

# Chapter 1

## MAGNITUDE AND LEADING SITES OF CANCER

Table 1.1 gives the total number of cancers diagnosed at five different hospital based cancer registries (HBCRs), over the period of two years from 1st January 1999 to 31st December 2000. A total of 74938 cancers (38,794 males and 36,144 females) were diagnosed at the five HBCRs. Among these, the proportion of cancers diagnosed at different HBCR hospitals were: 42% at Mumbai, 18% at Bangalore and Chennai, 20% at Thiruvananthapuram and 2% at Dibrugarh. In Bangalore and Chennai for every 100 female patients 81 to 87 male patients were reported, whereas, in Mumbai (129), Thiruvananthapuram(108) and Dibrugarh(186) more male patients were reported.

Fig. 1 gives the trends in the actual total number of cancers registered from 1984 to 2000 in the different HBCRs. Mumbai, Chennai and Thiruvananthapuram have shown a significant increase in numbers over the years. Dibrugarh has shown a decline.

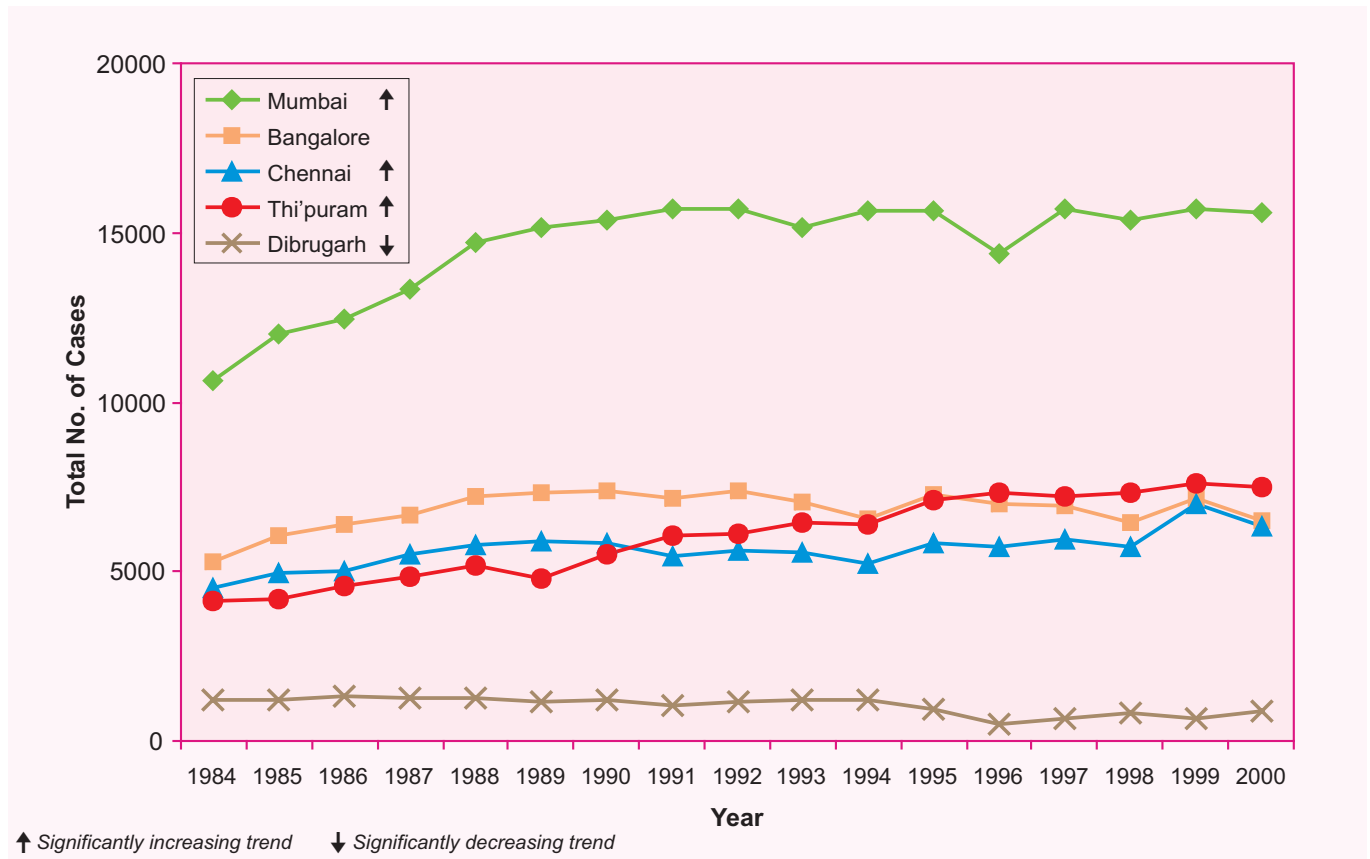
The number, proportion relative to all sites and rank of the ten leading sites in males and females for the year 1999-2000 have been presented in Table 1.2 and represented in Figures 1.1(a) and 1.1(b). While comparing the leading sites with that in earlier reports, it may be noted that leading sites listed here have been provided according to ICD-10.

**TABLE 1.1: Number (#) and Proportion (%) according to sex, sex ratio percent and relative proportion (Rel. Prop.) of cancers (1999-2000)**

Registry	Males		Females		Sex* Ratio%	Total Cases	Rel. Prop.
	#	%	#	%			
<b>Mumbai</b>	17637	56.3	13679	43.7	129	31316	41.8
<b>Bangalore</b>	6106	44.7	7543	55.3	81	13649	18.2
<b>Chennai</b>	6195	46.5	7139	53.5	87	13334	17.8
<b>Thi'puram</b>	7859	52.0	7247	48.0	108	15106	20.2
<b>Dibrugarh</b>	997	65.0	536	35.0	186	1533	2.0
	<b>38794</b>	<b>51.8</b>	<b>36144</b>	<b>48.2</b>	<b>107</b>	<b>74938</b>	<b>100.0</b>

\* Number of male patients per 100 female patients

**Fig. 1: Trends in total number of cancers registered (both sexes) (1984-2000)**



**Males :** (The proportion(%) of a given site relative to all sites of cancer in that sex are given in parentheses)

In *Mumbai*, mouth(11%) was the leading site of cancer, followed by lung(7%), tongue(7%), oesophagus(6%) and Non-Hodgkin’s Lymphoma(NHL)(5%).

In *Bangalore*, oesophagus(10%), hypopharynx(9%), stomach(7%), lung(7%) and mouth(6%) were the five leading sites in that order.

In *Chennai*, stomach(9%) and mouth(9%) were the leading sites. These two sites were followed by oesophagus(8%), tongue(7%) and hypopharynx(7%).

In *Thiruvananthapuram*, lung(13%) was the leading site followed by mouth(9%), tongue(6%), NHL(5%) and larynx(5%).

In *Dibrugarh*, hypopharynx(16%) and oesophagus(15%) like in past years, remained the leading sites followed by mouth(9%) and tongue(7%).

**Females**

In *Mumbai*, breast(26%) was the leading site of cancer followed by cervix(19%), ovary(6%), mouth(5%) and oesophagus(4%).

**Table 1.2: Number(#), Relative Proportion(%) and Rank(R) of Leading Sites of Cancer (1999-2000)****MALES**

Sites	Mumbai			Bangalore			Chennai			Thi'puram			Dibrugarh		
	#	%	R	#	%	R	#	%	R	#	%	R	#	%	R
Mouth	1986	11.3	1	368	6.0	5	544	8.8	2	734	9.3	2	86	8.6	3
Lung	1253	7.1	2	432	7.1	3	378	6.1	6	1041	13.2	1	46	4.6	6
Tongue	1236	7.0	3	346	5.7	6	450	7.3	4	473	6.0	3	67	6.7	4
Oesophagus	998	5.7	4	587	9.6	1	478	7.7	3	412	5.2	5	147	14.7	2
NHL	950	5.4	5	250	4.1	8	269	4.3	7	408	5.2	6	10	1.0	*
Larynx	937	5.3	6	192	3.1	10	238	3.8	8	417	5.3	4	52	5.2	5
Hypopharynx	935	5.3	7	554	9.1	2	420	6.8	5	250	3.2	9	163	16.3	1
Myel. Leuk.	838	4.8	8	202	3.3	9	205	3.3	9	237	3.0	*	7	0.7	*
Lymph. Leuk.	609	3.5	9	173	2.8	*	119	1.9	*	270	3.4	8	2	0.2	*
Stomach	504	2.9	10	427	7.0	4	562	9.1	1	323	4.1	7	42	4.2	8
Brain, NS.	370	2.1	*	252	4.1	7	43	0.7	*	249	3.2	10	10	1.0	*
Rectum	483	2.7	*	128	2.1	*	174	2.8	10	213	2.7	*	14	1.4	*
Tonsil	332	1.9	*	123	2.0	*	111	1.8	*	79	1.0	*	45	4.5	7
Pharynx uns.	12	0.1	*	84	1.4	*	41	0.7	*	17	0.2	*	21	2.1	9
Oth. Oroph.	222	1.3	*	104	1.7	*	59	1.0	*	143	1.8	*	18	1.8	10
<b>Total</b>	<b>11665</b>	<b>66.1</b>		<b>4222</b>	<b>69.1</b>		<b>4091</b>	<b>66.0</b>		<b>5266</b>	<b>67.0</b>		<b>730</b>	<b>73.2</b>	
<b>All Sites</b>	<b>17637</b>	<b>100.0</b>		<b>6106</b>	<b>100.0</b>		<b>6195</b>	<b>100.0</b>		<b>7859</b>	<b>100.0</b>		<b>997</b>	<b>100.0</b>	

