

# Assessment of Prevalence of the Most Common Cancers at a Tertiary Care Hospital in Al Ahsa, Kingdom of Saudi Arabia

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## ABSTRACT

**Objective:** To assess the prevalence of most common cancers.

**Study Design:** Observational / analytic study.

**Place and Duration of Study:** This study was conducted at King Fahd Hospital (KFH), Al Ahsa, Kingdom of Saudi Arabia (KSA) from January 2015 to December 2015.

**Materials and Methods:** This study was conducted among 200 cancer patients, visited KFH, Al Ahsa. Total 200 patients were included in the study. Adult patients of age 15 to 85 years were included. The data was analyzed using SPSS 16.

**Results:** Among total 200 cancer patients, males accounted for 108 (54%) and females for 92 (46%). Age of the male patients at presentation was 45 to 85 (mean 65) years and age of the female patients was 49 to 83 (mean 66) years. Only 2 cases of Osteosarcoma were found in young age males (21 to 23 years), and only 2 cases of breast cancer were found in young age females (32 to 34 years).

Among males, the most frequent malignancies were colorectal carcinoma, lymphoma, leukemia, lung cancer, prostate cancer, urolithial cancer and other cancers (mesothelial, pancreas, stomach and osteosarcoma), respectively. Among females, the most frequent malignancies were breast cancer, thyroid cancer, colorectal carcinoma, lymphoma, leukemia, renal cell carcinoma and other cancers (gall bladder, pancreas, ovary and uterus), respectively.

**Conclusion:** Among males, colorectal carcinoma, lymphoma, leukemia, lung cancer and prostate cancer were the most common cancers. Among females, breast cancer, thyroid cancer, colorectal carcinoma, lymphoma and leukemia were the most common cancers. Our results alarm to initiate the cancer control programs to decrease the cancer incidence in our region.

**Key Words:** Common cancers, prevalence, King Fahd Hospital.

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## INTRODUCTION

The leading cause of death in the world is cancer, affecting humans in countries of diverse levels of wealth and industrial development. The incidence of cancer in all countries, including high and low income countries, is estimated to rise yearly by 3-4%. The major increase, around 60%, will occur in developing countries as there are limited healthcare facilities and late diagnosis due to unawareness<sup>1</sup>. In the western world, the main risk factors for cancer are nutritional patterns and smoking. Whereas, in some developing countries, such as in South Asia and Africa, the smoking risk factor is growing<sup>2</sup>.

For instance, recent prevalence of smoking between adult men in the West, counting the United States also, is about 20%, compared with that to Greece, Jordan, Indonesia and China, it is more than 60%<sup>2</sup>. Moreover, the tendencies of physical inactivity and consumption of saturated fat and calorie-dense food in various western countries are growing, while in less developed countries, malnutrition and poverty are still the main issues. These factors lead to obesity and sedentary life style<sup>3,4</sup>. The influences of these unhealthy lifestyles have the impact on the development of various cancers, which have been already described<sup>5-7</sup>. These days, cancers, such as, of colon, breast and lung are frequently diagnosed in less developed countries and their rates are on the rise, which were once considered rare diseases and they related more to the western world<sup>8</sup>. Along with the growing tendencies, the upcoming cancer burden in the developing countries is expected to be infuriated by the expected rise in aging and life expectancy of the population<sup>9</sup>. In developed countries the proportion of cases is expected to increase to more than 60% by 2030, which was 56% in 2008<sup>10</sup>. It is also expected that cancer will exceed cardiovascular diseases as the leading cause of death worldwide in upcoming years<sup>11</sup>.

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Since the early 1970s, KSA has been experiencing extraordinary economic development. This is having an intense effect on water and air quality, lifestyle, nutrition and consumption patterns plus work-related environments. These alterations are considered to have changed the patterns of exposure to ecological cancer risk factors. Concurrently, the widespread obtainability of modern medical services and growing community awareness of cancer has facilitated with the early detection and reliable diagnosis of cancer in many parts of KSA<sup>12</sup>. But still, there is a need for the survey on the prevalence of various cancers in our and other regions of KSA. Being an enormous country of 2,240,000 square kilometers with areas of variable, topographic, climatic and social backgrounds from one place to another, the prevalence of different types of cancers may differ considerably. This offers a distinctive occasion to study the tendencies in frequency of various cancer types over time that may be anticipated to accompany fast financial and social alteration<sup>13</sup>.

