

## PATTERN OF CANCER CASES REGISTERED IN A TERTIARY CARE CENTER IN KATHUA DISTRICT OF J&K: A CROSS SECTIONAL STUDY

### Community Medicine

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### ABSTRACT

**Introduction:** Cancer is an important public health problem in India, with 10 lakh new cases occurring every year in the year. Cancer pattern varies in different regions and depends on genetic, environmental, dietary, social and other factors.

**Aim and objectives:** This study was undertaken to determine magnitude and pattern of cancer cases reporting in the hospital.

**Methodology:** This was a hospital-based retrospective study undertaken in the Government Medical College Kathua. GMC, Kathua is one among the five new medical colleges established in Jammu & Kashmir. The records of cancer patients generated from 1st November 2018 to 1<sup>st</sup> November 2019 were analyzed. All the cancer cases who reported either for diagnosis in any of the hospital OPD or for the treatment (radiotherapy/ chemotherapy/ surgery) were included. Data was entered in the MS Excel for analysis

**Results:** Out of total 272 patients registered, females accounted for 56.6% and males for 43.3%. Hindu patients were in majority (84.2%). Most of the cases (37.1%) were in the age group 60-80. Pattern of cancer was different in the two sexes. In males, maximum cases were of lung cancer and in females, Ca breast was the most common followed by the cervical cancer

**Conclusion:** This hospital-based study indicates the cancer profile in Kathua district. Females were found to be more affected than that of males with majority of the cases in the late 40s age group. Rural area and urban area distribution was found to be almost similar.

### KEYWORDS

Cancer, Pattern, GMC Kathua

### INTRODUCTION:

Non communicable diseases (NCDs) these days are responsible for the majority of global deaths.<sup>1</sup> Cancer incidence and mortality are rapidly growing worldwide, both in the developed and developing countries and is currently the second leading cause of death in the world.<sup>2</sup> The reasons are complex and includes higher life expectancy and adoption of cancer linked lifestyle such as smoking and physical inactivity.<sup>3</sup> situation is made worse by the lack of early detection and access to treatment.<sup>4</sup> According to Globocan 2018, an estimated of 18.1 million new cancer cases (17.0 million) and 9.6 million cancer deaths (9.5 million) deaths were reported. The most common cancer diagnosed were lung cancer 2.09 million (11.6%), followed by cancer breast 2.08 million (11.6%). The most common cause of cancer deaths were cancer lung (18.4%), colorectal cancer (9.2%), cancer stomach (8.2%), cancer liver (8.2%) and cancer breast (6.6%).<sup>5</sup> Prevalence of cancer in India is estimated to be 3.9 million and reported incidence to be about 1.1 million.<sup>6</sup>

There is wide variation in the distribution of the cancer throughout the world. In India most common cancer is cancer lung among males and cancer breast among females. Cancer of stomach is very common in Japan whereas it has low incidence in United States. These and other international variations in the pattern of the cancers are attributed to multiple factors such as environmental factors, food habits, lifestyle, genetic factors or even inadequacy in detection and reporting of cases.<sup>7,8</sup>

The present study was undertaken to determine the magnitude and pattern of cancer cases reporting to tertiary care hospital located in this region. An epidemiological study helps to know the common cancers prevalent in particular segments of the population and risk factors involved. This helps in planning the facilities required in a hospital

### METHODOLOGY:

This was a hospital-based retrospective study undertaken in the Government Medical College Kathua. GMC, Kathua is one among the five new medical colleges established in Jammu & Kashmir. The records of cancer patients generated from 1st November 2018 to 1<sup>st</sup> November 2019 were analyzed. All the cancer cases who reported either for diagnosis in any of the hospital OPD (Medicine, Gynae and obs, pediatrics, Surgery, orthopedics, ENT, ophthalmology etc) or for the treatment (radiotherapy/ chemotherapy/ surgery) were included. Information regarding age, sex, residence, diagnosis, plan of treatment and follow up was collected. Data was entered in the MS Excel and descriptive analysis was done.