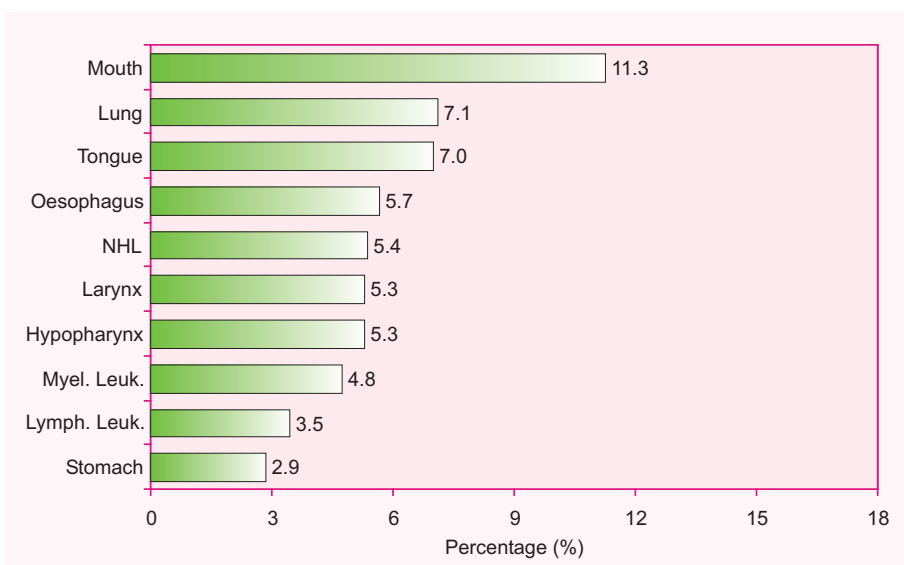
**FEMALES**

Sites	Mumbai			Bangalore			Chennai			Thi'puram			Dibrugarh		
	#	%	R	#	%	R	#	%	R	#	%	R	#	%	R
Breast	3617	26.4	1	1001	13.3	2	1412	19.8	2	1991	27.5	1	65	12.1	3
Cervix uteri	2643	19.3	2	2490	33.0	1	2499	35.0	1	951	13.1	2	82	15.3	1
Ovary	777	5.7	3	328	4.3	5	248	3.5	5	559	7.7	4	42	7.8	4
Mouth	656	4.8	4	833	11.0	3	441	6.2	3	384	5.3	5	37	6.9	5
Oesophagus	505	3.7	5	467	6.2	4	263	3.7	4	109	1.5	*	68	12.7	2
Gallbladder	381	2.8	6	23	0.3	*	19	0.3	*	17	0.2	*	29	5.4	6
Tongue	370	2.7	7	86	1.1	*	119	1.7	10	237	3.3	6	19	3.5	8
NHL	359	2.6	8	127	1.7	9	96	1.3	*	200	2.8	7	1	0.2	*
Myel. Leuk.	351	2.6	9	174	2.3	7	123	1.7	9	176	2.4	8	6	1.1	*
Lung	298	2.2	10	82	1.1	*	84	1.2	*	134	1.8	*	8	1.5	*
Thyroid	261	1.9	*	212	2.8	6	135	1.9	8	621	8.6	3	5	0.9	*
Stomach	207	1.5	*	172	2.3	8	223	3.1	6	84	1.2	*	22	4.1	7
Brain, NS.	204	1.5	*	121	1.6	10	21	0.3	*	160	2.2	9	4	0.7	*
Hypopharynx	161	1.2	*	112	1.5	*	154	2.2	7	36	0.5	*	17	3.2	9
Corpus uteri	281	2.1	*	75	1.0	*	87	1.2	*	160	2.2	10	4	0.7	*
Tonsil	41	0.3	*	15	0.2	*	14	0.2	*	9	0.1	*	13	2.4	10
<b>Total</b>	<b>11112</b>	<b>81.2</b>		<b>6318</b>	<b>83.8</b>		<b>5938</b>	<b>83.2</b>		<b>5828</b>	<b>80.4</b>		<b>422</b>	<b>78.7</b>	
<b>All Sites</b>	<b>13679</b>	<b>100.0</b>		<b>7543</b>	<b>100.0</b>		<b>7139</b>	<b>100.0</b>		<b>7247</b>	<b>100.0</b>		<b>536</b>	<b>100.0</b>	

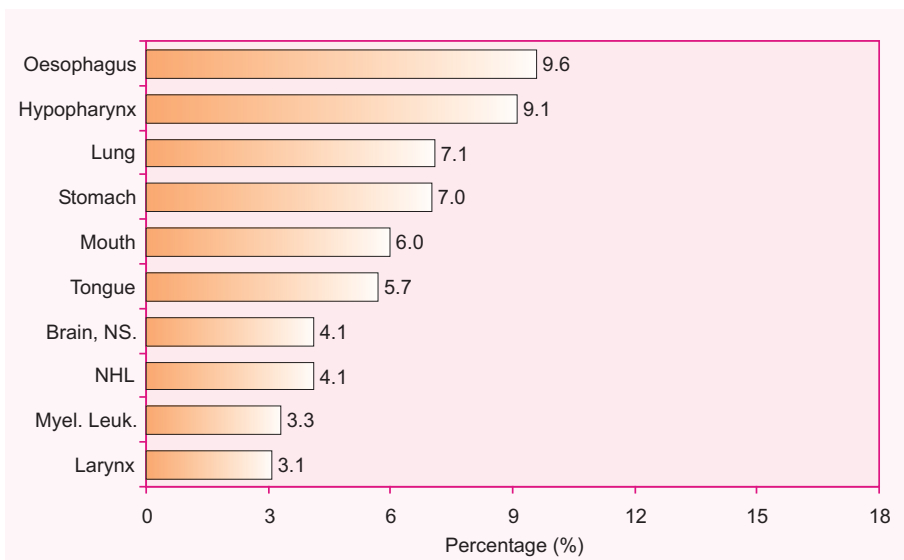
\* Rank not within first ten

**Fig. 1.1(a) : Ten Leading Sites of Cancer - Males**

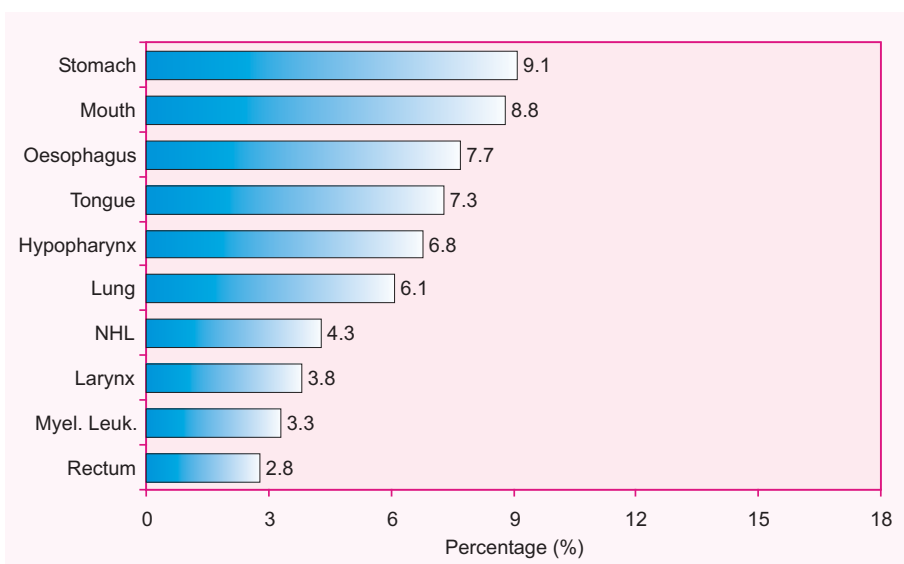
**Mumbai**

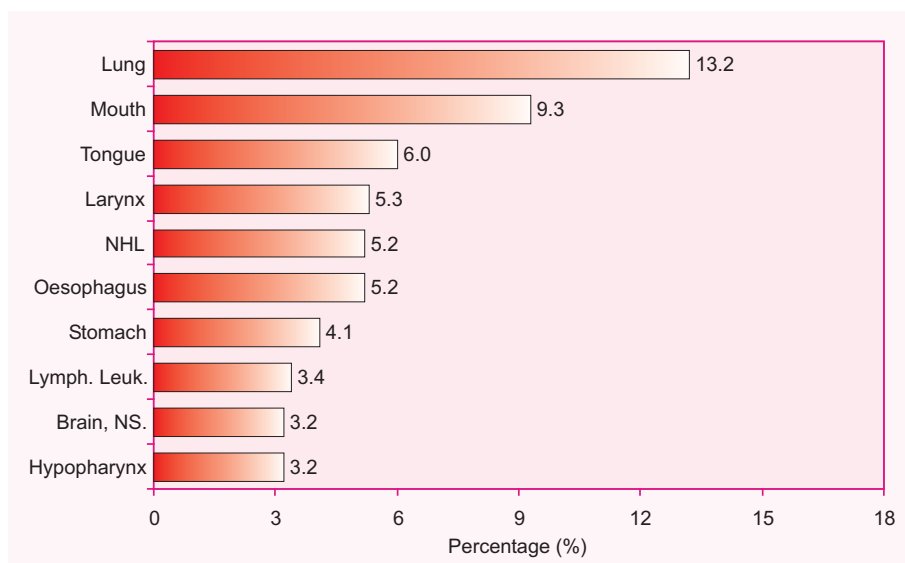
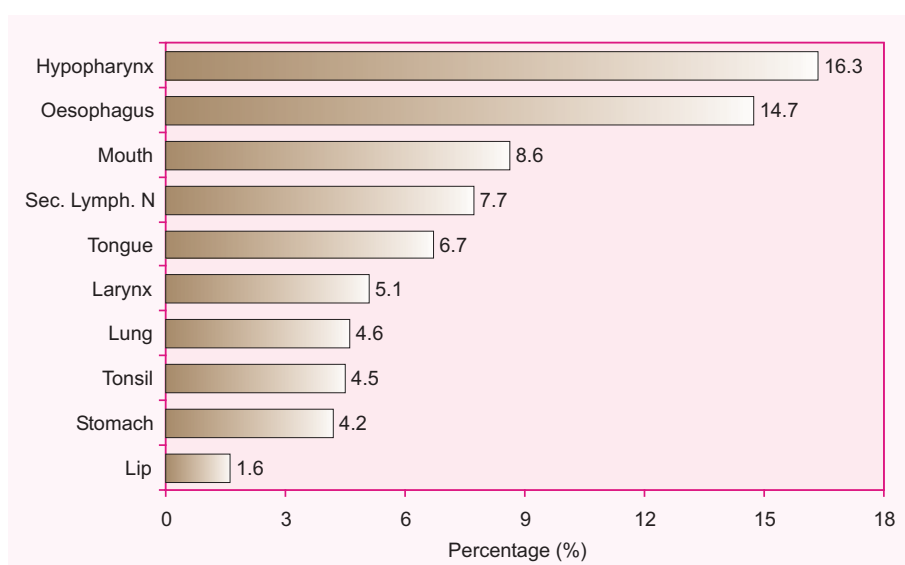


**Bangalore**



**Chennai**



**Fig. 1.1(a) : Ten Leading Sites of Cancer - Males (Contd..)****Thiruvananthapuram****Dibrugarh**

In *Bangalore*, cancer of the cervix was the leading site, accounting for about 33% of cancers in females, followed by breast(13%), mouth(11%), oesophagus(6%) and ovary(4%).

