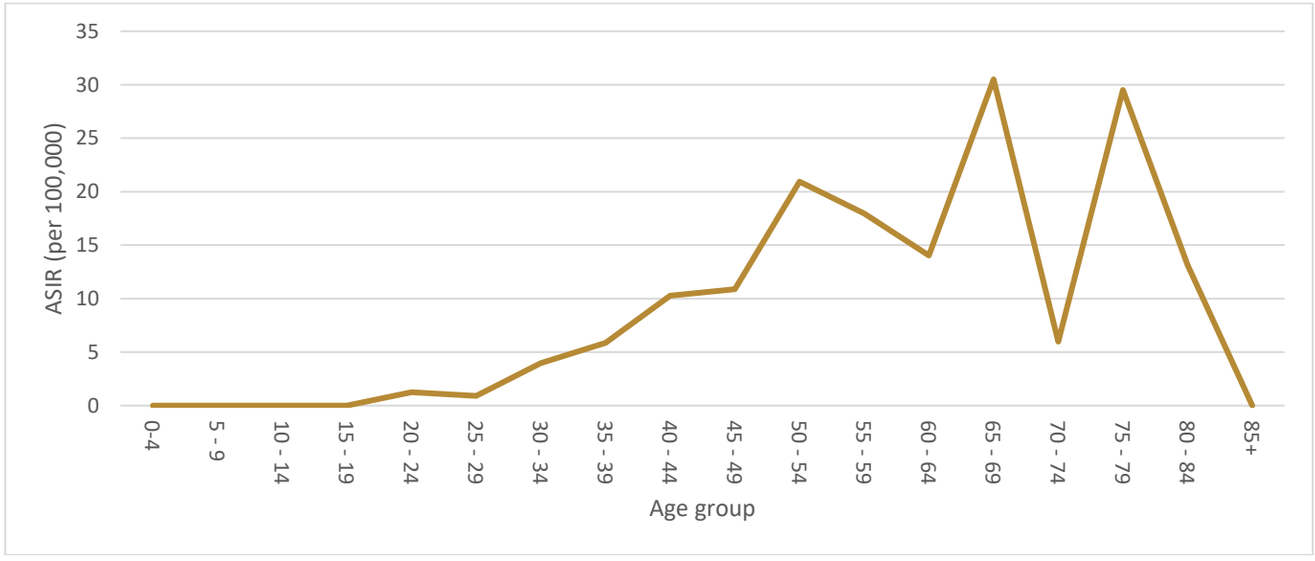


*Figure 28 - Age-Specific incidence rate (ASIR) for cervix uteri cancer cases in UAE, 2021*

# NON-HODGKIN LYMPHOMA (C82-C85, C96)

Non-Hodgkin's lymphoma ranked the seventh among males and ninth among females. There were 228 cases of non-Hodgkin's lymphoma accounting for 4.1% of all invasive cancer cases diagnosed in 2021. Non-Hodgkin's lymphoma affected 143 (60%) males and 85 (40%) females. The age-standardized incidence rate (ASR) was 4.9/100,000 for females and 4.5/100,000 for males, and crude incidence rate was 3/100,000 for females and 2.2/100,000 for males.

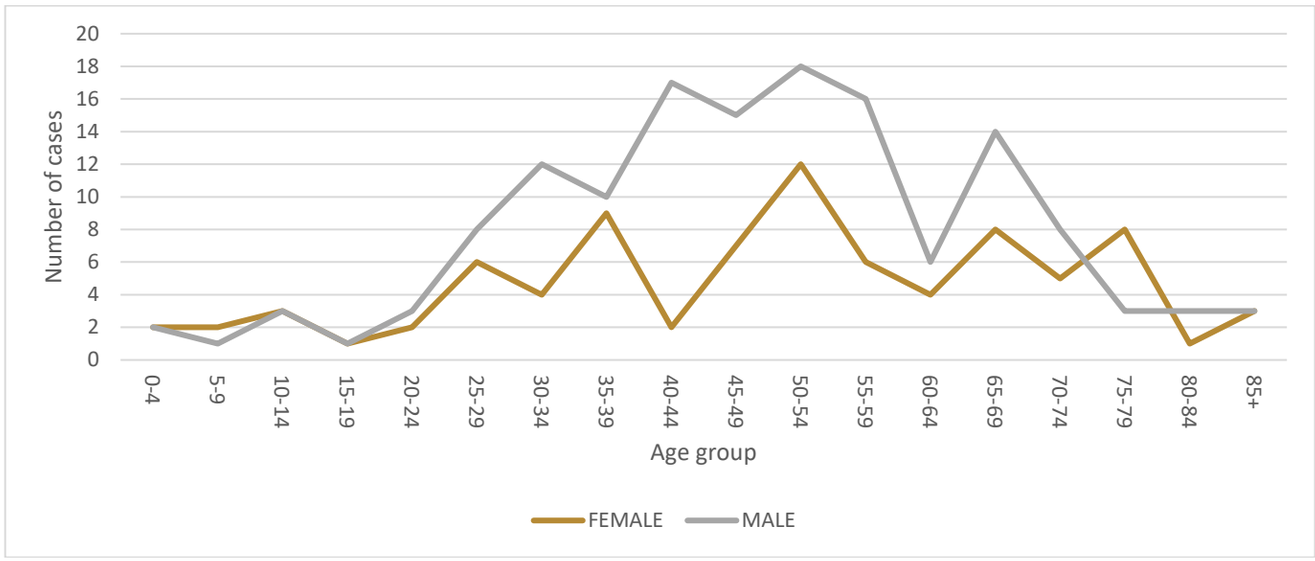


*Figure 29 - Age group distribution of Non-Hodgkin lymphoma cases in UAE, 2021*

**Figure 30** demonstrates and summarizes the distribution by age-specific incidence rate (ASIR) for non-Hodgkin's lymphoma among males and females in the year 2021. The age-specific incidence rate was highest in males of the age group of 80-84 years and 75-79 in females.