### RESULTS

A total 272 patients were registered during this 1 year period. Females accounted for 56.9% and males for 43.01% ( Fig.1). Majority of the cases (124) were found in the age group 41-60. Out of this 124, 77 were females and 47 males. Least cases were found in the age group 0-20 (Table2, Fig2).

CA breast was the common (16.54%) reported cancer among females followed by CA cervix. Maximum cases of breast cancer were in the age group 41-60. 1 case each of CA oral cavity, rectum, thyroid and cranial cavity was reported. (Table 3) Whereas in males, CA lung (9.92%) was the most common reported cancer among males followed by CA larynx (4.04%). Lung cancer was most common in the age group of 61-80 years. (Table 4)

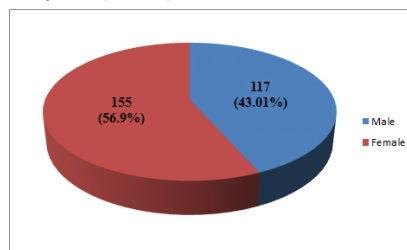


Fig 1: sex wise distribution of the registered patients

Table2: Age wise distribution of the cancer cases

| Age groups (years) | Males | Females | Total      |
|--------------------|-------|---------|------------|
| 0-20               | 1     | 2       | 3(1.1%)    |
| 21-40              | 11    | 26      | 37(13.6)   |
| 41-60              | 47    | 77      | 124(45.5%) |
| 61-80              | 54    | 47      | 101(37.1)  |
| >80                | 4     | 3       | 7(2.5%)    |

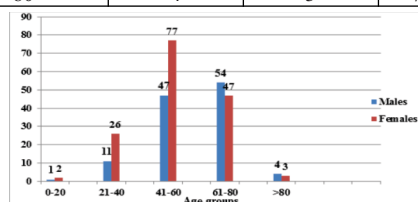


Fig 2: Age wise distribution of the cancer cases

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**Table3: Frequency distribution of cancer cases among females (n-272)**

| Type of cancer  | Age groups |       |       |       |     | n (%age)  |
|-----------------|------------|-------|-------|-------|-----|-----------|
|                 | 0-20       | 21-40 | 41-60 | 61-80 | >80 |           |
| Breast          | 2          | 10    | 25    | 8     |     | 45(16.54) |
| Cervix          |            |       | 11    | 9     |     | 20(7.35)  |
| Hematological   |            | 7     | 8     | 2     |     | 17(6.25)  |
| Lungs           |            |       | 3     | 10    |     | 13(4.77)  |
| Endometrial     |            |       | 7     | 5     |     | 12(4.41)  |
| Gall bladder    |            | 1     | 7     | 3     | 1   | 12(4.41)  |
| Ovarian         |            | 1     | 2     | 2     |     | 5(1.83)   |
| RCC             |            | 1     | 2     |       | 1   | 4(1.47)   |
| Esophageal      |            |       | 3     | 1     |     | 4(1.47)   |
| Pancreas        |            | 1     | 1     | 1     | 1   | 4(1.47)   |
| Stomach         |            | 1     | 2     |       |     | 3(1.10)   |
| Larynx          |            |       | 1     | 2     |     | 3(1.10)   |
| Bone            |            | 2     |       | 1     |     | 3(1.10)   |
| Liver           |            | 1     | 1     |       |     | 2(0.73)   |
| Colon           |            |       | 2     |       |     | 2(0.73)   |
| Urinary bladder |            |       |       | 2     |     | 2(0.73)   |
| Oral cavity     |            |       | 1     |       |     | 1(0.36)   |
| Rectum          |            |       |       | 1     |     | 1(0.36)   |
| Cranial         |            | 1     |       |       |     | 1(0.36)   |
| Thyroid         |            |       | 1     |       |     | 1(0.36)   |

