

ANNUAL CANCER REGISTRY REPORT-2006

CANCER STATISTICS

Distribution of neoplasms

Of a total of 3,401 new neoplasms diagnosed or treated at SKMCH & RC from January 2006 to December 2006, 1,625 were seen in males (47.79%) and 1,725 (52.21%) in females. Three thousand and thirty six 3,036 (89.27%) neoplasms were found in adults, whereas, 365 (10.73%) were seen in children. Children were classified as those 18 years or less in age and adults as more than 18 years of age. Table 1 shows the stratification of cases by behavior and age groups.

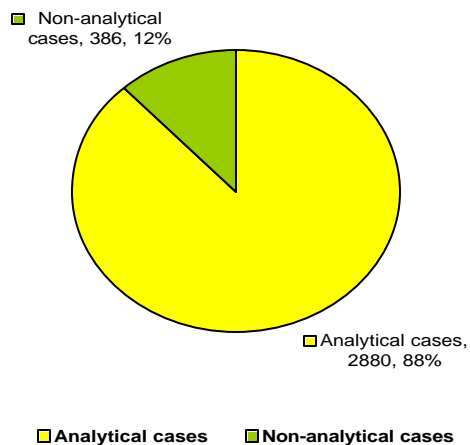
Table 1. Distribution of neoplasms by behavior and age groups

Behavior	Age Group	Registered patients (3,389)	Reported neoplasm [?] (3,401)
Malignant[?]	Adults	2,899	2,910
	Pediatrics	355	356
	Total	3,254	3,266
Benign[€] & Uncertain Behavior	Adults	126	126
	Pediatrics	9	9
	Total	135	135

Class of Case

Of a total 3,266 malignant cases registered at the hospital from January 2006 to December, 2006, 2880 (88.18) were analytical cases and 386 (11.82%) were found to be non-analytical. Figure 1 shows the stratification of analytical and non-analytical cases[¥].

Figure 1: Stratification of analytical and non-analytical cases



[?] The difference in the number of registered patients and reported neoplasms is attributed to multiple neoplasms in 12 patients.

[?] Cases with behavior code /3 and /2 are considered as malignant cases.

[€] Cases with behavior code /0 and /1 are considered as benign and uncertain respectively.

[¥] Class of case 0 to 2 and 3 to 9 are considered analytical cases and not analytical cases respectively according to the Facility Oncology Revised Data Standards (FORDS), Revised for 2004.

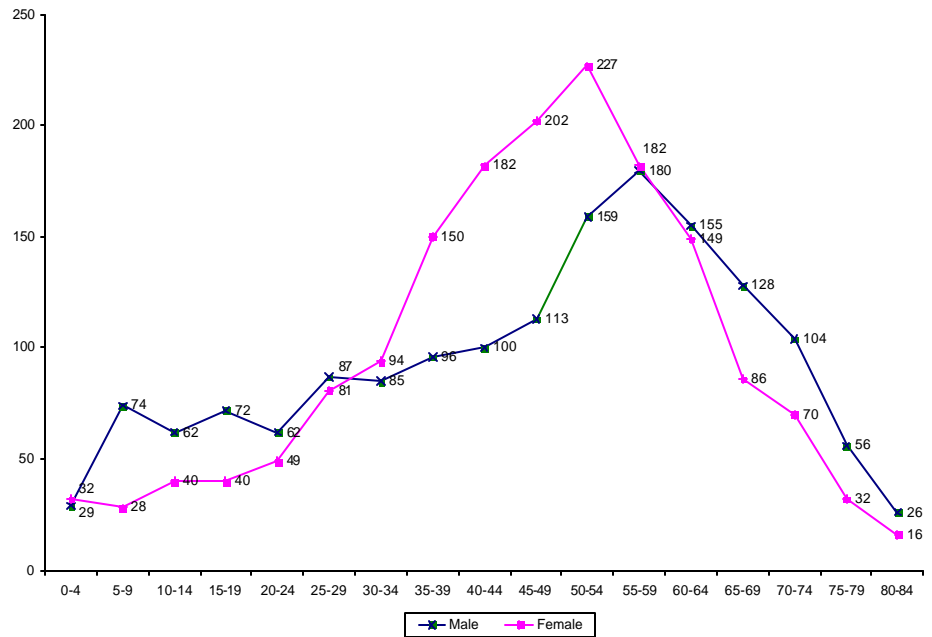
Distribution of malignancies

In the year 2006, 3,266 malignant cases were diagnosed at the Hospital with 1,596 seen amongst males and 1,670 amongst females. Table 2 displays the distributions of male and female patients according to age-groups and gender.