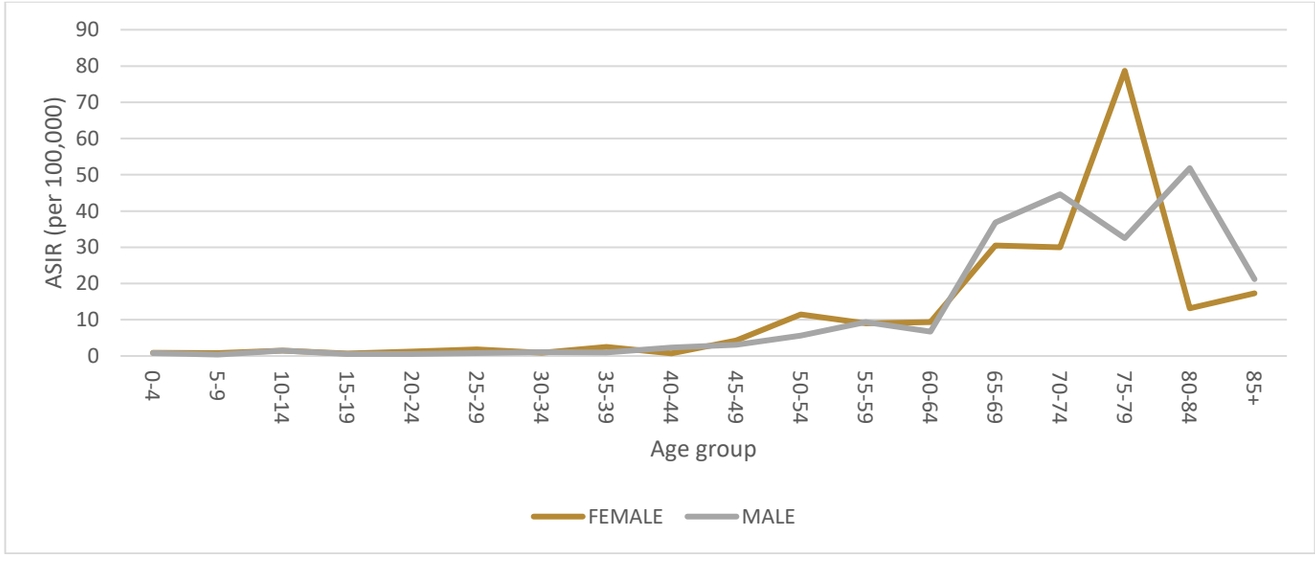


*Figure 30 - Age-Specific incidence rate (ASIR) for Non-Hodgkin lymphoma cases in UAE, 2021*

CHAPTER 4

# CHAPTER 4 - PEDIATRIC MALIGNANCIES IN UAE

Until now cancer is the second prominent cause of death (following accidents) in children aged 5 to 14 years [18].
Incidence of pediatric cancers differ worldwide representing between 0.5% and 4.6% of all cancers. Overall incidence rates fluctuate between 50 and 200 per million children across the world [19].

## Pediatric Malignancies in UAE, 2021

In the year 2021, there were 154 children at the age group of 0-14 years diagnosed with new invasive cancer in UAE. This constitutes about (2.7%) of all registered invasive cancer cases (malignant cases).

## Pediatric cancer cases by gender in UAE, 2021

**Figure 31** demonstrates the distribution of new pediatric cancers by gender, which represents a total of 154 new pediatric invasive cancer cases (malignant), 55% were males and 45% were females. The distribution of frequency indicates that more males were diagnosed with cancer than females in 2021.

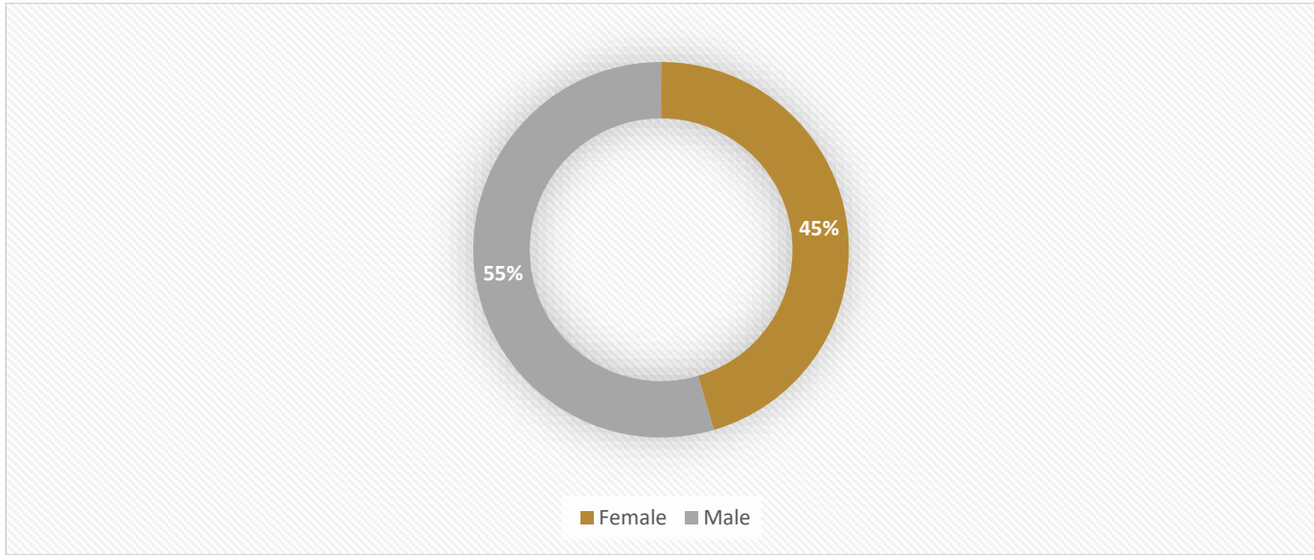


*Figure 31 - Distribution by gender of new pediatric cancer cases in UAE, 2021*

## Distribution of pediatric cancer cases by age group in UAE, 2021

**Table 36** shows the distribution by age group of 154 pediatric invasive cancer cases in UAE, 2021. The data indicates that the top most frequency of pediatric cancer cases was found among age group 0-4 year (72; 46.8%), followed by age group 10-14 year (43; 27.9%). It was noted that the smaller number of cancer cases in pediatric population were diagnosed in the age group of 5-9 year (39; 25.3%).

| Age Group | Female | % | Male | % | Grand Total | % |
|---|---|---|---|---|---|---|
| **0-4** | 37 | 52.9% | 35 | 41.7% | 72 | 46.8% |
| **5-9** | 14 | 20.0% | 25 | 29.8% | 39 | 25.3% |
| **10-14** | 19 | 27.1% | 24 | 28.6% | 43 | 27.9% |
| **Grand Total** | **70** | **100.0%** | **84** | **100.0%** | **154** | **100.0%** |

*Table 36 - Age group distribution of pediatric cancer cases in UAE, 2021*

**Figure 32** indicates that the top most frequency of pediatric cancer cases was found among age group 0-4 year (46.8%), followed by age group 10-14 year (27.9%). It was noted that the smaller number of cancer cases in pediatric population were diagnosed in the age group of 5-9 year (25.3%).

