Cancer incidence in the Gaza Strip
Facts & Figures 2015-2016

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### Abbreviations:

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>MOH</td>
<td>Ministry of Health</td>
</tr>
<tr>
<td>PCR</td>
<td>Palestinian Cancer Registry</td>
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<tr>
<td>PNA</td>
<td>Palestinian National Authority</td>
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<tr>
<td>CR</td>
<td>Crude Rate</td>
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<tr>
<td>DC</td>
<td>Death Certificate</td>
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<td>MR</td>
<td>Mortality Rate</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
<tr>
<td>ASR</td>
<td>Age Standardized Rate</td>
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<tr>
<td>IR</td>
<td>Incidence Rate</td>
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</table>
Abstract

Cancer is one of the leading causes of morbidity and mortality worldwide, with approximately 14 million new cases in 2012\(^1\). In Gaza Strip, about 2328 cases of cancer were registered during the last two years (1626 in 2015 and 1702 in 2016). The incidence rate per 100,000 population was 87.9 in 2015 and 89 in 2016. Breast cancer was the most common type (20.5\%) of all cancer cases, and occupying first place among cancers of the female patients, representing (36.9 \%) of all female cancer diseases, Colon cancer was the most common type among males, representing (15.5\%) of male cancers. In children, 210 cases of cancer were reported among age under 18 years (6.5\%) of total cases in population, males reported high number of pediatric cancers it registered 119 cases which represent (57\%) of all pediatric cancers while female cancer was registered 91 cases which represent (43\%). The most common cases of pediatric cancers were Leukemia (26.2\%) Brain (17.1\%) and Bone (16.8\%). In Gaza, about 1118 deaths of cancer were reported in 2015-2016 with Cancer specific mortality rate 29.7 per 100,000 population. The most common cancer mortality in general population was Bronchus and Lung (16.9\%), Colorectal (11\%) and Breast (10\%).
**General Objective:**

To define the size of cancer problem and pattern of cancer occurrence in Gaza. To provide data on cancer for epidemiological and clinical studies. To make data of cancer incidence and prevalence available for use by health planners and professionals in order to plan for cancer prevention, control and management in a cost effective manner.

**Methodology:**

This report is prepared by Cancer Registry team based on regular cancer data collection from the Gaza hospitals, diagnostic facilities and the deaths registry available in PHIC.

**Source of data**

There are five main sources for data collection about cancer patients:

1. The medical centers which provide service to patients and it's three centers Alshifa Hospital, European Gaza Hospital and Abdelazeez Alrantisy pediatric Hospital.
2. Histopathology labs (governmental and private).
3. Radiology centers (governmental and private).
4. Referral abroad.
5. Death Certificates.
Case Findings and Data Results

The results of cancer data analysis in Gaza Strip showed during two years 3328 new cancer patients registered at Cancer Registry Center. The distribution of patients showed the steady increase in the number and crude rate, it was in the year 2015 (1626 cases) and incidence (87.9/100,000), reaching in 2016 (1702 cases) with an incidence of (89/100,000).

Table (1): Incidence rate (per 100,000) and number of new cases 2015-2016

<table>
<thead>
<tr>
<th>Year</th>
<th>Male Nu.</th>
<th>Female Nu.</th>
<th>Total Nu.</th>
<th>Incd.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>507</td>
<td>724</td>
<td>1231</td>
<td>73.6</td>
</tr>
<tr>
<td>2013</td>
<td>929</td>
<td>775</td>
<td>1414</td>
<td>81.7</td>
</tr>
<tr>
<td>2014</td>
<td>721</td>
<td>781</td>
<td>1502</td>
<td>83.9</td>
</tr>
<tr>
<td>2015</td>
<td>734</td>
<td>894</td>
<td>1628</td>
<td>87.9</td>
</tr>
<tr>
<td>2016</td>
<td>744</td>
<td>958</td>
<td>1702</td>
<td>89</td>
</tr>
</tbody>
</table>

Cancer cases by gender

The number of cancer cases during the period 2015-2016 shows that male cancers registered 1478 cases, 44.3% of all cases and incidence rate 77 / 100,000, while female cancers registered 1851 cases, 55.6% of all cases.