Table 2. Distribution of cancer cases by sex and age groups

Age range	Male	Female	Total
0-4	29	32	61
5-9	74	28	102
10-14	62	40	102
15-19	72	40	112
20-24	62	49	111
25-29	87	81	168
30-34	85	94	179
35-39	96	150	246
40-44	100	182	282
45-49	113	202	315
50-54	159	227	386
55-59	180	182	362
60-64	155	149	304
65-69	128	86	214
70-74	104	70	174
75-79	56	32	88
80-84	26	16	42
85+	8	10	18
Total	1596	1670	3266

Figure 2. Distribution of malignancies by age groups and sex



Demographics

Of the 3,266 patients were diagnosed with malignant, nearly 78% (2,540) belonged to the province of Punjab and approximately 14% to the North West Frontier Province (N.W.F.P) (Table 3).

Table 3. Province-wise distribution of patients

Province/Region	Patients
Punjab	2,540
N.W.F.P	470
Sindh	73
Federal Capital	48
Balochistan	45
F.A.T.A	27
Other countries	63
Total	3,266

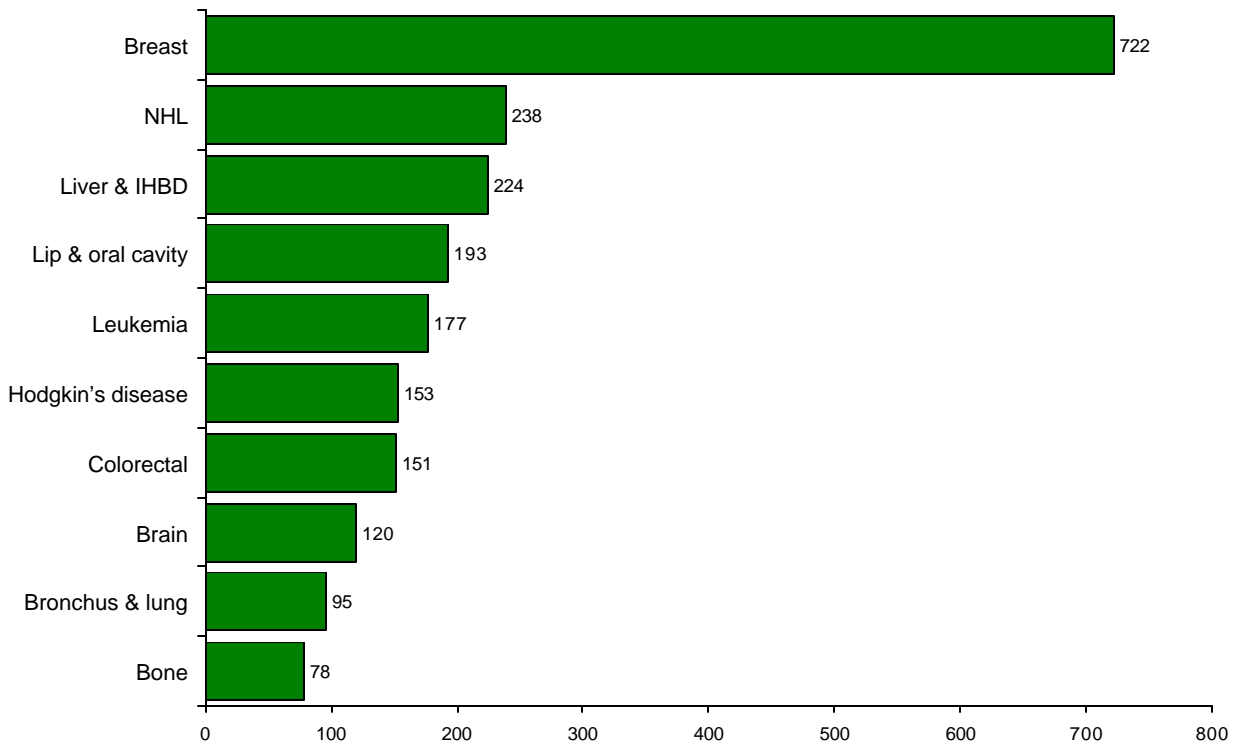
Top Ten Cancers

Table 4 shows the list of the ten commonest malignancies seen at SKMCH & RC during the year 2006. Breast cancer was the leading malignancy with 722 cases accessioned into the Registry. Non-Hodgkin's lymphoma and liver cancer were the second and third most frequently seen cancers, respectively.