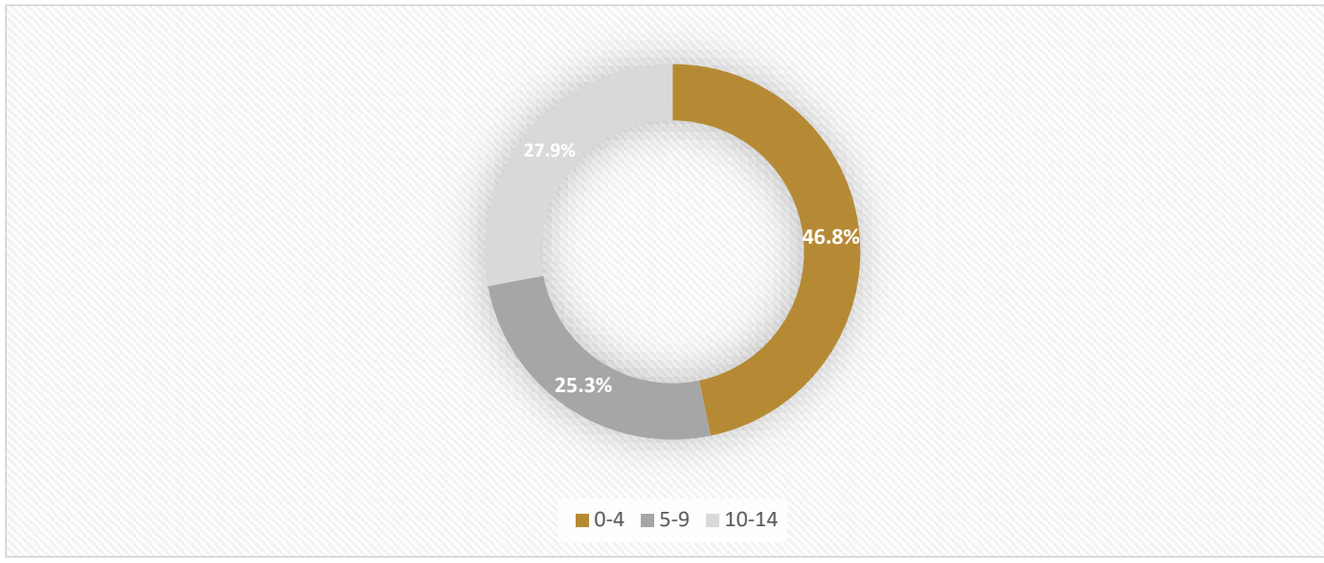


*Figure 32 - Distribution of pediatric cancer cases by age groups in UAE, 2021*

## Top five pediatric cancers by primary sites among both genders in UAE, 2021

**Table 37** demonstrates the distribution of the top five pediatric invasive cancer sites among both genders in UAE population in the year 2021. The data shows that the most common occurring cancer was leukemia (66; 42.9%) followed by brain & CNS (23; 14.9%), non-Hodgkin lymphoma (13; 8.4%), kidney & renal pelvis (10; 6.5%) and bone & articular cartilage (7; 4.5%).

| Primary sites ICD-10 | Number of cancer cases | % |
|---|---|---|
| **C91-C95 Leukemia** | 66 | 42.9% |
| **C70-C72 Brain & CNS** | 23 | 14.9% |
| **C82-C85, C96 Non-Hodgkin lymphoma** | 13 | 8.4% |
| **C64-C65 Kidney & Renal pelvis** | 10 | 6.5% |
| **C40-C41 Bone and articular cartilage** | 7 | 4.5% |

*Table 37 - Distribution of top five pediatric cancer cases by primary sites in UAE, 2021*

**Figure 33** demonstrates the distribution of the top five pediatric cancer sites among both genders in UAE population in the year 2021. The data shows that the most common occurring cancer was leukemia (42.9%) followed by brain & CNS (14.9%), non-Hodgkin lymphoma (8.4%), kidney & renal pelvis (6.5%) and bone & articular cartilage (4.5%).

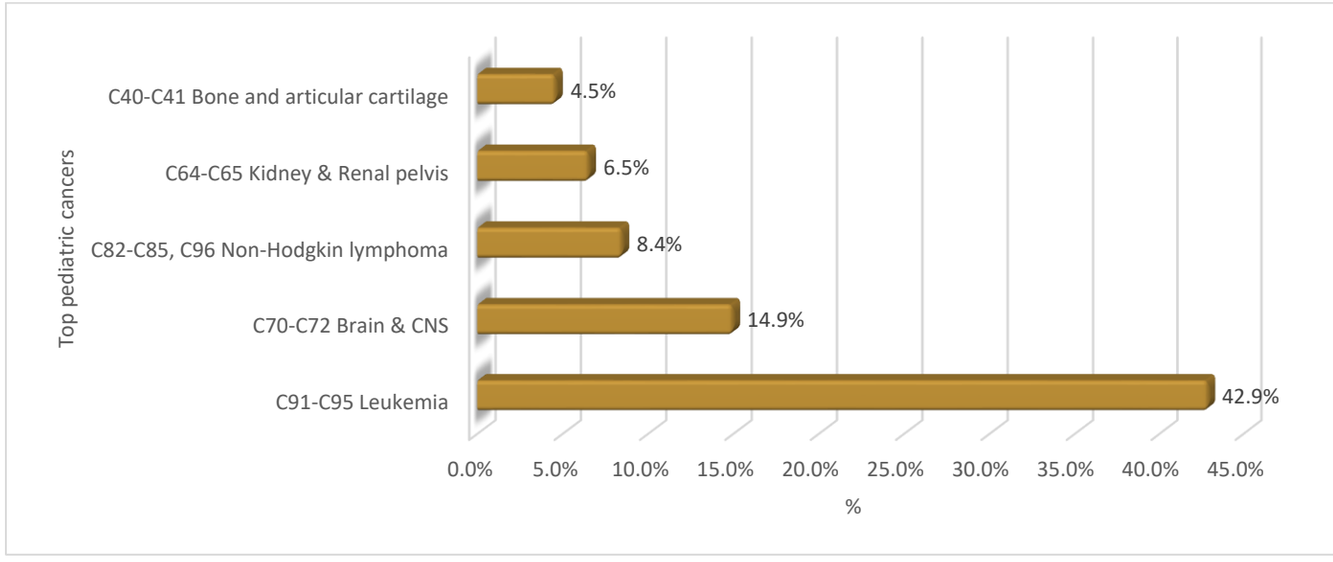


*Figure 33 - Distribution of top five pediatric cancer cases in UAE, 2021*

CHAPTER 5

# CHAPTER 5 - CANCER MORTALITY, 2021

## Total Number of Deaths

Cancer mortality has been contributed as the fifth leading cause of death in the United Arab Emirates in 2021, a total number of 11911 death cases were reported in UAE among both Emirati and non-Emirati regardless of the gender.

The number of deaths from invasive cancer totaled 975 (506 in males, 469 in females) and accounted for 8.2% of all deaths regardless of nationality, type of cancer or gender.

This represents an estimated age-standardized cancer mortality rate of 29.6 deaths per 100,000 for both genders, 33.4 deaths per 100,000 females and 29.3 deaths per 100,000 males, 2021.

**Figure 34** demonstrates the percentage of cancer deaths from total number of deaths among UAE population in 2021, which represents 8.2% of all deaths regardless of nationality, type of cancer or gender.

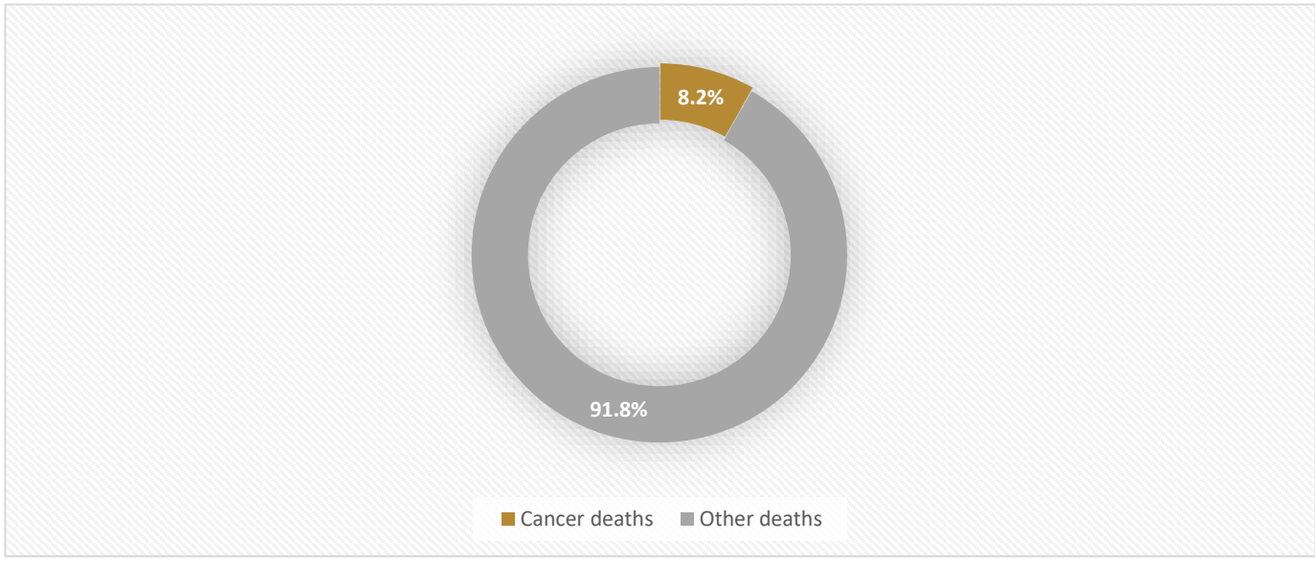


*Figure 34 - Percentage of reported cancer deaths among UAE population, 2021*

## Mortality according to the primary sites

Colon cancer was the leading cause of cancer deaths in 2021, with an estimated average of 112 colon cancer deaths which is representing 11.49%, of all cancer deaths, 5.85% of cancer deaths in men and 5.64% in women. Lung cancer was the second most common cause of cancer death in both sexes, with an estimated average of 96 (9.85%) deaths, 6.87% of cancer deaths in males and 2.97% of cancer deaths in females. Breast cancer was the third common cause of cancer death, with an estimated average of 94 (9.64%) deaths, 9.54% of cancer deaths in females. Leukemia was the fourth common cause of cancer death, with an estimated average of 48 (4.92%) deaths, 1.74% of cancer deaths in females and 3.18% in males. Stomach cancer was the fifth common cause of cancer death, with an estimated average of 42 (4.31%) deaths, 1.23% of cancer deaths in females and 3.08% in males. Cervix Uteri and Rectum cancer was the 6th common cause of cancer death, with an estimated average of 13 (1.33%) deaths. **Table 38**

| Underlying cause of death | Female | % | Male | % | Ground Total | % |
|---|---|---|---|---|---|---|
| Malignant Neoplasm of Colon | 55 | 5.64% | 57 | 5.85% | 112 | 11.49% |
| Malignant Neoplasm of Trachea, bronchus & Lung | 29 | 2.97% | 67 | 6.87% | 96 | 9.85% |
| Malignant Neoplasm of Breast | 93 | 9.54% | 1 | 0.10% | 94 | 9.64% |
| Leukemia | 17 | 1.74% | 31 | 3.18% | 48 | 4.92% |
| Malignant Neoplasm of Stomach | 12 | 1.23% | 30 | 3.08% | 42 | 4.31% |
| Malignant Neoplasm of Cervix Uteri | 13 | 1.33% | 0 | 0.00% | 13 | 1.33% |
| Malignant Neoplasm of Rectum | 7 | 0.72% | 6 | 0.62% | 13 | 1.33% |

*Table 38 - Distribution of malignant cancer deaths by type of cancer in UAE, 2021*

CHAPTER 6

# CHAPTER 6 - CANCER INCIDENCE AND MORTALITY RATES

## Cancer Incidence Rates

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

A total of 5830 new invasive and non-invasive cancer cases (malignant and in-situ) were registered between 1st January and 31 December 2021. Of these diagnosed cases, 5612 and 218 cases were invasive and non-invasive, respectively.