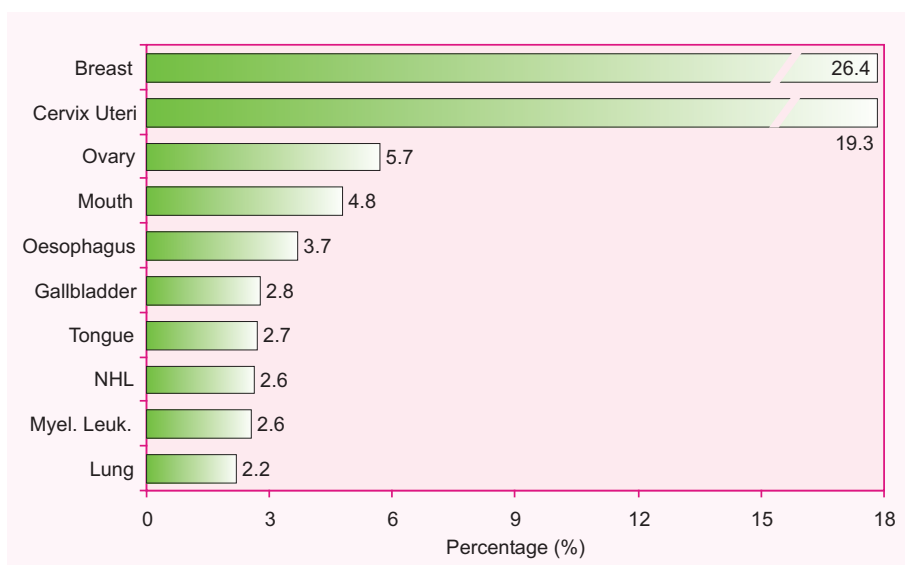
In *Chennai*, the five leading sites were the same as that in Bangalore.

In *Thiruvananthapuram*, thyroid gland(9%) was the third leading site after breast(28%) and cervix(13%). Thyroid gland was followed by the cancers of ovary(8%) and mouth(5%).

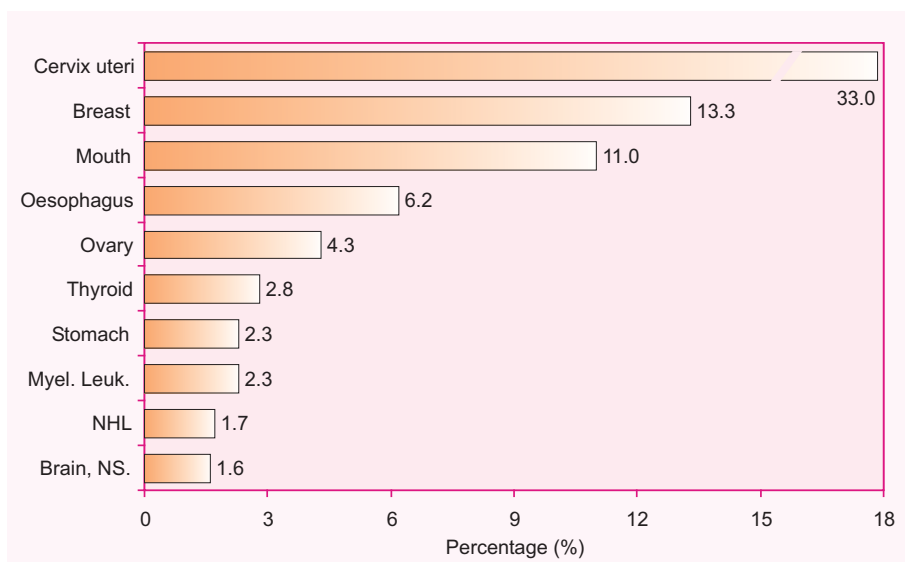
In *Dibrugarh*, cervix was the leading site, accounting for 15% of cancers in females, followed by oesophagus(13%), breast(12%), ovary(8%) and mouth(7%).

**Fig. 1.1(b) : Ten Leading Sites of Cancer - Females**

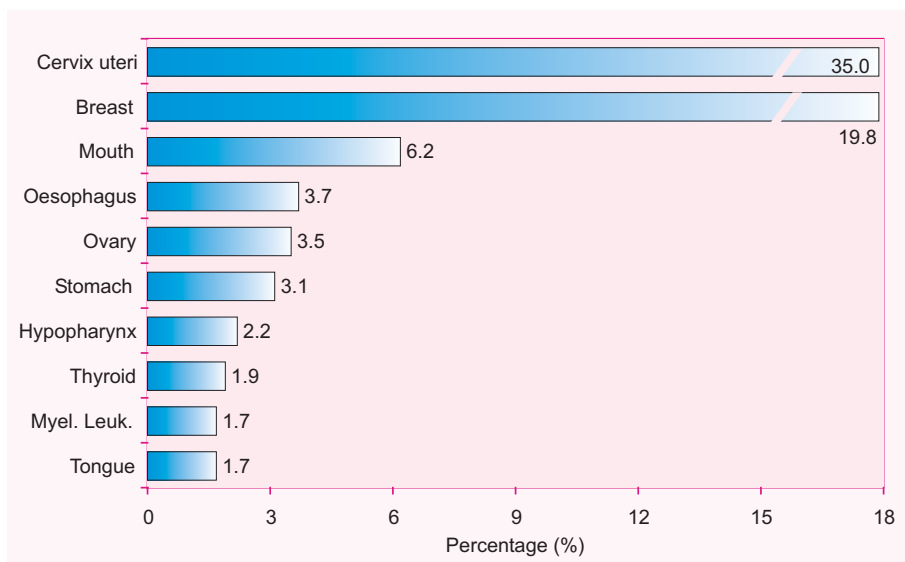
**Mumbai**



**Bangalore**

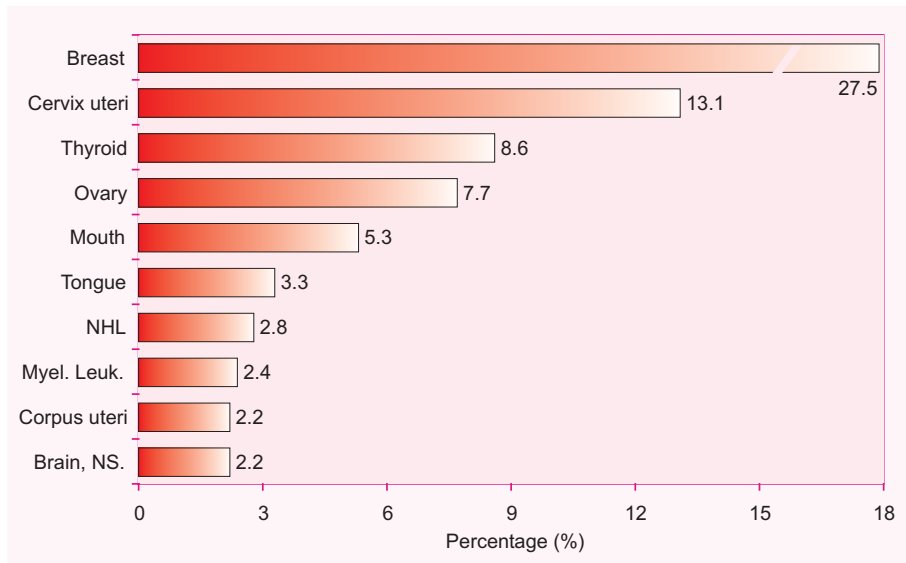


**Chennai**

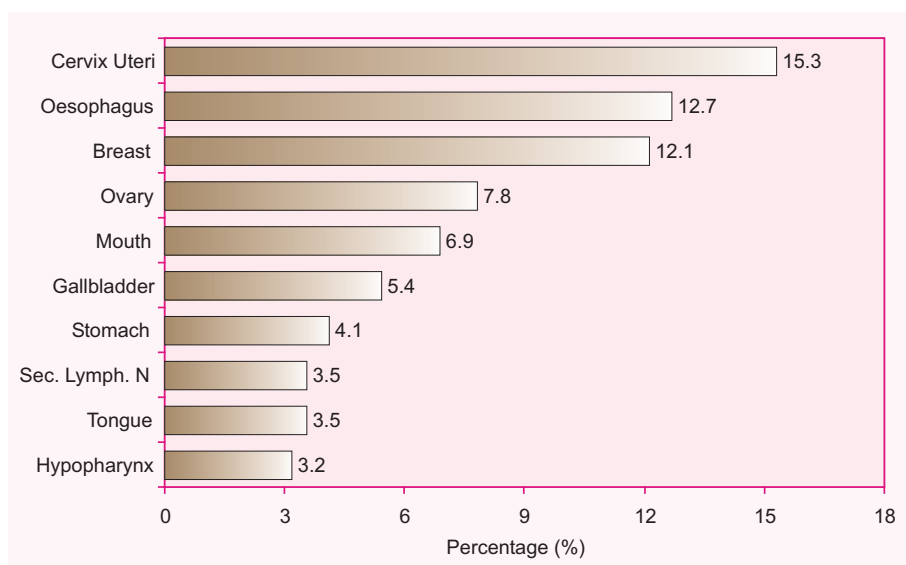


**Fig. 1.1 (b) : Ten Leading Sites of Cancer - Females (Contd..)**

**Thiruvananthapuram**



**Dibrugarh**



## LEADING SITES IN BROAD AGE GROUPS

The numbers and relative proportions of cancers in the broad age groups 0-14, 15-34, 35-64 and 65 and above years of age, for both sexes across registries is shown in Table 1.3 and Fig. 1.2. Figures 1.3 to 1.5 give the leading sites with their relative proportions in each of these broad age groups, except, childhood cancers (which is given separately in Chapter 3).

Proportion of young adults(15-34 years) varied from 7 to 14% in all the registries and both sexes. Proportion of patients in the age group 35-64 years varied from 57% in males in Thiruvananthapuram 75% of cancers in females in Chennai and Dibrugarh. The mean age of female patients was 48.2 while that of male patients was 50.4.