Table 4. Top 10 malignancies seen at SKMCH & RC, from January 2006 till December 2006, in all age groups and both sexes combined

Sr. No.	ICD-O-3 Category	Count	Percentage	ICD-O-3 Code
1	Breast	722	24.1	C50.0 - C50.9
2	Non-Hodgkin's lymphoma	238	7.3	M9590,91 - M967-972
3	Liver and intrahepatic bile ducts	224	6.9	C22.0 - C22.1
4	Lip and oral cavity	193	5.9	C00.0 - C08.9
5	Leukemias	177	5.4	M982 - M994
6	Hodgkin's disease	153	4.7	M9650 - M9667
7	Colon, rectum, and anus	151	4.6	C18.0 - C21.8
8	Brain	120	3.7	C71.0 - C71.9
9	Trachea, bronchus, lung	95	2.9	C33.9 - C34.9
10	Bone	78	2.4	C40 - C41

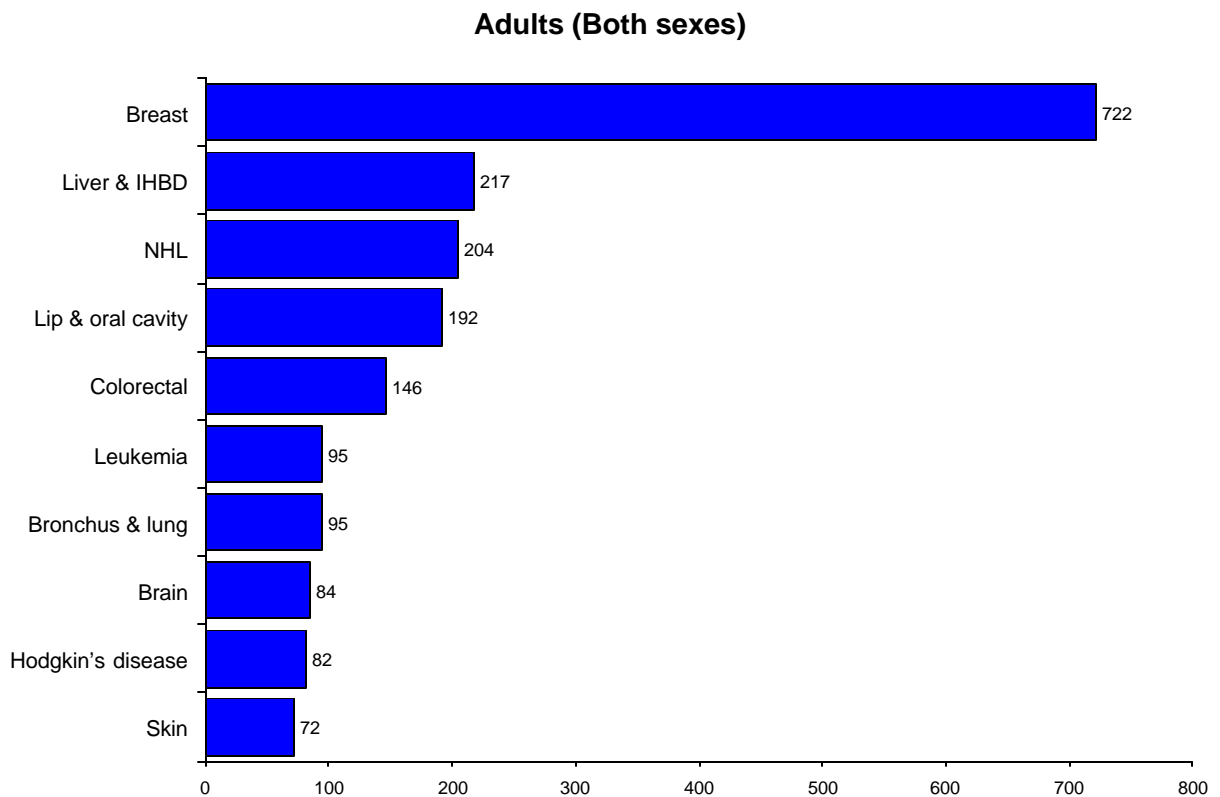
All age groups (Both sexes)



Amongst adults, during the year 2006, a total of 2,910 malignancies were diagnosed or treated at the Hospital. Breast cancer, Liver and intrahepatic bile duct and NHL were registered as the most frequently seen cancers.