Records for all invasive cancer cases (malignant), represented 96% of all registered cases and 5612 were registered; equivalent to a crude incidence rate of 60.5/100,000 for both genders. Figures showed a clear female predominance for cancer incidence. The crude incidence rate for malignant cases was higher for females 108.7/100,000 than for males 39.5/100,000. Summary crude incidence rates for individual invasive cancers, 2021 is listed in **table 39**.

The overall age-standardized incidence rate (ASR) was 107.8/100,000, for females 149.4/100,000 and for males 96.6/100,000.

| Primary Site ICD-10 | Cancer incidence cases 2021 | | | Crude incidence rates per 100,000 population | | |
|---|---|---|---|---|---|---|
| | Female | Male | Total | Female | Male | Total |
| C00-C14 Lip, Oral cavity & pharynx | 37 | 117 | 154 | 1.3 | 1.8 | 1.7 |
| C15 Esophagus | 8 | 19 | 27 | 0.3 | 0.3 | 0.3 |
| C16 Stomach | 39 | 95 | 134 | 1.4 | 1.5 | 1.4 |
| C17 Small intestine | 8 | 18 | 26 | 0.3 | 0.3 | 0.3 |
| C18-C21 Colorectal | 213 | 319 | 532 | 7.6 | 4.9 | 5.7 |
| C22 Liver and intrahepatic bile ducts | 33 | 81 | 114 | 1.2 | 1.3 | 1.2 |
| C23, C24 Gallbladder, other and unspecified part of biliary tract | 23 | 23 | 46 | 0.8 | 0.4 | 0.5 |
| C25 Pancreas | 41 | 69 | 110 | 1.5 | 1.1 | 1.2 |
| C26 Other and ill-defined digestive organs | 2 | 6 | 8 | 0.1 | 0.1 | 0.1 |
| C30, C31 Nasal cavity, middle ear, accessory sinuses | 2 | 10 | 12 | 0.1 | 0.2 | 0.1 |
| C32 Larynx | | 29 | 29 | 0.0 | 0.4 | 0.3 |
| C34 Bronchus and Lung | 70 | 161 | 231 | 2.5 | 2.5 | 2.5 |
| C37 Thymus | 3 | 7 | 10 | 0.1 | 0.1 | 0.1 |
| C38 Heart, mediastinum, and pleura | | 6 | 6 | 0.0 | 0.1 | 0.1 |
| C40-C41 Bone and articular cartilage | 7 | 27 | 34 | 0.2 | 0.4 | 0.4 |
| C43 Skin melanoma | 20 | 31 | 51 | 0.7 | 0.5 | 0.5 |
| C44 Skin (Carcinoma) | 109 | 164 | 273 | 3.9 | 2.5 | 2.9 |
| C45 Mesothelioma | 5 | 1 | 6 | 0.2 | 0.0 | 0.1 |
| C46 Kaposi sarcoma | | 3 | 3 | 0.0 | 0.0 | 0.0 |
| C48 Retroperitoneum and peritoneum | 10 | 8 | 18 | 0.4 | 0.1 | 0.2 |
| C49 Connective and soft tissue | 16 | 31 | 47 | 0.6 | 0.5 | 0.5 |
| C50 Breast | 1128 | 11 | 1139 | 40.1 | 0.2 | |
| C51 Vulva | 3 | | 3 | 0.1 | | |
| C52 Vagina | 3 | | 3 | 0.1 | | |
| C53 Cervix uteri | 141 | | 141 | 5.0 | | |
| C54-C55 Uterus | 173 | | 173 | 6.1 | | |
| C56 Ovary | 108 | | 108 | 3.8 | | |
| C57 Other and unspecified female genital organs | 6 | | 6 | 0.2 | | |
| C58 Placenta | 4 | | 4 | 0.1 | | |
| C61 Prostate | | 251 | 251 | | 3.9 | |
| C62 Testis | | 60 | 60 | | 0.9 | |
| C64-C65 Kidney & Renal pelvis | 43 | 108 | 151 | 1.5 | 1.7 | 1.6 |
| C66, C68 Ureter and other urinary organs | 1 | 4 | 5 | 0.0 | 0.1 | 0.1 |
| C67 Urinary bladder | 23 | 103 | 126 | 0.8 | 1.6 | 1.4 |
| C69 Eye | 3 | 2 | 5 | 0.1 | 0.0 | 0.1 |
| C70-C72 Brain & CNS | 50 | 99 | 149 | 1.8 | 1.5 | 1.6 |
| C73 Thyroid | 421 | 174 | 595 | 15.0 | 2.7 | 6.4 |
| C74-C75 Other endocrine glands | 5 | 6 | 11 | 0.2 | 0.1 | 0.1 |
| C76-C80 Unknown or unspecified sites | 28 | 33 | 61 | 1.0 | 0.5 | 0.7 |
| C81 Hodgkin's lymphoma | 39 | 52 | 91 | 1.4 | 0.8 | 1.0 |
| C82-C85, C96 Non-Hodgkin lymphoma | 85 | 143 | 228 | 3.0 | 2.2 | 2.5 |
| C88, C90 Multiple myeloma | 35 | 54 | 89 | 1.2 | 0.8 | 1.0 |
| C91-C95 Leukemia | 95 | 209 | 304 | 3.4 | 3.2 | 3.3 |
| Other hematopoietic malignancies | 18 | 18 | 36 | 0.6 | 0.3 | 0.4 |
| Other Malignancy | 1 | 1 | 2 | | | |
| (C00-C96) All invasive cancers (Malignant cases) | 3059 | 2553 | 5612 | 108.7 | 39.5 | 60.5 |

*Table 39 - Crude incidence rates per 100,000 population, 2021*

***Crude incidence rate: number of new cases per 100,000 population per year, we used the 2020 UAE resident population to calculate crude incidence rates.***

The most common cancers among UAE population in both genders are breast, thyroid, colorectal and leukemia. The crude incidence rate for breast cancer was 40.1/100,000 for female population, thyroid was 15/100,000 for females and 2.7/100,000 for males, colorectal was 7.6/100,000 for females and 4.9/100,000 for males and leukemia was 3.4/100,000 for females and 3.2/100,000 for males.

**Figure 35** demonstrates and summarizes the distribution by age-specific incidence rate (ASIR) for all invasive cancer cases among both genders in the year 2021. It shows the age-specific incidence rate (ASIR) increased with advancing age and peak at 70-74 years. After age 74 years, age-specific cancer incidence rate decreases drastically.

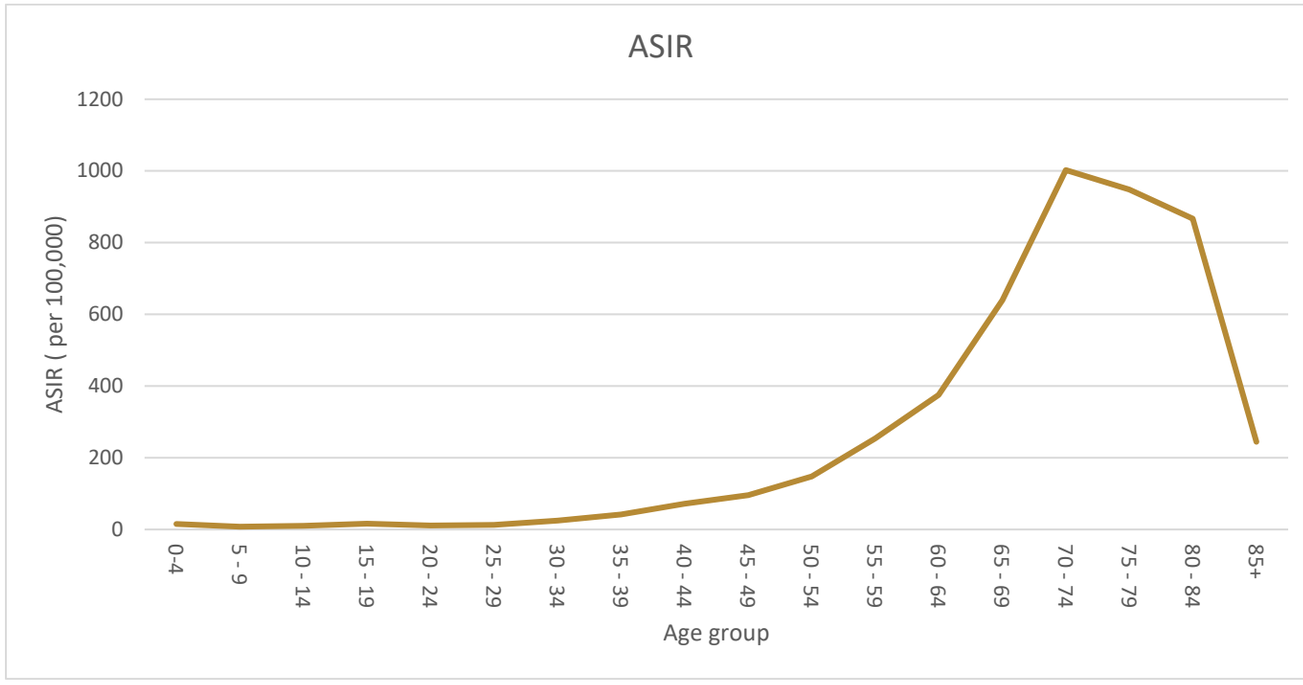


*Figure 35 - Distribution of age-specific incidence rates (ASIR) for both genders, 2021*

**Figure 36** demonstrates and summarizes the distribution by age-specific incidence rate (ASIR) for all invasive cancer cases among females in the year 2021. It shows the age-specific incidence rate (ASIR) increased with advancing age and peak at 70-74 years. After age 74 years, age-specific cancer incidence rate decreases drastically.