The leading sites of cancers according to broad age groups are depicted in Fig. 1.3(a) to 1.5(b).

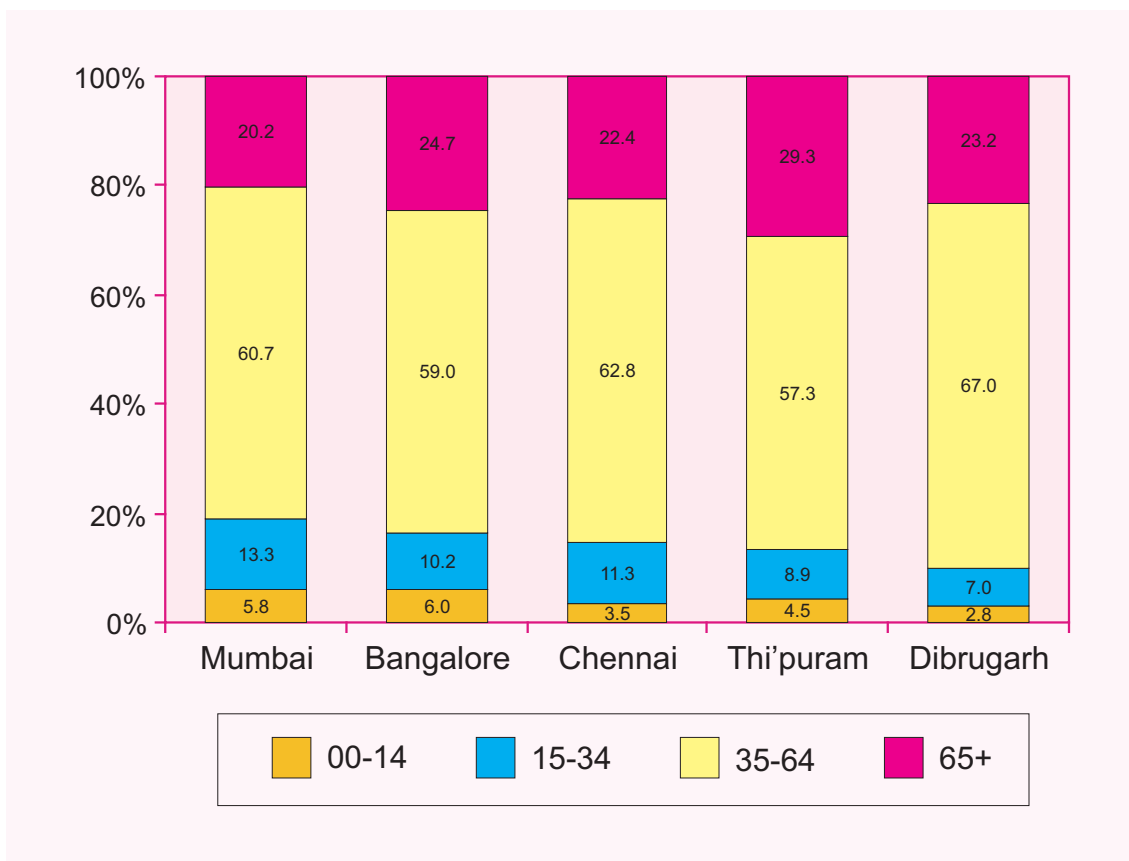
**Table 1.3: Number (#) and Proportion(%) of Cancers by Broad Age Groups (1999-2000)**

Registry	00-14		15-34		35-64		65+		All Ages #
	#	%	#	%	#	%	#	%	
<b>Males</b>									
Mumbai	1029	5.8	2342	13.3	10707	60.7	3559.0	20.2	17637
Bangalore	369	6.0	623	10.2	3603	59.0	1511.0	24.7	6106
Chennai	215	3.5	702	11.3	3892	62.8	1386.0	22.4	6195
Thi'puram	355	4.5	702	8.9	4500	57.3	2302.0	29.3	7859
Dibrugarh	28	2.8	70	7.0	668	67.0	231.0	23.2	997
<b>Females</b>									
Mumbai	472	3.5	1601	11.7	9716	71.0	1890.0	13.8	13679
Bangalore	254	3.4	755	10.0	5307	70.4	1227.0	16.3	7543
Chennai	130	1.8	721	10.1	5321	74.5	967.0	13.5	7139
Thi'puram	295	4.1	956	13.2	4621	63.8	1375.0	19.0	7247
Dibrugarh	6	1.1	74	13.9	400	74.9	54.0	10.1	534
<b>Both Sexes</b>									
Mumbai	1501	4.8	3943	12.6	20423	65.2	5449.0	17.4	31316
Bangalore	623	4.6	1378	10.1	8910	65.3	2738.0	20.1	13649
Chennai	345	2.6	1423	10.7	9213	69.1	2353.0	17.6	13334
Thi'puram	650	4.3	1658	11.0	9121	60.4	3677.0	24.3	15106
Dibrugarh	34	2.2	144	9.4	1068	69.8	285.0	18.6	1531

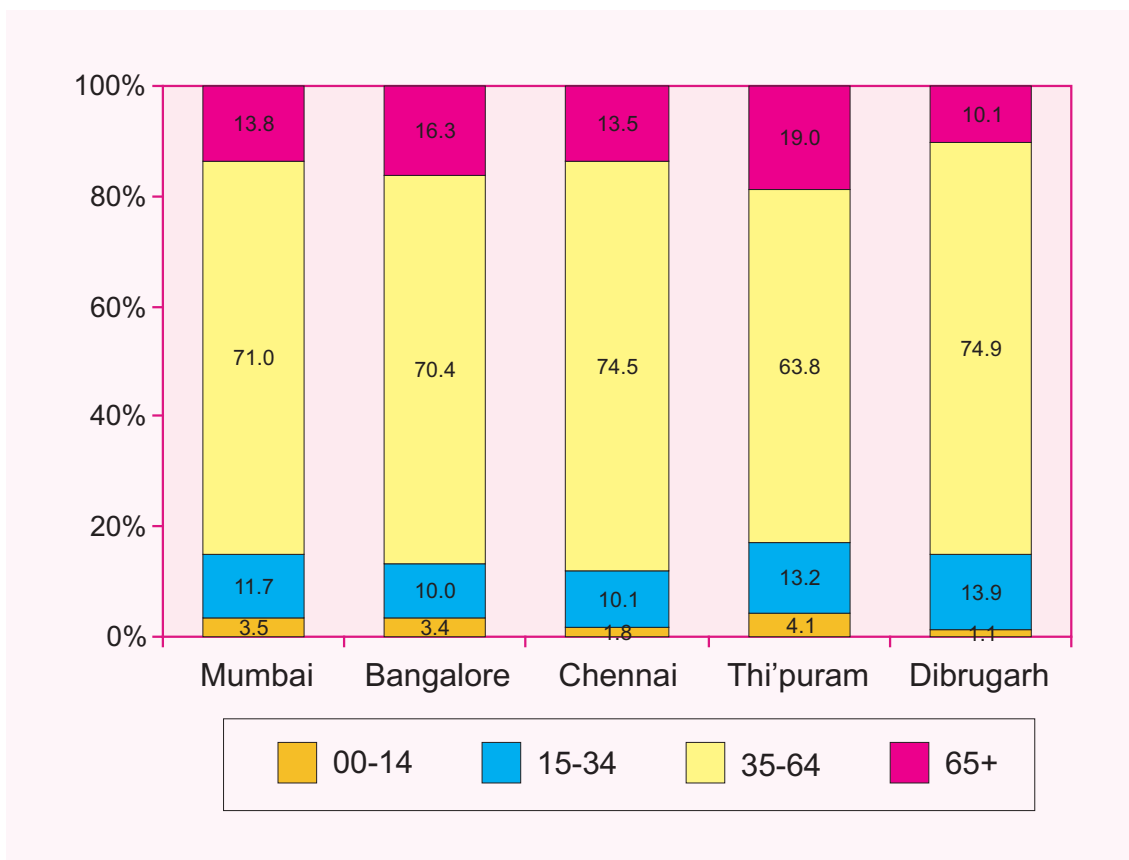


**Fig. 1.2 : Stack(100%) diagram showing Proportion of Cancers by Broad Age Groups**

**Males**



**Females**



## Age Group (15-34 Years)

### Males:

Myeloid leukaemia was the leading site in Mumbai and the second leading site in Bangalore, Chennai and Thiruvananthapuram. Brain was the leading site in Bangalore and within first five in Thiruvananthapuram and Dibrugarh. Bone was the leading site in Chennai and Dibrugarh and within first five at other HBCRs. NHL was an important site figuring within first five at all the registries.

### Females:

Breast was the leading site followed by cervix and myeloid leukaemia in Mumbai and Chennai whereas in Bangalore, the leading site was cervix followed by breast and thyroid gland. Thiruvananthapuram reported thyroid gland as the leading site followed by breast and ovary. In Dibrugarh, ovary was the leading site followed by breast and cervix.

## Age Group (35-64 Years)

### Males:

Mouth was the leading site in Mumbai, second leading site in Chennai and Thiruvananthapuram and third in Dibrugarh. Oesophagus was the leading site in Bangalore and within first five in other registries. Stomach was first in Chennai, fourth in Bangalore and within ten in other registries. Lung was the leading site in Thiruvananthapuram and within five in other registries except Dibrugarh. Hypopharynx was the leading site in Dibrugarh.

### Females:

Breast and cervix were the leading sites in all the registries; breast being the first in Mumbai and Thiruvananthapuram and cervix in Bangalore and Chennai. Ovary and mouth were other important sites within first five. Oesophagus was within first five leading sites in all the registries except Thiruvananthapuram. Thyroid gland was fourth leading site only in Thiruvananthapuram and within first ten in Bangalore and Chennai.

## Age Group (65 Years and above)

### Males:

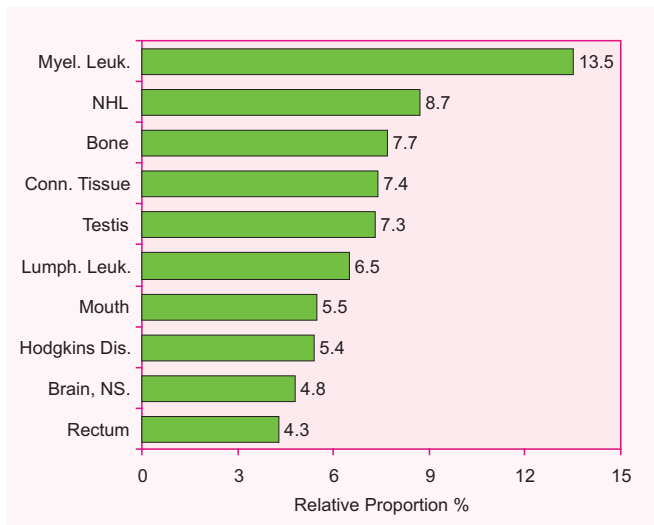
In this age group, lung was the leading site in Mumbai and Thiruvananthapuram, oesophagus in Bangalore and Dibrugarh and mouth in Chennai. Hypopharynx was within five in Mumbai (third), Bangalore (second) and Chennai (second). Gall bladder was one of the leading sites in Dibrugarh (second) only.

### Females:

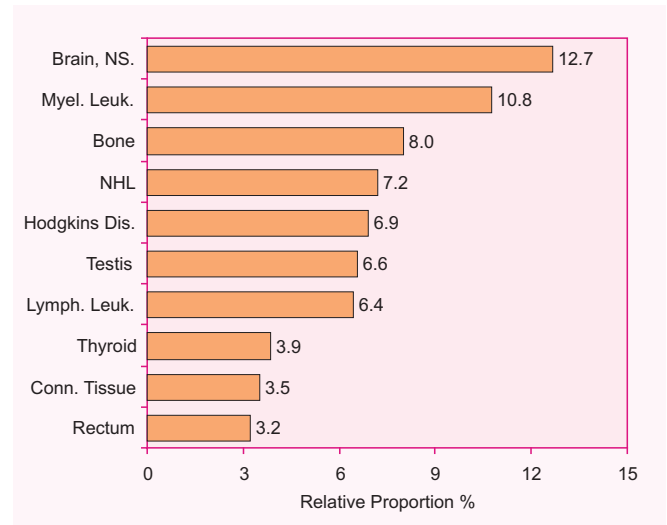
Cervix was the leading site in this age group in all the registries except Dibrugarh. It was followed by breast except in Bangalore (mouth). In Dibrugarh, cervix was fourth leading site. Oesophagus was the leading site followed by gall bladder and mouth.

**Fig. 1.3(a) : Leading Sites in Broad Age Group (15-34 Years) - Males (1999-2000)**

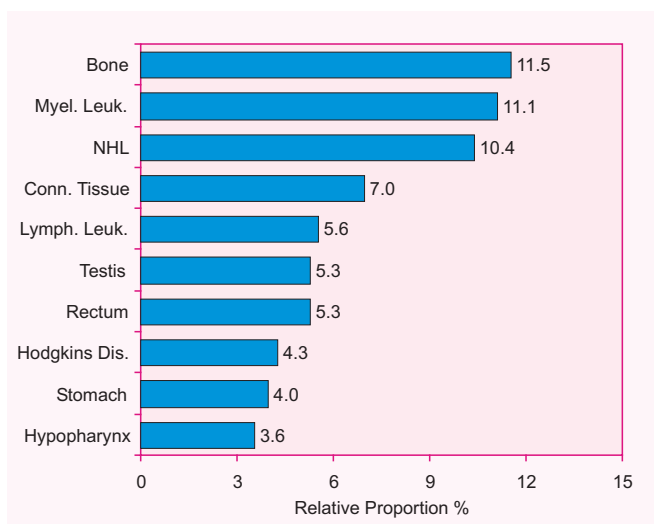
**Mumbai**



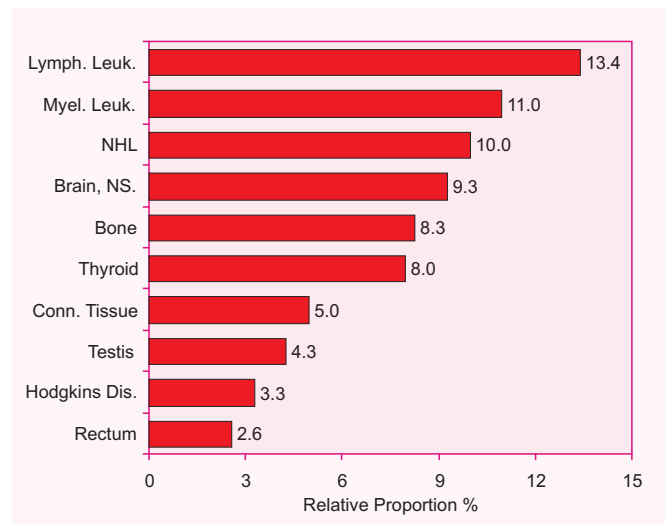
**Bangalore**



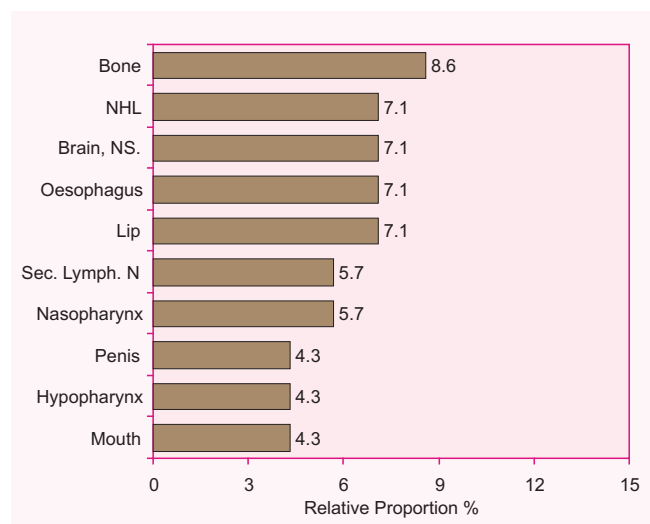
**Chennai**



**Thiruvananthapuram**

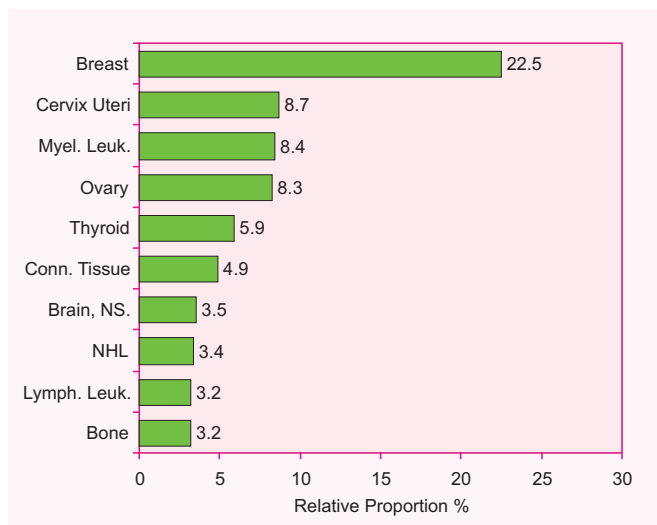


**Dibrugarh**

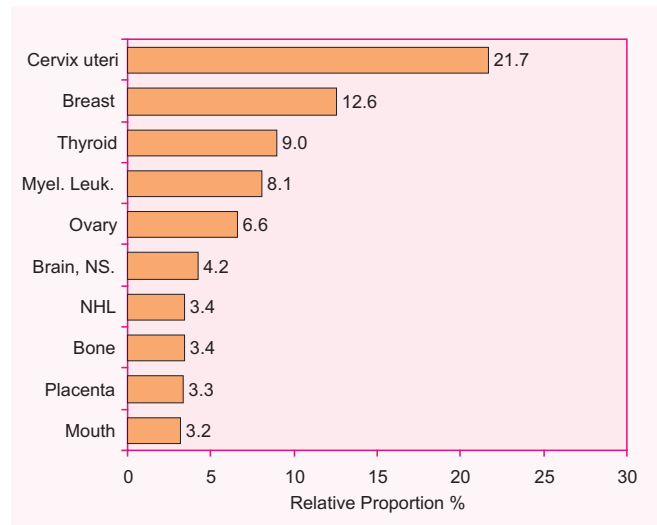


**Fig. 1.3(b) : Leading Sites in Broad Age Group (15-34 Years) - Females (1999-2000)**

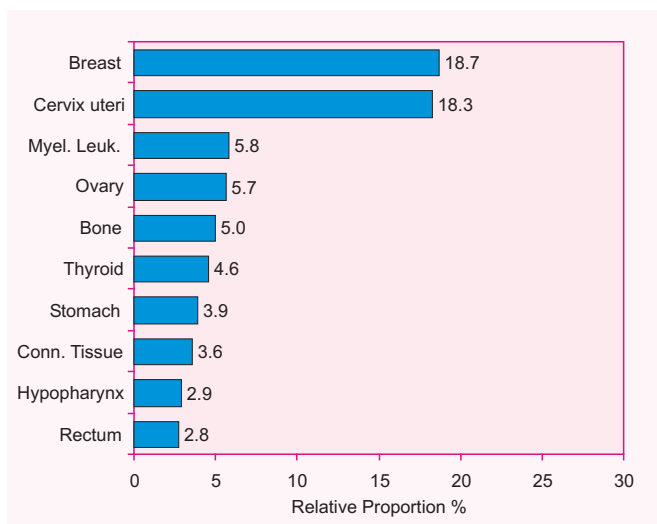
**Mumbai**



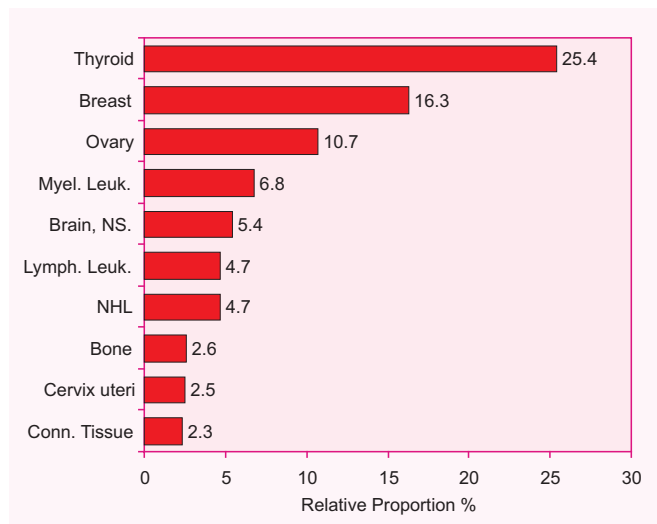
**Bangalore**



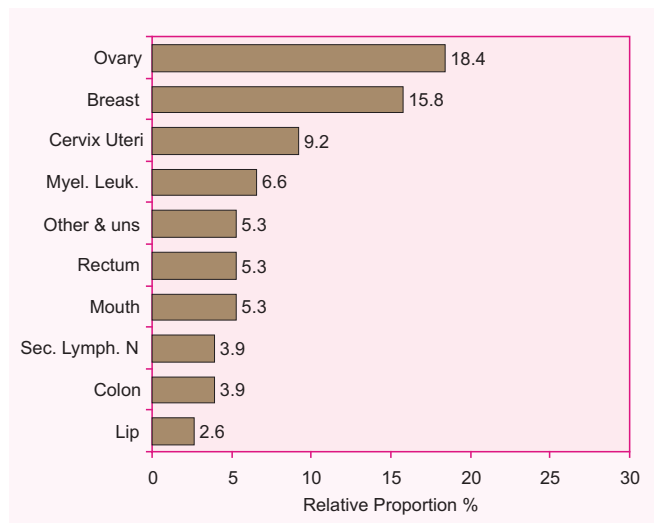
**Chennai**



**Thiruvananthapuram**

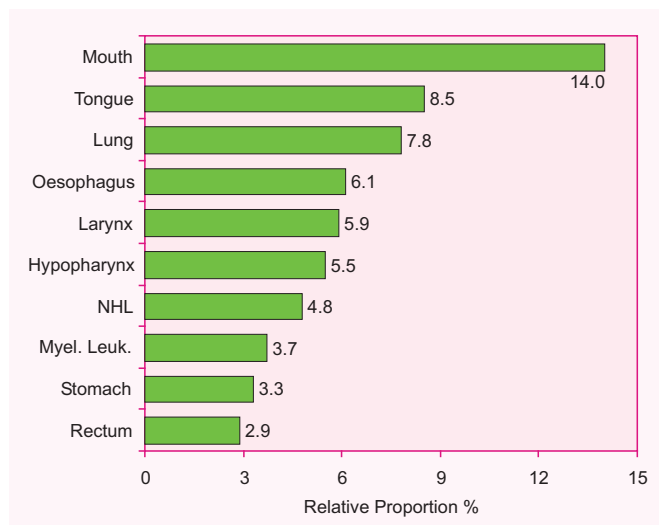


**Dibrugarh**

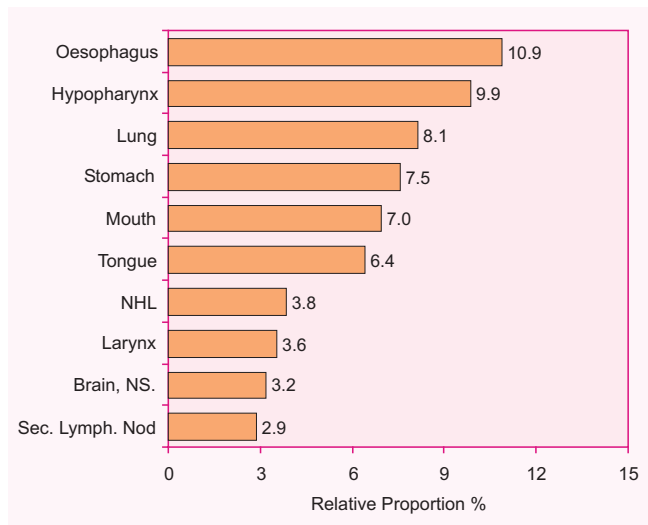


**Fig. 1.4(a) : Leading Sites in Broad Age Group (35-64 Years) - Males (1999-2000)**

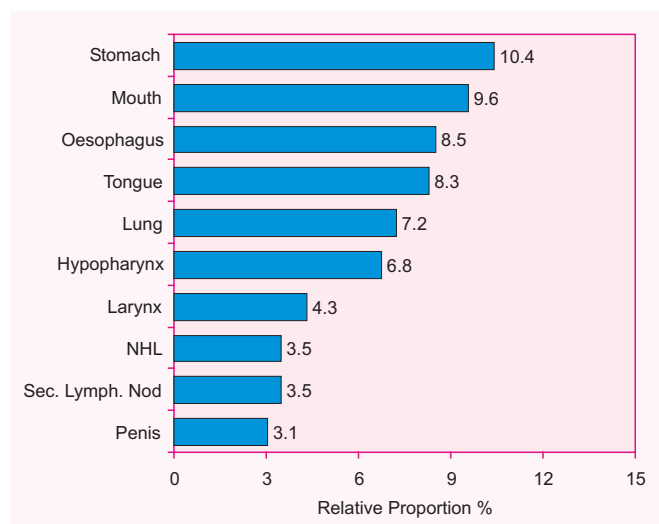
**Mumbai**



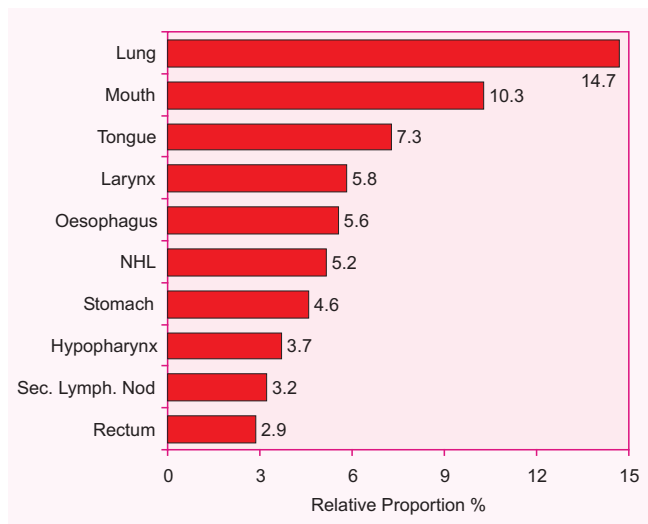
**Bangalore**



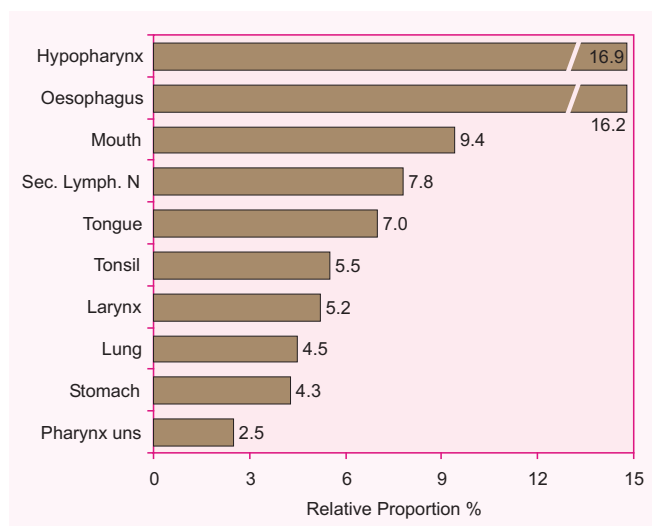
**Chennai**



**Thiruvananthapuram**

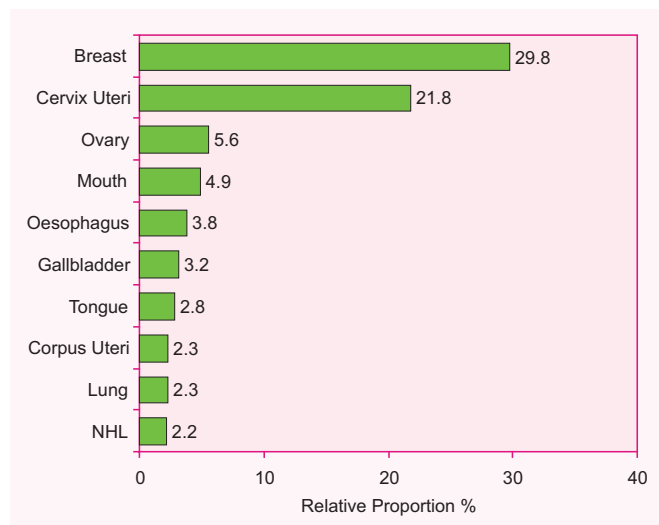


**Dibrugarh**

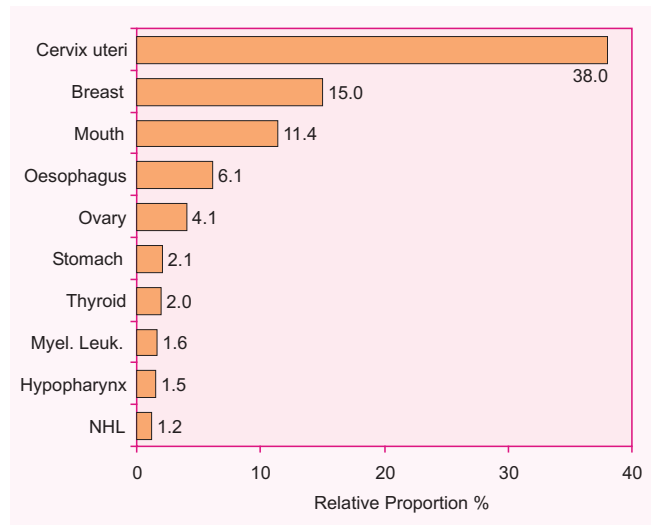


**Fig. 1.4(b) : Leading Sites in Broad Age Group (35-64 Years) - Females (1999-2000)**

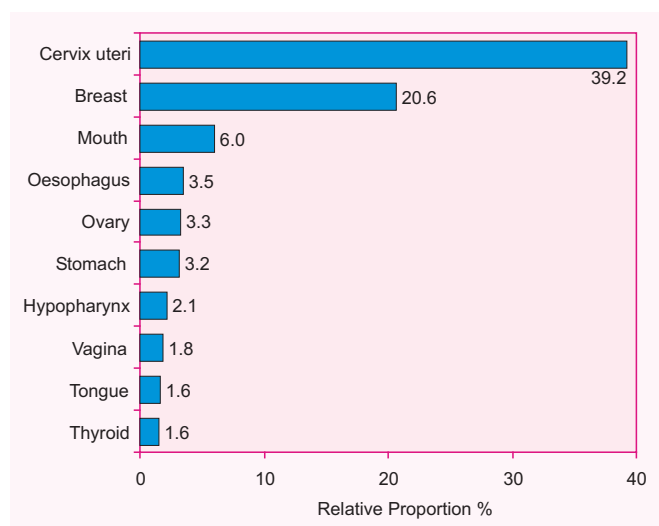
**Mumbai**



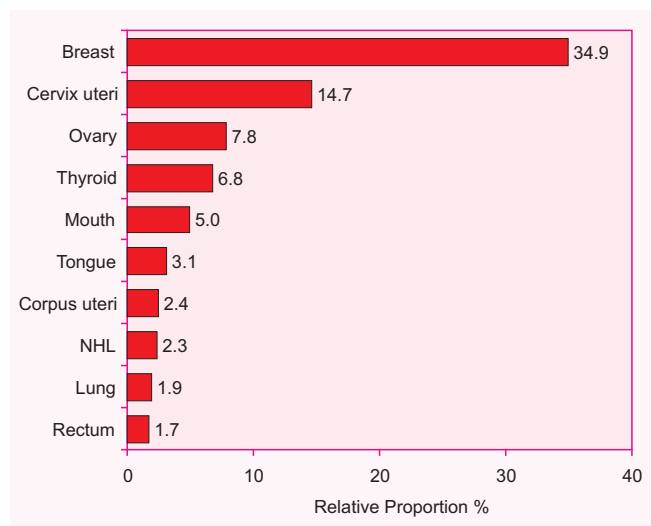
**Bangalore**



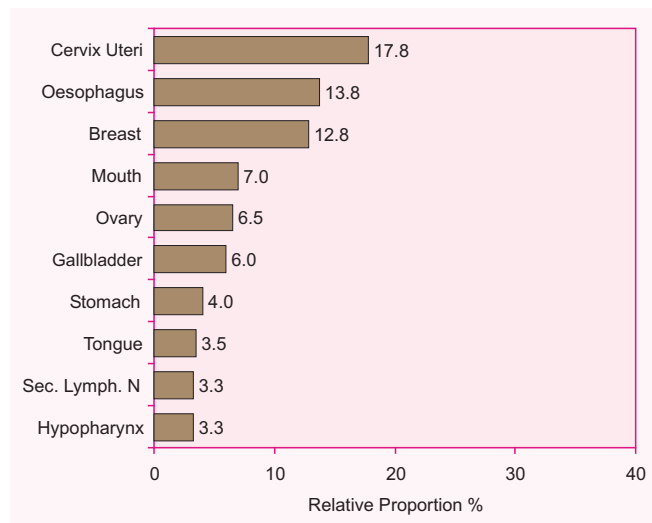
**Chennai**



**Thiruvananthapuram**

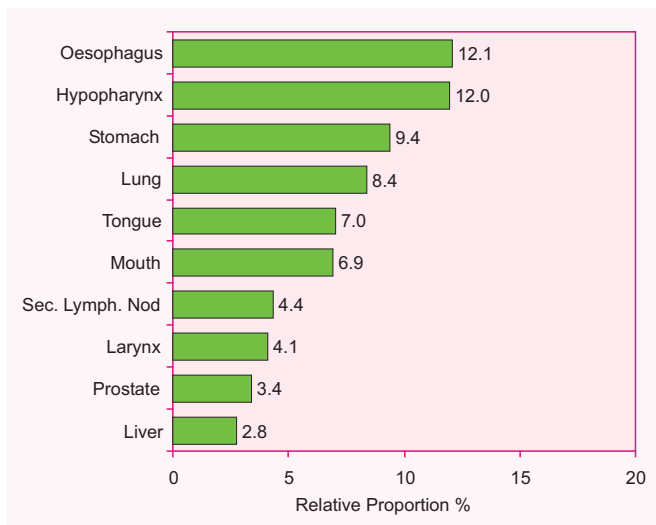


**Dibrugarh**

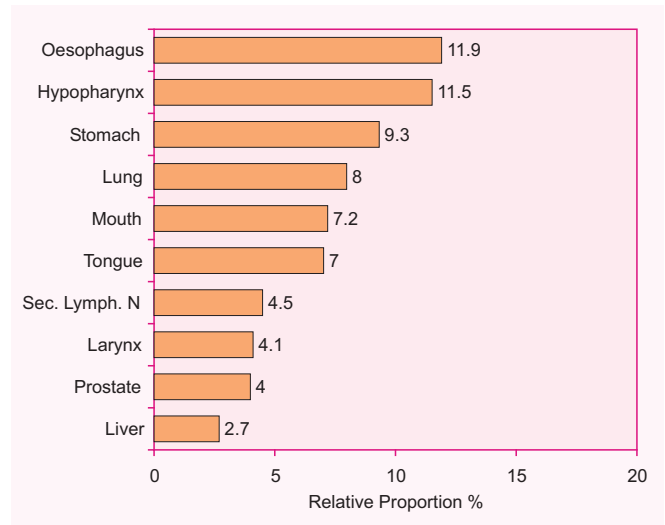


**Fig. 1.5(a) : Leading Sites in Broad Age Group (65 Years and above) - Males (1999-2000)**

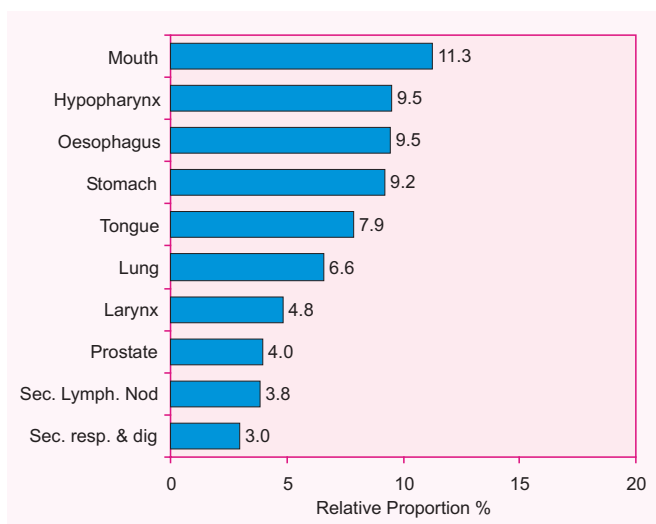
**Mumbai**



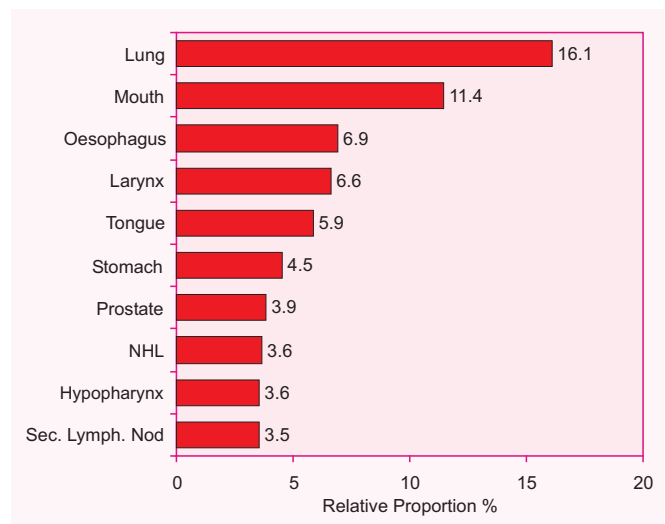
**Bangalore**



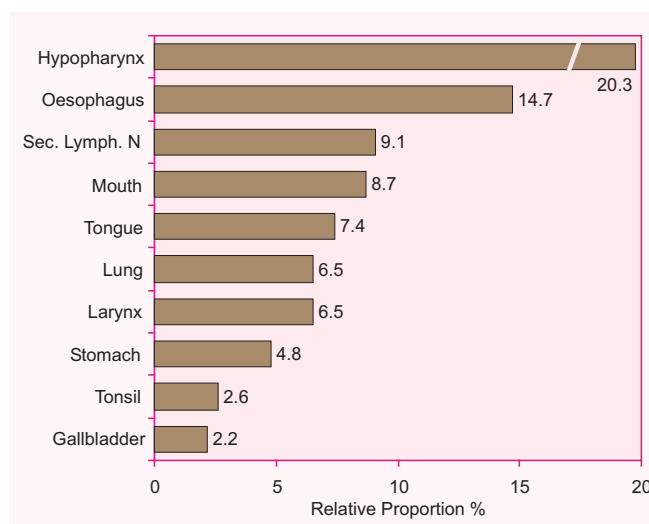
**Chennai**



**Thiruvananthapuram**

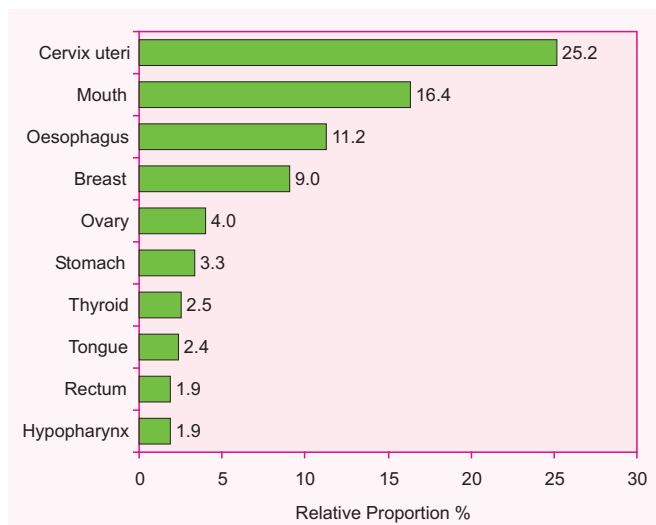


**Dibrugarh**

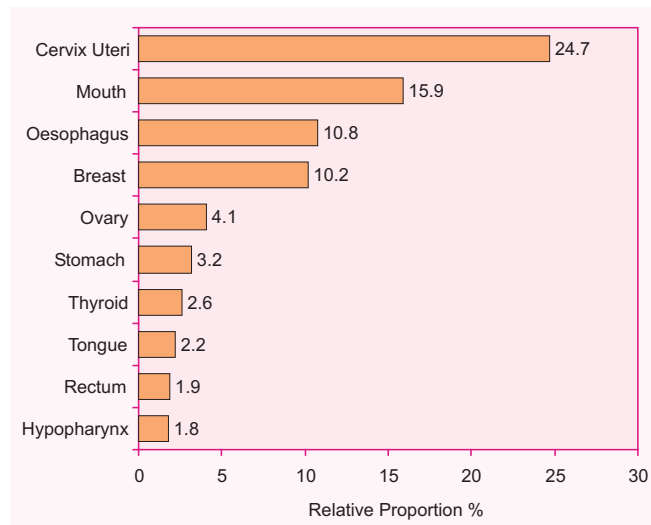