**Table 4: Frequency distribution of cancer cases among males (n-272)**

| Type of Cancer  | Age groups |       |       |       |     | n(%age)   |
|-----------------|------------|-------|-------|-------|-----|-----------|
|                 | 0-20       | 21-40 | 41-60 | 61-80 | >80 |           |
| Lungs           |            |       | 11    | 14    | 2   | 27 (9.92) |
| Larynx          |            |       | 6     | 5     |     | 11(4.04)  |
| Hematological   |            | 3     | 2     | 6     |     | 11(4.04)  |
| Oral cavity     |            | 1     | 6     | 2     |     | 9(3.30)   |
| Prostate        |            |       | 1     | 6     | 2   | 9(3.30)   |
| Esophagus       |            |       | 5     | 3     |     | 8(2.94)   |
| Urinary Bladder |            |       | 3     | 3     |     | 6(2.20)   |
| Rectum          |            | 1     | 3     | 2     |     | 6(2.20)   |
| Bone            | 1          | 3     | 1     | 1     |     | 6(2.20)   |
| Gall bladder    |            |       | 3     | 1     |     | 4(1.47)   |
| Colon           |            |       | 3     | 1     |     | 4(1.47)   |
| Thyroid         |            | 1     | 1     | 2     |     | 4(1.47)   |
| RCC             |            |       |       | 3     |     | 3(1.10)   |
| Pancreas        |            | 1     |       | 2     |     | 3(1.10)   |
| Liver           |            | 1     |       | 2     |     | 3(1.10)   |
| Cranial         |            |       | 1     | 1     |     | 2(0.73)   |
| Duodenum        |            |       | 1     |       |     | 1(0.36)   |

**DISCUSSION:**

Epidemiological information on cancer including the pattern is an important basis for determining the priorities for cancer control in any population group. A total 272 patients were registered in the hospital over 1 year period. The most common cancer in adult females was found to be Ca breast followed by Ca cervix whereas in males Carcinoma lung was the most common cancer followed by Ca larynx. In present study with male female ratio was 0.75:1 indicating female predominance. Similar pattern was recorded by Cherian et al in Kerala (0.93:1)<sup>9</sup>; which was higher than Jabalpur study of Sinha et al (0.66:1)<sup>10</sup> and Kalyani et al in Kolar (0.7:1)<sup>11</sup>. Though male predominance was recorded by Sharma et al in Jaipur region (1.4:1) and Waniet al in Kashmir valley (3:2)<sup>12,13</sup>. The most affected female age groups in our study were 41-60, with 49.67% occurrence, while males in the age groups of 61-80, with 46.1 occurrence. According to the study by Zeb et al, for females, the most affected age group was 41-50, with 8.87% occurrence, and the second most affected age group was 51-60, with 6.88% occurrence. For males, the most affected age group was 51-60, with 12.3% occurrence, followed by 61-70, with 10.32% occurrence.<sup>14</sup> In males, lung cancer was the most common followed by larynx. Cancers in males are mostly tobacco related. Lung was found to be the most common site in Jammu study, whereas larynx malignancies were more in Ludhiana & Bankura in West Bengal<sup>14,15,16</sup>. Report from hospital based cancer registry 2007-11 under NCRP showed lung to be the top site for malignancy in males in Chandigarh & Thiruvananthapuram, whereas it is the second most common carcinoma in Mumbai & Chennai registries<sup>17</sup>. Carcinoma breast (16.54%) was the most common cancer in adult females in our study followed by Ca cervix.

Breast cancer is proportionately on the increase and is related to late marriage, birth of the first child at a late age, fewer children and shorter period of breast feeding which are increasingly common practice among educated urban women. Our data was comparable to 22.46% in Ambajogai, 20.44% in Jaipur, 21.05% in Ludhiana & 19.4% in Eastern Rajasthan.<sup>18,19,20</sup>

**CONCLUSION:**

The prevalence of cancer cases was found to be higher in females as compared to males. The major age group fell in between 41-60 years. The lung was a leading site of cancer among males and breast was a leading site of the cancer among the females.

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