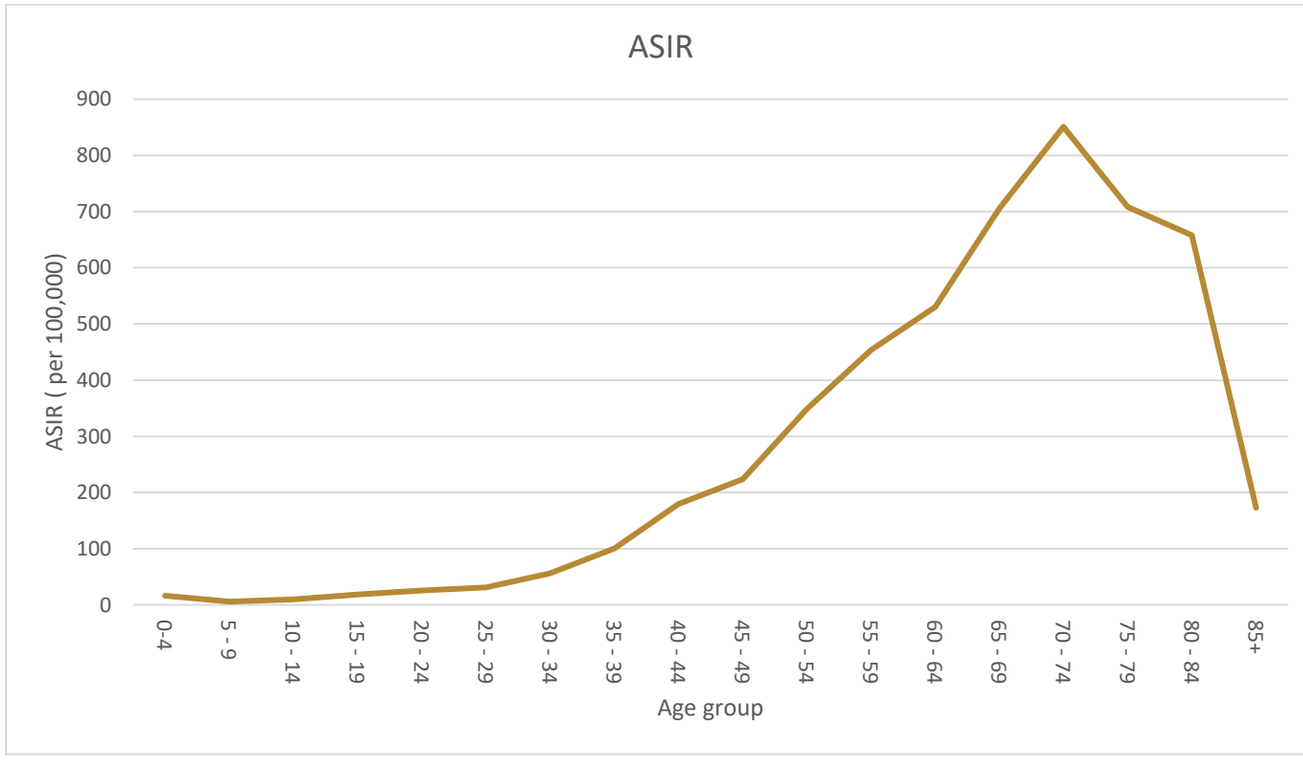


*Figure 36 - Distribution of age-specific incidence rates (ASIR) for females, 2021*

**Figure 37** demonstrates and summarizes the distribution by age-specific incidence rate (ASIR) for all invasive cancer cases among males in the year 2021. It shows the age-specific incidence rate (ASIR) increased with advancing age and peak at 75-79 years. After age 79 years, age-specific cancer incidence rate decreases drastically.

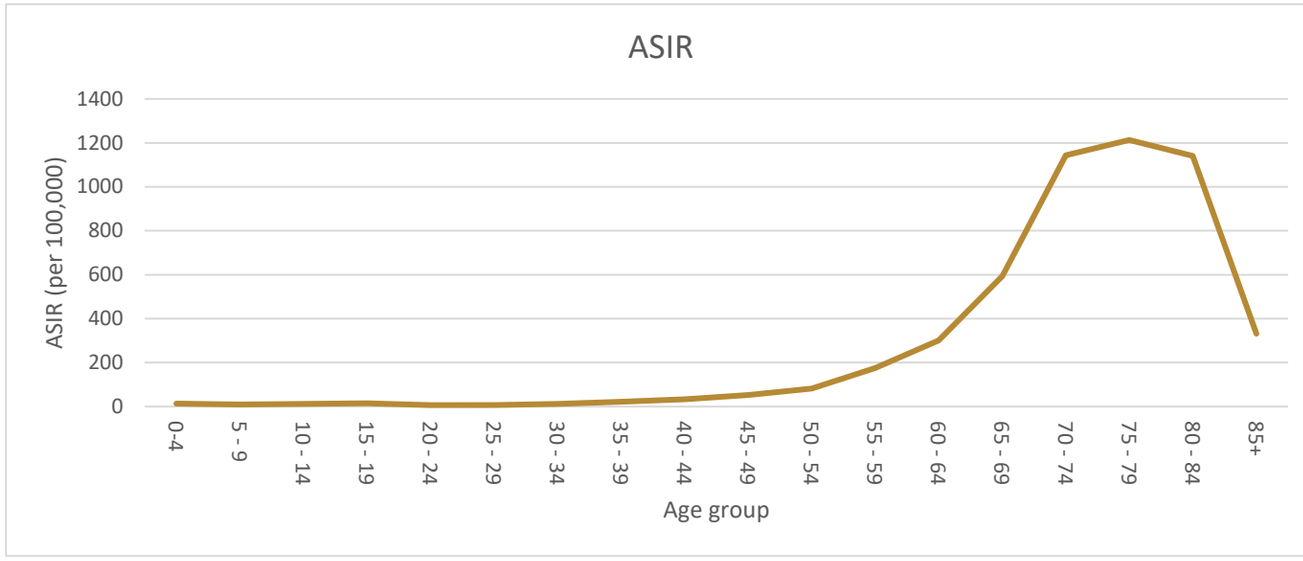


*Figure 37 - Distribution of age-specific incidence rates (ASIR) for males, 2021*

## Cancer Mortality Rates

Cancer was the fifth most common cause of death registered in UAE during 2021, representing 8.2% of all deaths. A total number of 975 invasive cancer deaths were registered for the period 2021.
This represents an estimated age-standardized mortality rate of 29.6 deaths per 100,000 of population, for females 33.4/100,000 and for males 29.3/100,000. And a crude mortality rate of 10.5 deaths per 100,000 of population, for females 16.7/100,000 and for males 7.8/100,000.

**Figure 38** demonstrates and summarizes the distribution by age-specific cancer mortality rates (ASMR) for both genders in the year 2021. It shows the age-specific cancer mortality rates (ASMR) increased with advancing age and peak at 80-84 years.

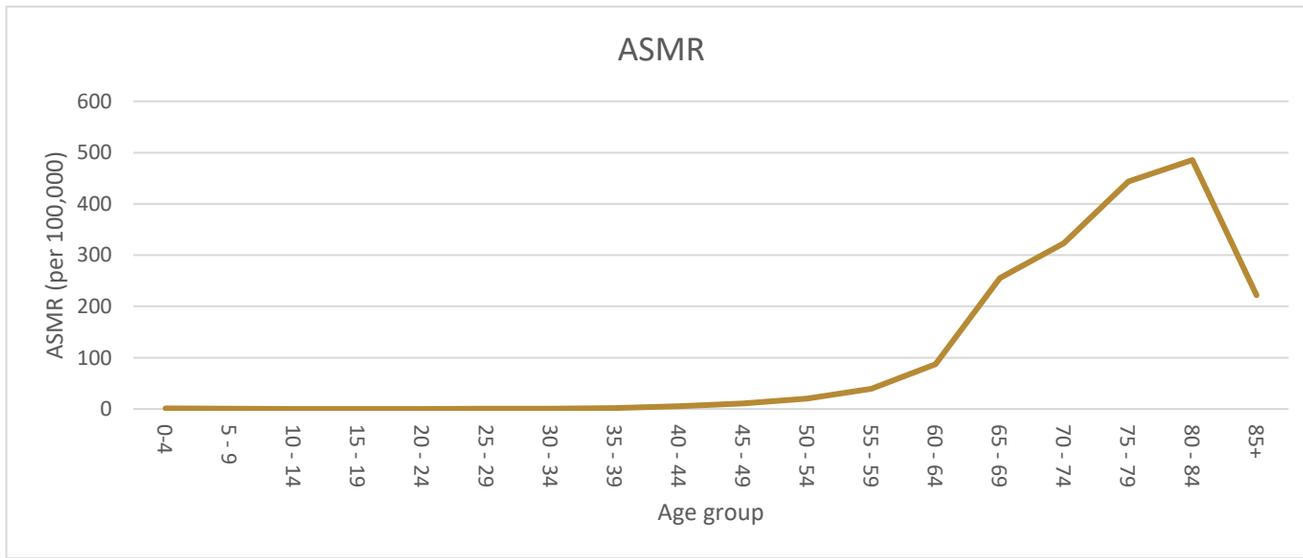


*Figure 38 - Distribution of age-specific mortality rates (ASMR) for both genders, 2021*