Table 5. Top 10 malignancies seen amongst adults (> 18 years) at SKMCH & RC, from January 2006 till December 2006

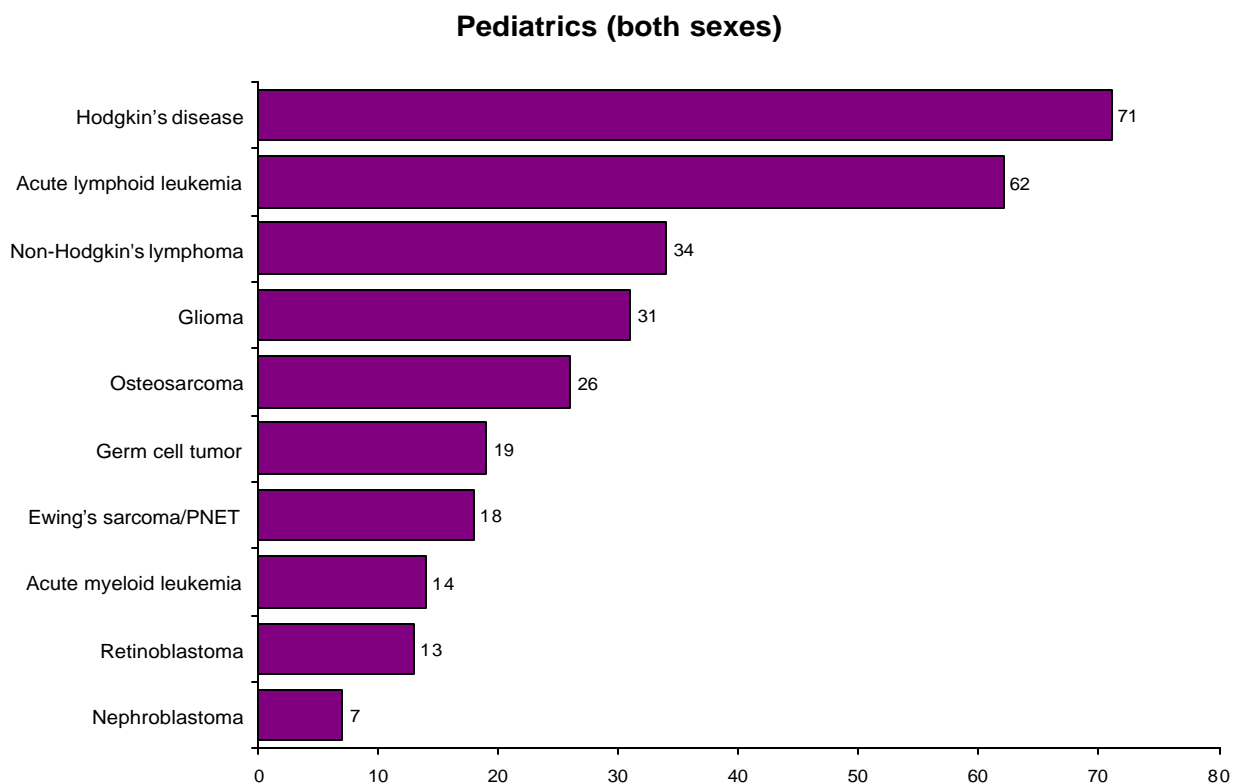
Sr. No.	ICD-O-3 Category	Count	Percentage	ICD-O-3 Code
1	Breast	722	24.8	C50 - C50.9
2	Liver and intrahepatic bile duct	217	7.5	C22.0 - C22.1
3	Non-Hodgkin's lymphoma	204	7.0	M9590,91 - M967-972
4	Lip and oral cavity	192	6.6	C00.0 - C08.9
5	Colorectal	146	5.0	C18 - C21.8
6	Trachea, bronchus, and lung	95	3.3	C33.9 - C34.9
7	Leukemia	95	3.3	M982 - M994
8	Brain	84	2.9	C71.0 - C71.9
9	Hodgkin's disease	82	2.8	M9650 - M9667
10	Skin	72	2.5	C44



In children, using the classification based on tumor morphology, acute lymphoid leukemia, Hodgkin's disease, and non-Hodgkin's lymphoma were identified as the three most common malignancies diagnosed or treated at the Hospital. Table 6 shows the distributions of the top ten malignancies seen in children at SKMCH & RC.

Table 6. Top 10 malignancies seen in children (= 18 years) at SKMCH & RC, from January 2006 till December 2006

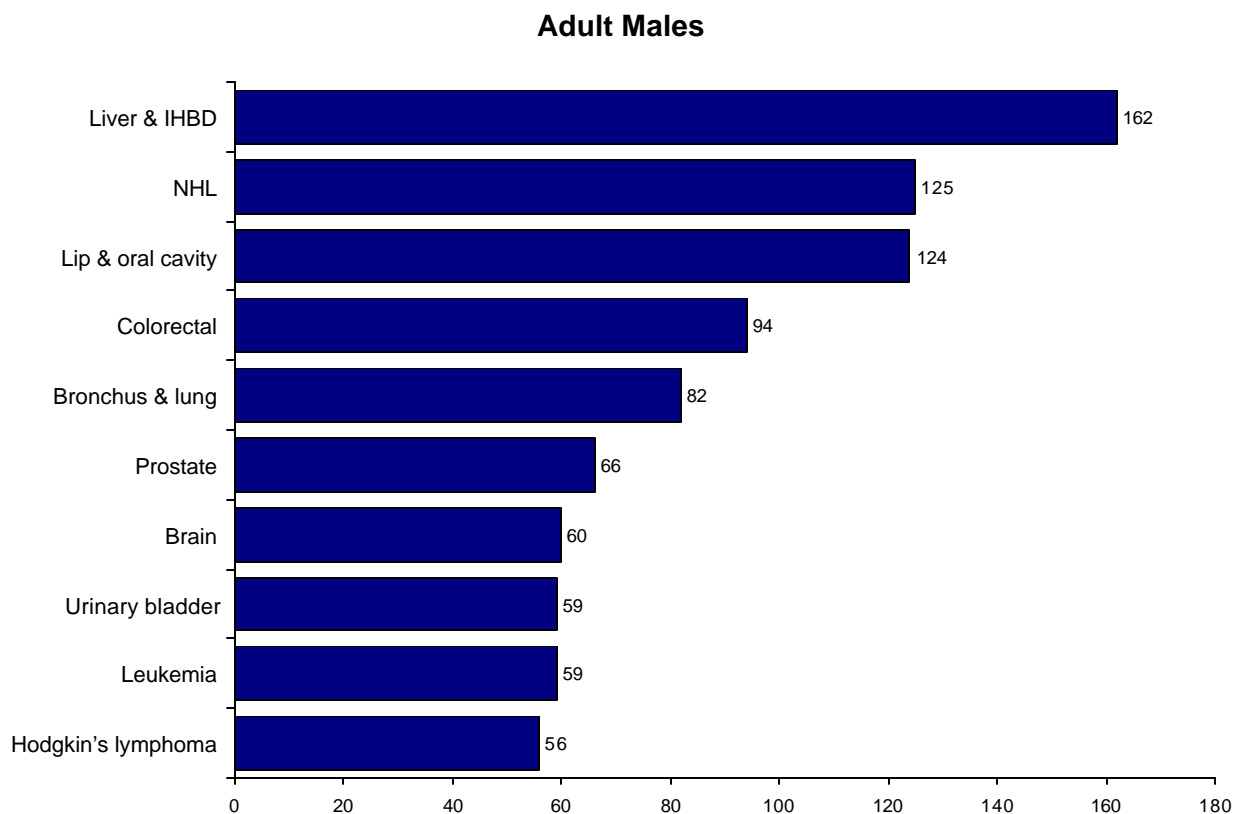
Sr. No.	ICD-O-3 Category	Count	Percentage	ICD-O-3 Code
1	Hodgkin's disease	71	19.9	9650 - 9667
2	Acute lymphoid leukemia	62	17.4	982 - 983
3	Non-Hodgkin's lymphoma	34	9.6	9590, 91- 967-972
4	Glioma	31	8.7	938-948
5	Osteosarcoma	26	7.3	9180 - 9195
6	Germ cell tumor	19	5.3	906 - 909
7	Ewing's sarcoma/PNET	18	5.1	9260 - 9364
8	Acute myeloid leukemia	14	3.9	9861
9	Retinoblastoma	13	3.7	9510-9514
10	Nephroblastoma	7	4.76	8960



In adult males, the commonest malignancies were liver cancer, non-Hodgkin's lymphoma, and cancer of the lip & oral cavity (Table 7).

Table 7. Top 10 malignancies in adult males seen at SKMCH & RC from January 2006 till December 2006