Our current study is aimed at assessing the prevalence of most common cancers in our region, which will help the common and health related people to know the prevalence of most common cancers in our region and to make awareness to avoid the risk factors and to undergo the early detection of cancer through various screening and routine checkup.

### MATERIALS AND METHODS

Total 200 patients (both males and females), suffering from various cancers, i.e., colorectal, breast, lung, blood, thyroid and bone, etc., were included in the study. Adult patients of age 15 to 85 years were included in the study. Medical records of these patients were retrieved from KFH, Al Ahsa. The patients, who were diagnosed through histopathological reports were analysed for their prevalence. The study was conducted retrospectively from January 2105 to December 2015. The data were analysed by using SPSS 16.

### RESULTS

Total 200 patients suffering from various cancers were included in the study. Males accounted for 108 (54%) and females for 92 (46%). The mean age of the male patients at presentation was 65 years (45 to 85 years), and for females 66 years (49 to 83 years). Only 2 cases of Osteosarcoma were found in young males (21 to 23 years), and 2 cases of breast cancer in young females (32 to 34 years).

Among males, the most frequent malignancies were colorectal carcinoma, lymphoma, leukemia, lung cancer, prostate cancer, urolithial cancer and other cancers (mesothelial, pancreas, stomach and osteosarcoma), respectively (figure 1).

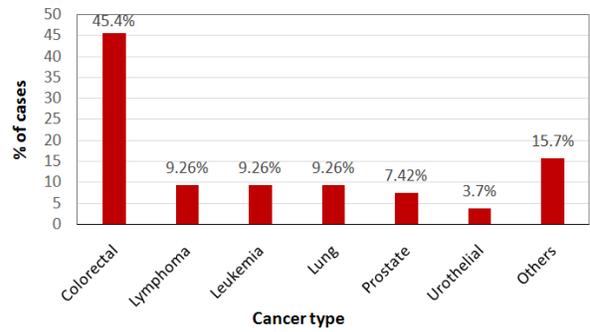


Figure No.1: Percentage of various cancers among male cancer patients.

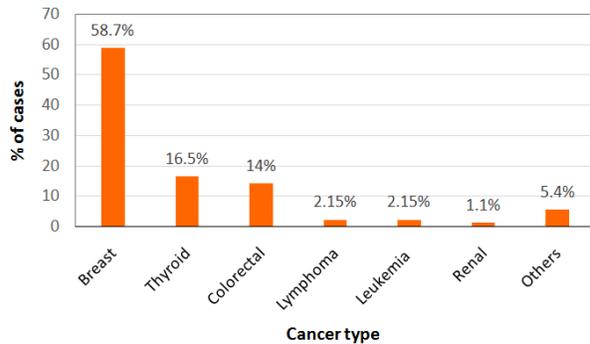


Figure No.2: Percentage of various cancers among female cancer patients

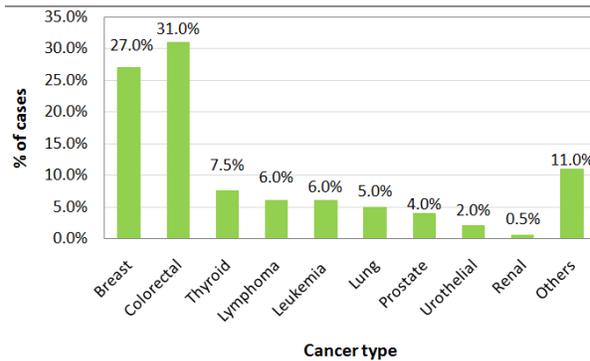


Figure No.3: Percentage of various cancers among all (male & female) cancer patients.

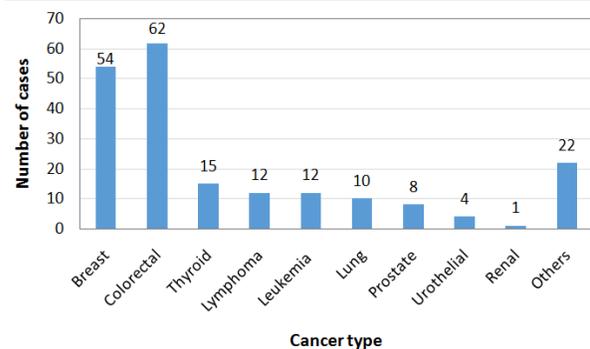


Figure No.4: Total number of various cancers among 200 cancer patients

Among females, the most frequent malignancies were breast cancer, thyroid cancer, colorectal carcinoma, lymphoma, leukemia, renal cell carcinoma and other cancers (gall bladder, pancreas, ovary and uterus), respectively (figure 2).

Taking all the cases of cancers together, irrespective of gender, colorectal cancer, breast cancer, thyroid cancer, lymphoma and leukemia were the most common malignancies (figure 3 and 4).

## DISCUSSION

Cancer is on rise and becoming the major cause of death throughout the world. In our presented study, we assessed the prevalence of the most common cancers, diagnosed at KFH, Al Ahsa. The most common cancers in males were colorectal, lymphoma, leukemia, lung and prostate cancers, respectively. In females, the most common cancers were breast, thyroid and colorectal cancers, and leukemia and lymphoma, respectively. Taking all the cancer patients together, irrespective of gender, colorectal cancer, breast cancer, thyroid cancer, lymphoma and leukemia, respectively, were found to be the most common cancers. Our findings clearly indicate the high prevalence of these cancers in our region Al Ahsa. There has not been much data on the prevalence of various cancers in our region. Our results correlate with a recent report, published in Riyadh region according to which colorectal and breast cancers were the commonest cancers among males and females, respectively<sup>14</sup>. But comparing the top five most common cancers, our results variate from this report in Riyadh, according to which the most common cancers in males were colorectal, non-Hodgkin lymphoma (NHL), leukemia, prostate and liver cancers. On the other hand, this report resembles to our results in females, which shows the breast, thyroid, colorectal cancer, NHL and leukemia being the most common cancers in this gender<sup>14</sup>. In contrast, a recent study in United States showed the prostate cancer to be the most common cancer in males, while breast cancer remained the most common cancer in females. Assessing all the cancers in U.S, the most common cancers in males were of prostate, lung, colorectum, urinary bladder, and melanoma of skin, respectively, while in females those were of breast, lung, colorectum, uterus, and thyroid, respectively<sup>15</sup>. According to a research review, the most common cancers throughout the Asia continent were lung, stomach, liver, colorectal, oesophageal, and prostate cancers in males, while breast, cervix uteri, lung, stomach, colorectal and liver cancers in females<sup>16</sup>. It was also shown that the breast, colorectal and thyroid cancers are increasing in women of high income Asian countries, including Saudi Arabia, due to adoption of Western life style and the over use of ultra sound scanning of thyroid glands<sup>16-20</sup>.

Taking all the discussion together, we could see that there are some similarities and dissimilarities in the

prevalence of various cancers in various countries and various parts of KSA itself. These variations may be explained by the fact that there are huge differences between these parts of the world on the basis of geography, risk factors, dietary habits, socioeconomic conditions, and sedentary life style, etc. These factors have already been described to effect the development of cancer<sup>21-25</sup>. Additionally, there are genetic predispositions which also play an important role in the development and prevalence of various cancer types in various ethnicities<sup>26</sup>. Hence, it is very important to launch cancer control programs including cancer awareness, screening and genetic counseling to minimize the cancer incidence.

## CONCLUSION

Among males, we found colorectal carcinoma, lymphoma, leukemia, lung cancer and prostate cancer, respectively, to be the most common cancers; and breast cancer, thyroid cancer, colorectal carcinoma, lymphoma and leukemia to be the most common cancers among females. Our results alarm to initiate the cancer control programs to decrease the cancer incidence in our region.

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**Conflict of Interest:** The study has no conflict of interest to declare by any author.

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