**Figure 39** demonstrates and summarizes the distribution by age-specific cancer mortality rates (ASMR) among females in the year 2021. It shows the age-specific cancer mortality rates (ASMR) increased with advancing age and peak at 80-84 years.

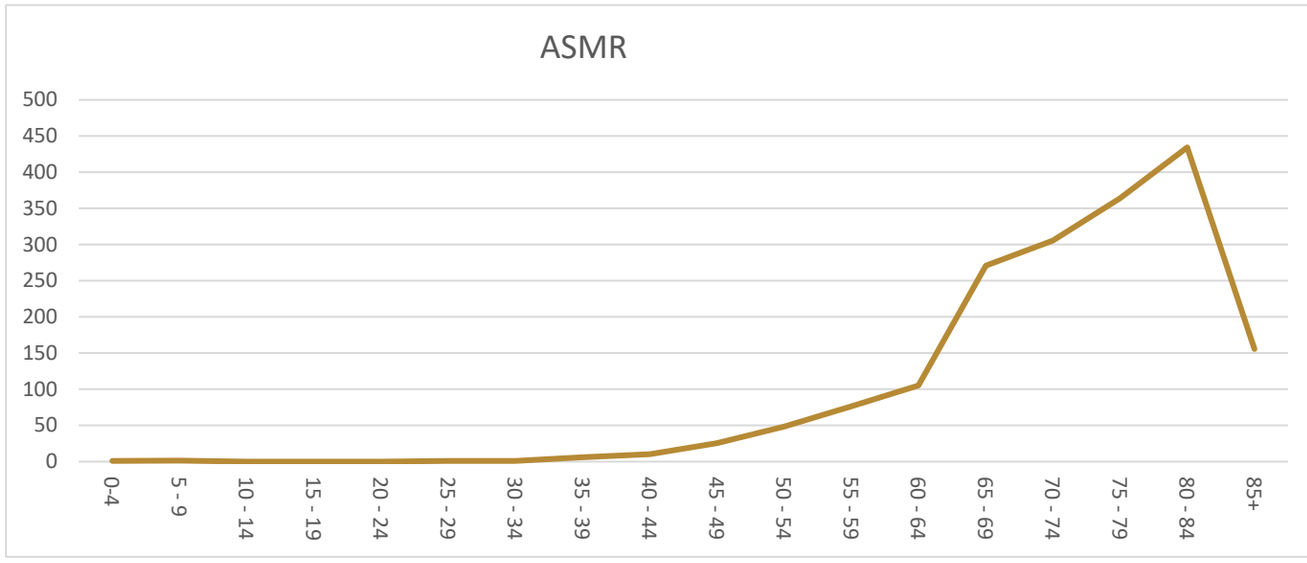


*Figure 39 - Distribution of age-specific mortality rates (ASMR) for females, 2021*

**Figure 40** demonstrates and summarizes the distribution by age-specific cancer mortality rates (ASMR) among males in the year 2021. It shows the age-specific cancer mortality rates (ASMR) increased with advancing age and peak at 80-84 years.

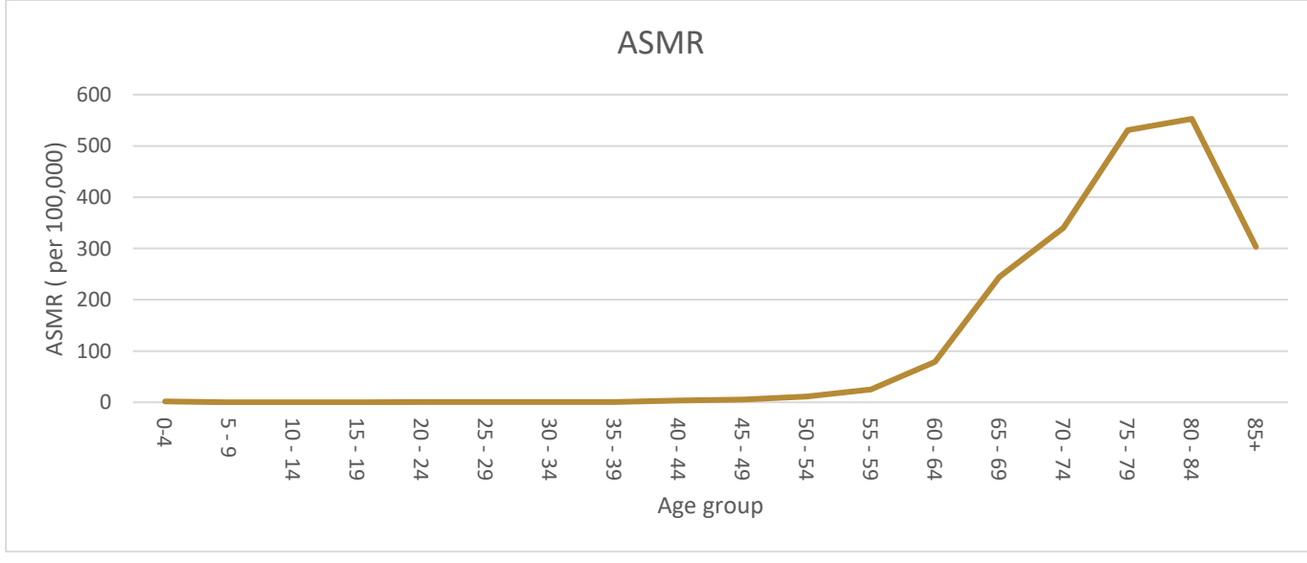


*Figure 40 - Distribution of age-specific mortality rates (ASMR) for males, 2021*

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