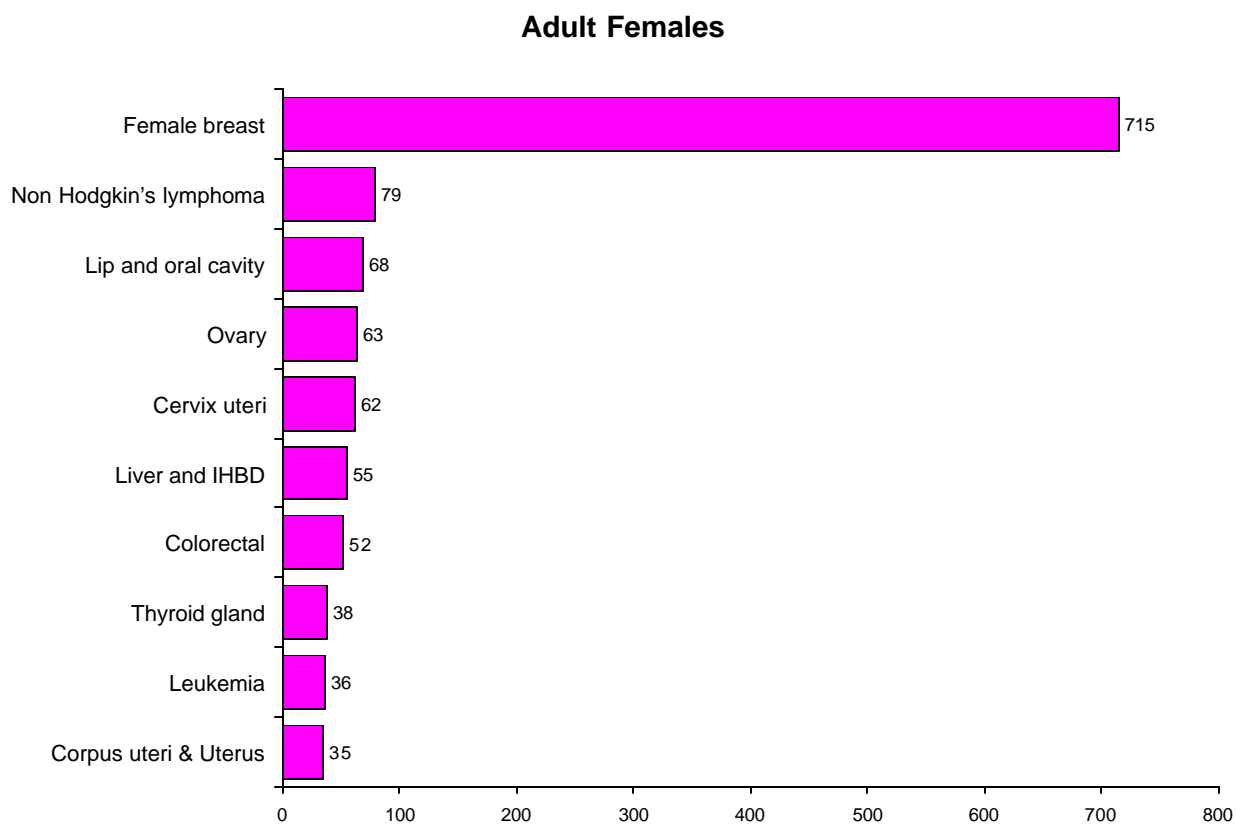
Sr. No.	ICD Category	Count	Percentage	ICD-O-3 Code
1	Liver and intra hepatic bile duct	162	11.8	C22.0 - C22.1
2	Non-Hodgkin's lymphoma	125	9.1	M9590, 91- M967-972
3	Lip and oral cavity	124	9.1	C00.0 - C08.9
4	Colorectal	94	6.9	C18 - C21.8
5	Trachea, bronchus, and lung	82	6.0	C33 - C34.9
6	Prostate	66	4.8	C61.9
7	Brain	60	2.9	C71.0 - C71.9
8	Urinary bladder	59	4.3	C67.0 - C67.9
9	Leukemia	59	4.3	M980 - M994
10	Hodgkin's lymphoma	56	4.1	M9650 - M9667



The most frequent diagnosis in adult women was breast cancer accounting for 46.4% of the total cancers in females. Non Hodgkin's lymphoma was ranked as the second highest cancer accounting for 5.1% and, Lip and oral cavity the third most common malignancy with 4.4% of the total malignancies in females.

Table 8. Top 10 malignancies seen at SKMCH & RC from January 2006 till December 2006 amongst adult females

Sr. No.	ICD Category	Count	Percentage	ICD-O 3 Code
1	Female breast	715	46.4	C50.0 - C50.9
2	Non-Hodgkin's lymphoma	79	5.1	M9590, 91- M967 - 972
3	Lip and oral cavity	68	4.4	C00.0 - C08.9
4	Ovary	63	4.1	C56.9 - C57.9
5	Cervix uteri	62	4.0	C53.0 - C53.9
6	Liver and intrahepatic bile ducts	55	3.6	C22.0 - C22.1
7	Colorectal	52	3.4	C18.0 - C21.8
8	Thyroid gland	38	2.5	C73.9
9	Leukemia	36	2.3	M980 - M994
10	Corpus uteri & Uterus	35	2.8	C54.0 - C55.9

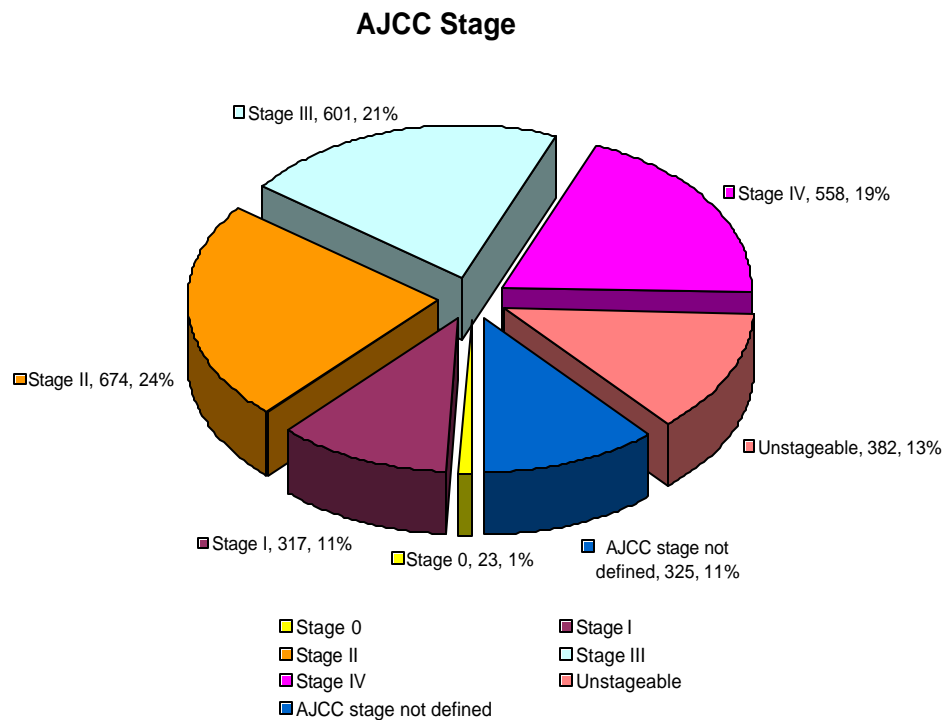


Staging

The Registry uses the American Joint Commission on Cancer TNM staging system for all analytical cancer cases. TNM categorizes cancers in stages 0, 1, 2, 3, 4, unstageable and not applicable. Cancers may be unstageable as the patients may choose not to receive any treatment or undergo further tests at the Hospital, needed to establish an appropriate stage. Not applicable means non-availability of AJCC staging for that site. During the year 2006, cancer staging for 2,880 patients showed that 23 (0.8%) patients fell into 0 or in situ category, 317 (11%) in stage I, 674 (23%) in stage II, 601 (21%) patients in stage III, and 558 (19%) in stage IV, (table 9); 382 (13.3%) patients were unstageable and 325 (11.3%) had no AJCC stage for the site.

Table 9. Cancer stage of patients at SKMCH & RC during year 2006

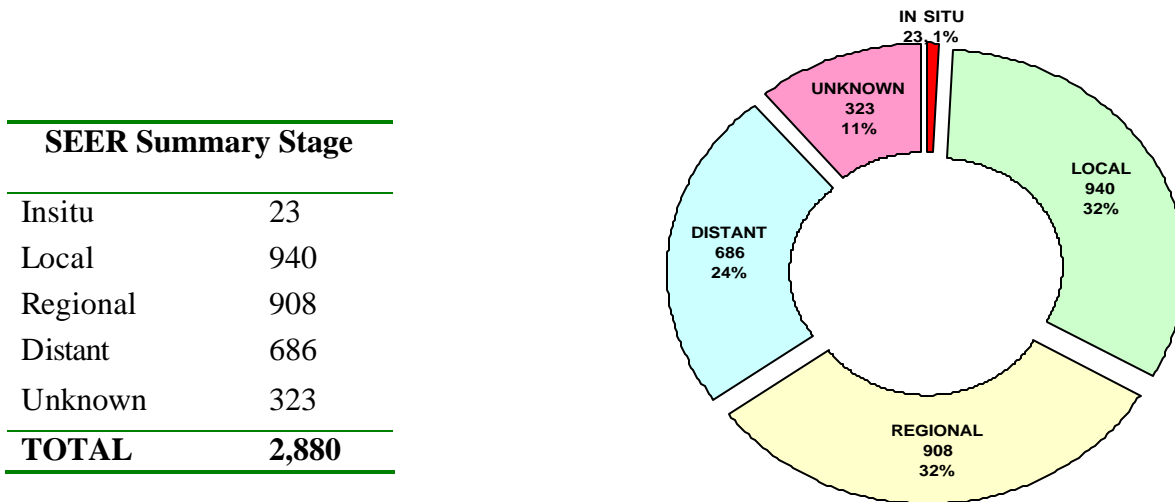
AJCC Stage	No. of Patients
Stage 0	23
Stage I	317
Stage II	674
Stage III	601
Stage IV	558
Unstageable	382
AJCC stage not defined	325
Total	2880



Summary Stage

The SEER Summary Staging Manual-2000 Codes and Coding Instructions were used to describe how far the tumor had spread from the organ or the site of origin. This manual consists of a one digit hierarchical code for each and every site. The cancer data for the year 2006 reflects that there were 0.8% in situ cases, 33% localized cancers, 32% regional cases, 24% distant, and there were 11% cases in which the summary stage was unknown.

Table 10. Classification according to the SEER summary stage during the year 2006.



SUPPLEMENTAL INFORMATION

Table 11 depicts the results stratified by various systems according to the ICD-O-3 nomenclature. According to this, breast cancer, digestive cancers, and lymphomas are the commonest system/site(s) for the malignancies seen at the Hospital.

Table 11. Distribution of primary malignant sites, 2006

Primary site	**ICD-0-3 Code	Female	Male	Total
Lip, Oral Cavity, Pharynx	C00-C14	110	185	295
Lip	C00	0	3	3
Tongue	C01-C02	30	52	82
Salivary glands	C07-C08	7	8	15
Gum	C03	20	28	48
Floor & other				
Parts of mouth	C04-C06	18	42	60
Oropharynx	C10	0	0	0
Nasopharynx	C11	8	19	27
Pyriiform Sinus	C12	2	9	11
Hypopharynx	C13	23	20	43
Pharynx	C14	1	0	1
Tonsil	C09	1	4	5

Digestive system	C15.0-C26.9	187	357	544
Esophagus	C15	16	21	37
Stomach	C16	10	40	50
Small intestine	C17	2	0	2
Colon	C18	27	42	69
Rectum, anal canal, anus	C19 – C21	27	55	82
Liver & Intrahepatic bile ducts	C22.0-C22.1	56	168	224
Gall bladder & Extra hepatic bile duct	C23-C24	33	19	52
Pancreas	C25	16	12	28

Retro peritoneum, Peritoneum	C48	2	4	6
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Respiratory system	C30-C39	25	146	171
Nasal cavities, ear, acc. sinuses	C30-C31	7	5	12
Larynx	C32	5	55	60
Trachea, bronchus, lungs	C33-C34	13	82	95
Thymus, heart, mediastinum	C37-C38	0	4	4

Bone	C40-C41	27	50	77
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Connective tissue	C49	22	46	68
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Skin	C44	31	43	74
Breast	C50	715	7	722

Female genital organ	C51-C58	185	0	185
Cervix	C53	63	0	63
Corpus uteri, uterus & placenta	C54-C55.9, C58.9	43	0	43
Ovary, uterine adnexa	C56.9	67	0	67
Vagina	C52.9	6	0	6
Vulva	C51	4	0	4
Other female genital organ	C57	2	0	2

Male genital organ	C60-C63	0	108	108
Prostate	C61.9	0	66	66
Testis	C62	0	42	42
Penis	C60	0	0	0

Urinary system	C64-C68	21	96	117
Bladder	C67	8	59	67
Kidney, renal pelvis, ureter	C64-C66	13	37	50
Others and unspecified	C68	0	0	0

Eye	C69	10	12	22
*Brain & CNS	C70-C72	44	80	124
Brain	C70-C71	42	80	122
Others	C72	2	0	2
Endocrine glands	C73-C75	45	28	73
Thyroid gland	C73.9	40	19	59
Adrenal gland	C74	2	2	4
Other endocrine gland and related structures	C75	3	7	10
Hematopoietic and Reticuloendothelial system	C42.0-C42.4	70	108	178
Myeloid leukemia	M984-M993	35	52	87
Lymphoid leukemia	M982-M983	34	54	88
Others	M9940	1	2	3
Plasma cell tumor	M973-M973	9	21	30
Plasmacytoma	M9731	1	5	6
Multiple myeloma	M9732	8	16	24
Lymphatic system	C77	126	265	391
Hodgkin's disease	M9650-M9622	39	114	153
Non-Hodgkin's lymphoma	M9590,91, 967-972	87	151	238
Unknown Primary site	C80	36	34	70
Others & ill defined sites	C76	5	6	11

Note:

** Diseases are listed according to International Classification of disease for Oncology, 3rd Edition.

* Non-malignant primary intracranial and CNS tumors reported in 2006 are also included in the table.

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