Figure 2: Proportional distribution of cancers by sex 2015-2016
Age adjusted rate

The Age-standardized rate is a summary measure of a rate that a population would have if it had a standard age structure. Standardization is necessary when comparing several populations that differ with respect to age structure. Age adjusting rates is a way to make fairer comparisons between groups with different age distributions, age adjusted rate was 164 at all population, at male it was 162 while at female represented 169.
Distribution of cancer by Governorates

Distribution of cancer by governorates, showed that the largest number of cases was recorded in Gaza governorate (1415 cases), with rate of 42.5 % of all cases. Khan Younis governorate comes second registering (622 cases), with the rate of 18.7 % of the cases. Then the middle area with the rate of 13.5 % of the cases the, while the lowest was in Rafah.

Most common types of cancer

A total of 2328 cases were registered in Gaza during the period 2015-2016 with 1478 males (44.3%) and 1851 (55.6%) females. The crude rate for all cancer sites during the 2 years period was 89 per 100,000 (ASR: 164)

Breast cancer was the most prevalent. Knowing that it is within the first five prevalent cancers in the world, where the World health organization registered 1.6 million cases each year in the world among women. These percentages vary between one country and another. In the Gaza Strip the number of breast cancer cases was 684 a rate of 20.5% of all cancers and 36.9% from female cancers and incidence rate of breast cancer in 2015 was 17.8/ 100.000 from all population while in 2016 it was 18.6/100.000
population. Colorectal cancer was the second most common type registering 420 cases, and a rate of 12.6% of all cases and 15.5% from male cancers with incidence rate of colorectal cancer was 10.8 in 2015 while in 2016 it was in 11.5 / 100,000 from male population.

Table (2) Ten most common cancers among Gaza population during 2015-2016

<table>
<thead>
<tr>
<th>Rank</th>
<th>Cancer</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Breast</td>
<td>684</td>
<td>20.5%</td>
</tr>
<tr>
<td>2.</td>
<td>Colorectal</td>
<td>420</td>
<td>12.6%</td>
</tr>
<tr>
<td>3.</td>
<td>Leukemia</td>
<td>243</td>
<td>7.3%</td>
</tr>
<tr>
<td>4.</td>
<td>Lymphoma</td>
<td>240</td>
<td>7.2%</td>
</tr>
<tr>
<td>5.</td>
<td>Lung</td>
<td>230</td>
<td>6.9%</td>
</tr>
<tr>
<td>6.</td>
<td>Thyroid</td>
<td>200</td>
<td>6.1%</td>
</tr>
<tr>
<td>7.</td>
<td>Brain</td>
<td>131</td>
<td>5.2%</td>
</tr>
<tr>
<td>8.</td>
<td>Prostate</td>
<td>175</td>
<td>3.9%</td>
</tr>
<tr>
<td>9.</td>
<td>Urinary Bladder</td>
<td>128</td>
<td>3.8%</td>
</tr>
<tr>
<td>10.</td>
<td>Stomach</td>
<td>106</td>
<td>3.3%</td>
</tr>
</tbody>
</table>

Figure 6: Percentage of the most common cancers 2015-2016
Most common types of male cancers

Colon cancer is the most common type among males. The number of colon cancer cases was 230 with a rate of 15.5% of male cancers. Lung cancer was the second type it registered 189 cases with a rate of 12.5% of male cancers.
Most common types of female cancers

Breast cancer was the most common type among females. The number of breast cancer cases was 684 with a rate of 36.3% among female cases and incidence rate 36.9 / 100.000 from female population. Colorectal cancer was the second most common type it registered 210 cases with a rate of 11.2% from all female cases and incidence rate 10.3 / 100.000 from female population.

Pediatric Cancers

Most common types of pediatric cancers

In the period between 2015-2016, 210 pediatric cancer cases under 18 year were registered with a rate of 6.3% of all cancers. Leukemia was the most common type of pediatric cancers representing 26.2% of all types, while Brain cancer was the second type with 17.1% of all cancers, Lymphoma representing 16.8%, and Neuroblastoma 4.1% of all pediatric cancers.
**Pediatric cancers by sex**

The number of pediatric cancer cases during the period 2015-2016 was 119 male cases, 57%, while 91 female cases, 43%.

![Figure 11: Proportional distribution of pediatric cancers by sex 2015-2016](image)

**Cancer Mortality**

In Gaza, about 1118 deaths of cancer were reported in 2015-2016 with mortality rate per 100,000 population was (29.7). The most common cancer mortality in general population was Bronchus and Lung (16.9%), Colorectal (11%) and Breast (10%)

![Figure 12: Top ten Leading causes of cancer mortality in Gaza Strip](image)
References: