

## PATIENTS WHO DIED OF CANCER IN TRAINING AND RESEARCH HOSPITALS AND UNIVERSITY HOSPITALS

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According to the 2006 data of the Ministry of Health, there are totally 1159 hospitals in Turkey. Of these hospitals, 769 are state hospitals, 52 of which are training and research hospitals, and 51 of which are university hospitals, 332 of them are private hospitals and 6 of them are municipality hospitals. The distribution of the beds and physicians in training and research hospitals and university hospitals are shown at Table 1

**Table 1: Distribution of the Beds and Physicians in Training and Research Hospitals and University Hospitals in Turkey, 2006**

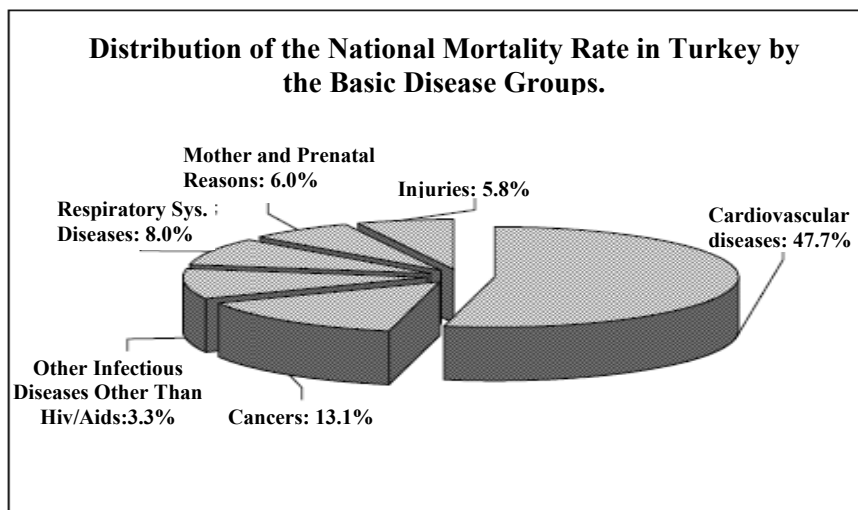
	Institution (n)	Bed (n)	Expert Physician (n)	Assistant Physician (n)	Medical Practitioner. (n)
Training& Research Hospital	52	25947	7147	7777	1075
University Hospitals	51	30912	10268	9538	1218
Other Hospitals	1056	110092	23626	211	25126
<b>Total</b>	1159	166951	41041	17526	27419

Source: [www.saglik.gov.tr](http://www.saglik.gov.tr),2007

Throughout the world, with the mortality rate of 7.6 millions (13.8%) cancer is estimated to be in the third place among cancer-related deaths after cardiovascular diseases (30%) and infectious diseases (19%) among 58 millions of deaths. The locations of cancer which causes death from cancer the most frequently in the world are lungs (1.3 million), stomach (1 million), liver (662 thousands), colon (665 thousands) and breast (502 thousands). (Source: Cancer incidence mortality and survival by site for 14 regions of the world, WHO, 2001).

As shown in Figure 1, cancer is in the second rank among the distribution of the national mortality rate in Turkey by the basic disease groups. Deaths from cancer in men and women are 35.076 and 21.174 respectively with the total number of 56.250 (13.1%). (Source: National Disease Burden and Cost Efficiency Survey (UHY-ME), 2003)

**Figure 1: Distribution of the National Mortality Rate in Turkey by the Basic Disease Groups.**



Source: UHY-ME Disease Burden Survey, 2003

Turkish Statistics Institute indicates through the table of distribution of the hospitalized patients by 150 selected diseases for 2006 that out of totally 6.012.643 discharged patients 264.103 were discharged from hospital with the diagnosis of cancer, and out of totally 95.656 dead patients, 10.774 (11.26%) died of cancer. (Source: [www.tuik.gov.tr](http://www.tuik.gov.tr), date of access: July 29, 2007)

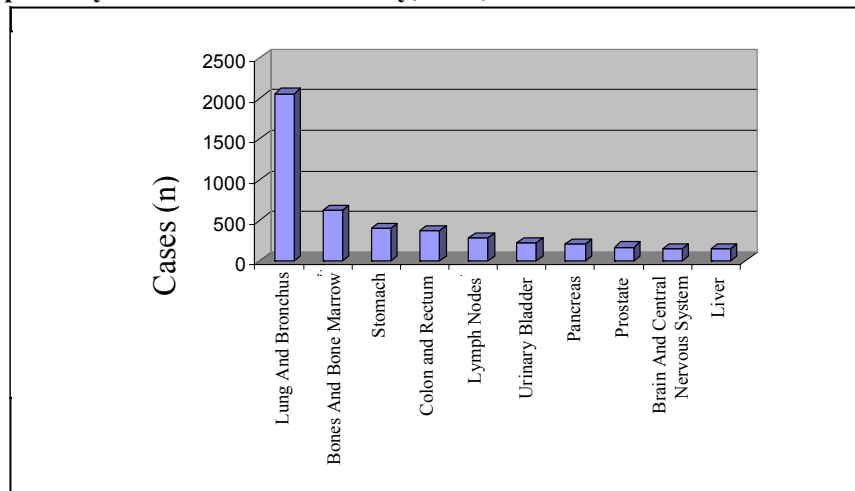
Department of Cancer Control (KSDB) has established the status of the patients died of cancer in our hospitals. Data of the patients who died of cancer in all training and research hospitals as well as in university hospitals in the last year have been collected. The information on the site of cancer, dates of birth and death and address of the patients who died of cancer with C and D in the ICD-10 disease coding system included in the automation systems of the said hospitals or whose death registries include cancer as the death reason.

Although the location of cancer is explicitly stated in the reports of the hospitals that send written data, the bones and bone marrows are coded together in the "ICD-10 coding guide" used by the hospitals that sent the reports in computer printouts. For this reason, assessment was made through combining two sets of data; however, the written data show that the cause of the majority of these deaths is bone marrow.

The number of patients who died of cancer in training and research hospitals and university hospitals reached a total number of 8.516 with 5.610 men and 2.906 women.

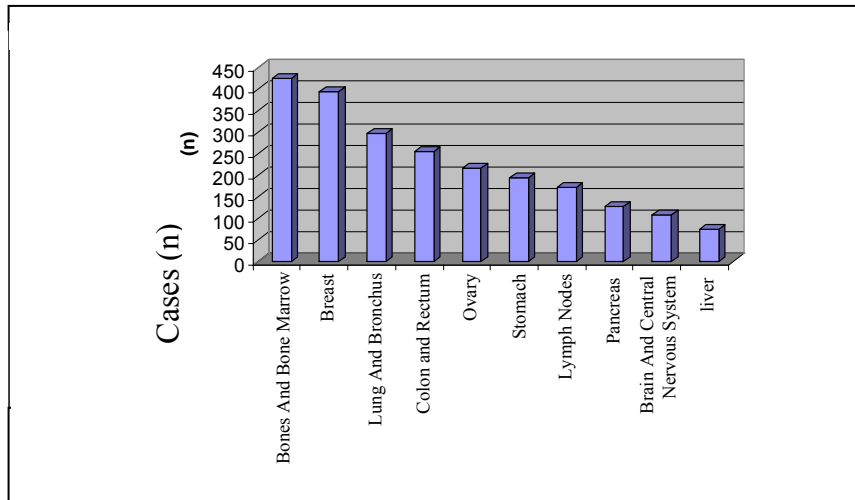
Graph 1 shows the distribution of the hospitalized male patients who died of cancer by the primary site of cancer. Lungs and bronchus are in the first rank and then follows the bones and bone marrow, stomach, colon and rectum, lymph nodes, urinary bladder, pancreas, prostate, brain and central nervous system and liver.

**Graph 1: Distribution of the patients who died of cancer by the primary site of cancer in Turkey, men, 2006**



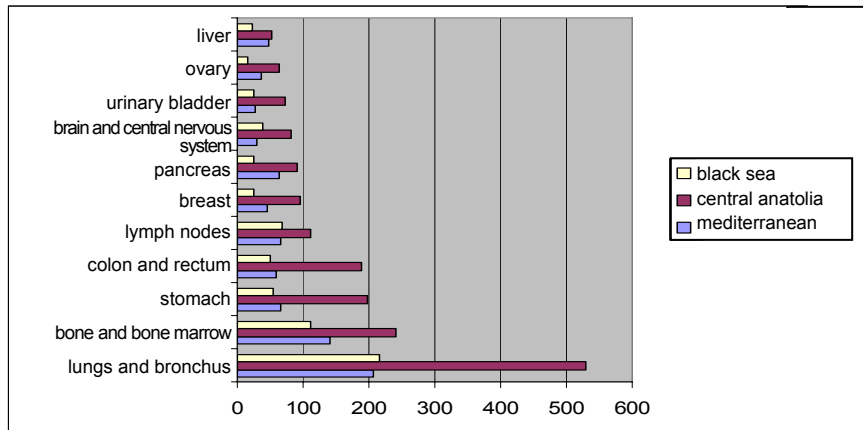
Graph 2, shows the distribution of female patients who died of cancer by the primary site of cancer. Bones and bone marrow is in the first rank and then follows the breasts, lung and bronchus, colon and rectum, ovary, stomach, lymph nodes, pancreas, brain and central nervous system and liver. Uterus and cervical cancer are not among the first ten but it ranks after liver.

**Graph 2. Distribution of the patients who died of cancer by the primary site of cancer in Turkey, Female 2006**



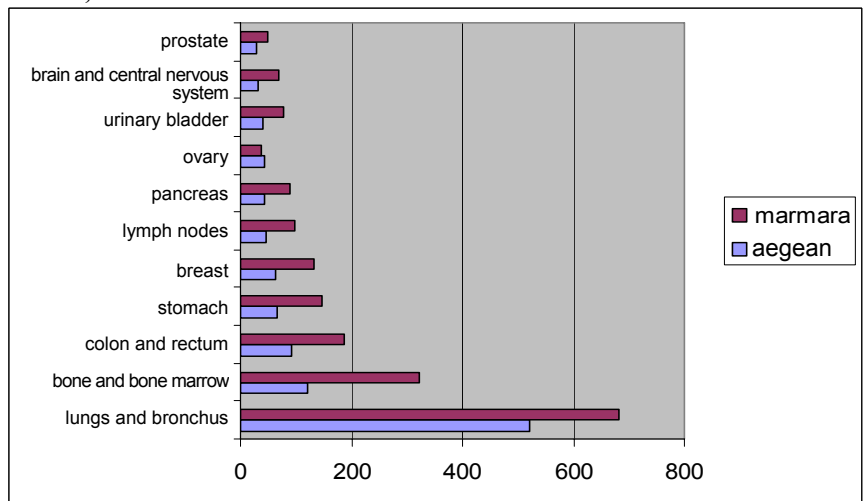
Graph 3 shows the distribution of the patients who died of cancer in the hospitals in the Mediterranean, Black Sea and Central Anatolian regions by the primary site of cancer. Lungs and bronchus hold the first rank with greater percentage in the Central Anatolian region among three geographical regions. Then, bones and bone marrows, stomach, colon and rectum, lymph nodes, breast, pancreas, brain and central nervous system, urinary bladder, ovary and liver rank in the Central Anatolian region. Although there is a similar sequence in other two regions, lymph nodes changes the rank and comes after bones and bone marrow, and the brain and central nervous system come after colon and rectum. In addition breast shows a lower ratio in this region compared to that of in other regions. In the Mediterranean region it changes the rank and comes after the stomach. Then lymph nodes, pancreas, colon and rectum, liver, breast, ovary, brain and central nervous system and urinary bladder come.

**Graph 3. Distribution of the patients who died of cancer in the hospitals in the Mediterranean, Black Sea and Central Anatolian regions by the primary site of cancer, 2006**



Graph 4 shows the distribution of the patients who died of cancer in the hospitals in the Aegean and Marmara regions by the primary site of cancer. Lungs and bronchus are similarly in the first rank in both regions, and then bones and bone marrows, colon, stomach, breast, lymph nodes, pancreas, urinary bladder, brain and central nervous system and prostate come. As a different sequence, as ovary is at the same rate with pancreas in the Aegean region, it is in the last rank in the Marmara region.

**Graph 4. Distribution of the patients who died of cancer in the hospitals in the Aegean and Marmara regions by the primary site of cancer, 2006**



Graph 5 shows the distribution of the patients who died of cancer in the hospitals in the Eastern and Southern regions by the primary site of cancer. There are differences between two regions. Lungs and bronchus are in the first rank in the East. Then stomach, bone and bone marrow, lymph nodes, breast, esophagus, colon, pancreas and liver follow. Different from other regions, in the South, bones and bone marrow is in the first place. Then the lungs and bronchus, lymph nodes, stomach, colon, breast, liver and pancreas come.

**Graph 5: Distribution of the patients who died of cancer in the hospitals in the Eastern and Southern regions by the primary site of cancer, 2006**

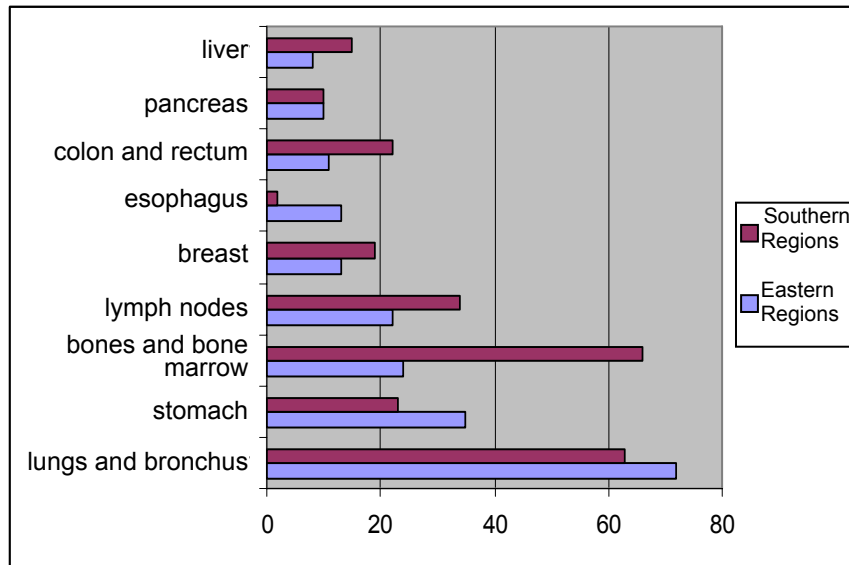


Table 2 shows the distribution of the patients who died of cancer in training and research hospitals and university hospitals by the geographical regions in Turkey. While the number of patients who died of cancer in the university hospitals is much higher (92%) compared to those died of cancer in the training and research hospitals, it has the lowest rate in the Aegean region. The number of patients who died of cancer in university hospitals is higher in the Black Sea, Southern and Eastern regions. In Marmara and Central Anatolian regions both groups of hospitals has closer ratios to each other.

**Table 2: Distribution of the patients who died of cancer in training and research hospitals and university hospitals by the geographical regions in Turkey, 2006**

	Death from cancer in Training & Research Hospitals		Death from cancer in University Hospitals		Total	
	n	%	n	%	n	%
<b>Mediterranean</b>	81	8,02	929	91,98	1010	100
<b>Aegean</b>	786	57,71	576	42,29	1362	100
<b>Central Anatolian</b>	814	39,61	1241	60,39	2055	100
<b>Black Sea</b>	184	19,66	752	80,34	936	100
<b>Marmara</b>	1075	46,82	1221	53,18	2296	100
<b>Southern</b>	48	14,16	291	85,84	339	100
<b>Eastern</b>	46	16,55	232	83,45	278	100
<b>Abroad</b>	1	20	4	80	5	100
<b>Unknown</b>	55	23,4	180	76,6	235	100
<b>Total</b>	3090	36,28	5426	63,72	8516	100

\* Line percentage is taken

Additional Table 1 shows the distribution of the training and research hospitals and university hospitals by the beds and physicians in the provinces representing the selected areas. Representing the Marmara region, Istanbul has the highest number of hospitals, beds and physicians. Then representing the Central Anatolian region Ankara comes, and İzmir representing the Aegean region and Adana representing the Mediterranean region. When the number of beds in the training and research hospitals is compared with those in the university hospitals, it is found that Ankara, Istanbul and İzmir have a higher number of beds in training and research hospitals than those of in Adana.

**Additional Table-1: Distribution of the training and research hospitals and university hospitals by the beds and physicians in the provinces representing the selected areas, 2006**

		Hospital (n)	Beds (n)	Expert Physician. (n)	Assistant Physician. (n)	Medical Practitioner (n)
Ankara	Training	14	6567	2393	2425	301
	University	9	2580	1278	1336	19
İstanbul	Training	23	11750	2984	4103	292
	University	6	3897	1986	1205	5
İzmir	Training	2	3378	935	1104	183
	University	7	3056	1004	927	79
Adana	Training	1	897	149	64	37
	University	2	1527	476	282	22

Source: [www.saglik.gov.tr](http://www.saglik.gov.tr), date of access: 2007

Table 3 gives the distribution of male and female patients who died of cancer in the hospitals by the geographical regions in Turkey. While the percentage of female patients died of cancer in similar ways in hospitals in all geographical regions is 35%, this rate is 65% for men.

**Table 3. Distribution of male and female patients who died of cancer in the hospitals by the geographical regions in Turkey**

Region	Men	(*)%	Women	(*)%	Total	(*)%
Mediterranean	651	64,46	359	35,54	1010	100,00
Aegean	946	69,46	416	30,54	1362	100,00
Central Anatolia	1314	63,94	741	36,06	2055	100,00
Black Sea	644	68,80	292	31,20	936	100,00
Marmara	1488	64,81	808	35,19	2296	100,00
Southern	231	68,14	108	31,86	339	100,00
Eastern	183	65,83	95	34,17	278	100,00
Abroad	4	80,00	1	20,00	5	100,00
Unknown	149	63,40	86	36,60	235	100,00
<b>Total</b>	<b>5610</b>	<b>65,88</b>	<b>2906</b>	<b>34,12</b>	<b>8516</b>	<b>100,00</b>

\*Line percentage is taken

## DISCUSSION AND CONCLUSION

This study has ensured the identification of the site of the cancer of the patients who have undergone their terminal period in hospital and has given an idea about the site of cancer-related deaths. According to the 2003 data of UHY-ME Disease Burden Survey there has been 56.250 cancer deaths and according to the statistics of the TÜİK, 10.774 of the patients treated in hospitals have died from cancer. In this study 8.516 of cancer-related deaths have been reached.

There is no study in Turkey which shows the distribution of cancer-related deaths by its primary site. The most important reason for this is that the causes of death certified at home do not include full and accurate information. It is a known fact that the cancer patients prefer to stay at their home rather than at a hospital in the terminal period. These conclusions are derived from the data sent by training and research hospitals and university hospitals.

The fact that “bone and bone marrow cancer” holds the second place in men and first place in women in spite of its low incidence rate, is an issue that should be scrutinized. When we look at the incidences throughout Turkey, while in 2003, the number of lung cancer cases, which is the most common cancer in men, was 6.828, the number of bone marrow cases was 1.090 and bone cases was 333. While the number of cases in breast cancer which is the most common cancer in women, was 5.634, the number of bone marrow cases was 743 and the number of bone cancer cases was 222 (Source: KSDB statistics, 2003). The difference between the most common types of cancer in men and women and bone and bone marrow cancer is too great to reach the first order among deaths). It can be said that bone marrow cancers compared to other types of cancer are followed more in hospitals and also the patients diagnosed with bone marrow cancer die mostly in hospitals during their terminal period.

It is significant that stomach cancer takes the second place in eastern parts of the country in spite of the special status of bone and bone marrow cancers.

The number of deaths from cancer is 35.076 in men and 21.174 in women. While  $35.076/21.174=1.6$ , the distribution of cancer patients died of cancer in training and research hospitals and university hospitals by gender is  $5.910/2.906 = 2.03$ . We can say that men can go to hospitals twice as more than women and died in hospitals more than women do and they reach hospitals more than women can do.