**Fig. 1.5(b) : Leading Sites in Broad Age Group (65 Years and above) - Females (1999-2000)**

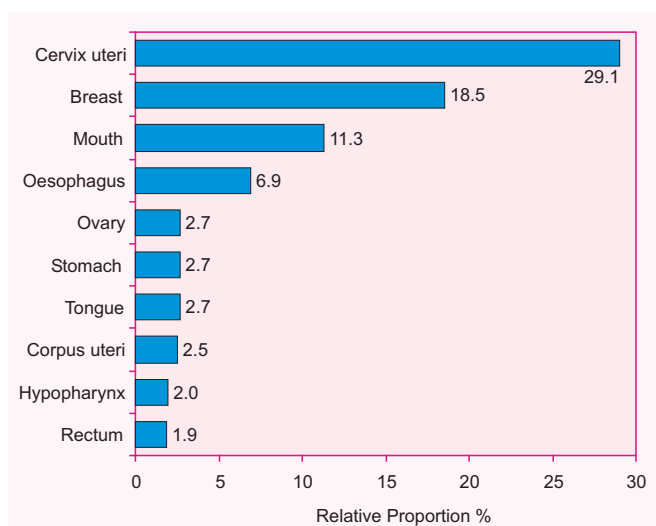
**Mumbai**



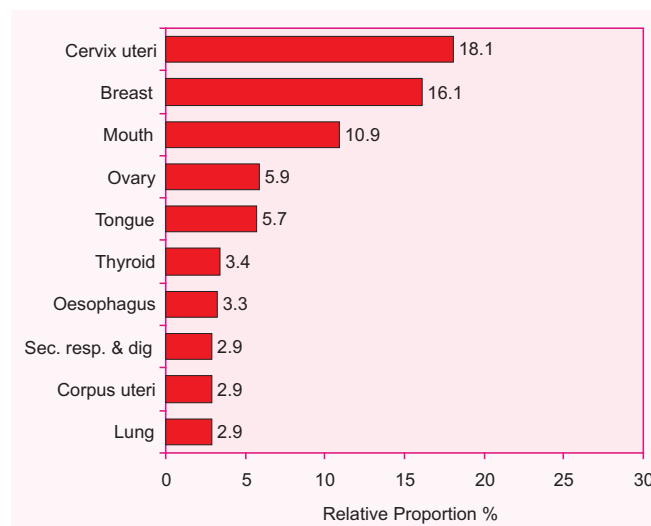
**Bangalore**



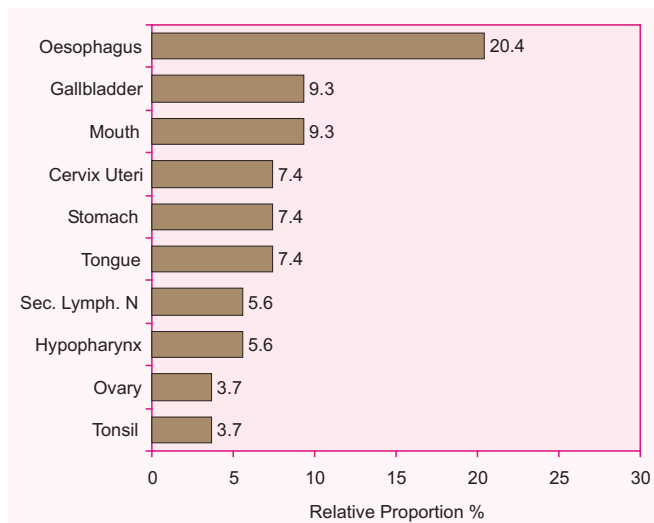
**Chennai**



**Thiruvananthapuram**



**Dibrugarh**





## Chapter 2

### CANCERS IN CHILDHOOD

In all registries, childhood cancer constituted approximately 1-6% (Table 2.1) of all cancers. In boys, the proportion was lowest in Dibrugarh (about 3%) and highest in Bangalore (6%). In girls, it varied from 1% at Dibrugarh to 4% at Thiruvananthapuram.

The five year age distribution of childhood cancer in different registries has been given in Table 2.2. The relative proportion in the age group 0-4 varied from 30% in boys and 32% in girls in Mumbai to a high of 43% in boys and 41% in girls in Thiruvananthapuram. The relative proportion in the age group 5-9 years varied from 28.5% in boys in Thiruvananthapuram to 35.7% in boys in Dibrugarh. This proportion was slightly less in girls in all HBCRs. Girls in all registries had a higher relative proportion of cancers in the 10-14 year age group.

Table 2.3 and Figures 2.1 (a) and 2.1 (b) present the proportion according to broad types of childhood cancers. Tables 2.4(a) and 2.4(b) give further details of types of childhood cancer. Leukaemia is the predominant form of childhood cancer followed by lymphomas. Tumours of the central nervous system, bone tumours, soft-tissue sarcomas and germ-cell tumours are other important types of cancer in childhood. Proportion of lymphomas was higher in boys compared to that in girls.

**TABLE 2.1: Number (#) and Proportion (%) of cancers in childhood relative to all cancers (1999-2000)**

Registry	Males			Females		
	All Cancers	#	%	All Cancers	#	%
Mumbai	17637	1029	5.8	13679	472	3.5
Bangalore	6106	369	6.0	7543	254	3.4
Chennai	6195	215	3.5	7139	130	1.8
Thi'puram	7859	355	4.5	7247	295	4.1
Dibrugarh	997	28	2.8	536	6	1.1

**Table 2.2: Number (#) & Proportion (%) of Childhood Cancers by 5-year Age Group (1999-2000)**

Registry	Age Group (Years)						All Childhood Cancers
	0-4		5-9		10-14		
	#	%	#	%	#	%	
<b>Males</b>							
<b>Mumbai</b>	306	29.7	337	32.8	386	37.5	1029
<b>Bangalore</b>	124	33.6	125	33.9	120	32.5	369
<b>Chennai</b>	64	29.8	72	33.5	79	36.7	215
<b>Thi'puram</b>	154	43.4	101	28.5	100	28.2	355
<b>Dibrugarh</b>	12	42.9	10	35.7	6	21.4	28
<b>Females</b>							
<b>Mumbai</b>	151	32.0	144	30.5	177	37.5	472
<b>Bangalore</b>	83	32.7	77	30.3	94	37.0	254
<b>Chennai</b>	48	36.9	31	23.8	51	39.2	130
<b>Thi'puram</b>	122	41.4	67	22.7	106	35.9	295
<b>Dibrugarh</b>	2	33.3	2	33.3	2	33.3	6
<b>Both Sexes</b>							
<b>Mumbai</b>	389	30.3	414	32.3	480	37.4	1283
<b>Bangalore</b>	172	34.5	156	31.3	171	34.3	499
<b>Chennai</b>	112	32.5	103	29.9	130	37.7	345
<b>Thi'puram</b>	276	42.5	168	25.8	206	31.7	650
<b>Dibrugarh</b>	14	41.2	12	35.3	8	23.5	34

**Table 2.3: Number (#) & Relative Proportion (%) of Broad Types of Cancers in childhood (0-14 years) (1999-2000)****Males**

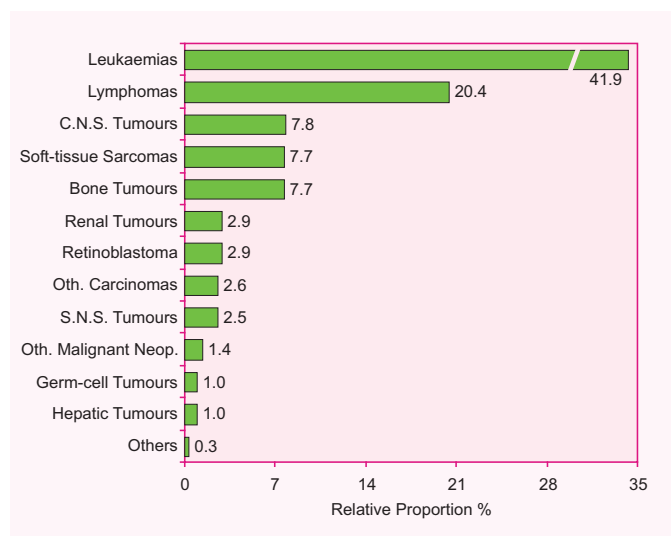
Broad Types of Cancers in Childhood	Mumbai		Bangalore		Chennai		Thi'puram		Dibrugarh	
	#	%	#	%	#	%	#	%	#	%
I Leukaemias	431	41.89	140	37.94	77	35.81	157	44.23	7	25.00
II Lymphomas	210	20.41	60	16.26	44	20.47	46	12.96	3	10.71
III C.N.S. Tumours	80	7.77	53	14.36	8	3.72	36	10.14	2	7.14
IV S.N.S. Tumours	26	2.53	9	2.44	7	3.26	17	4.79	0	0.00
V Retinoblastoma	30	2.92	17	4.61	18	8.37	15	4.23	2	7.14
VI Renal Tumours	30	2.92	14	3.79	5	2.33	14	3.94	4	14.29
VII Hepatic Tumours	10	0.97	8	2.17	3	1.40	8	2.25	0	0.00
VIII Bone Tumours	79	7.68	20	5.42	26	12.09	20	5.63	1	3.57
IX Soft-tissue Sarcomas	79	7.68	10	2.71	12	5.58	26	7.32	5	17.86
X Germ-cell Tumours	10	0.97	8	2.17	2	0.93	6	1.69	2	7.14
XI Oth. Carcinomas	27	2.62	14	3.79	8	3.72	6	1.69	1	3.57
XII Oth. Malignant Neop.	14	1.36	13	3.52	4	1.86	3	0.85	1	3.57
XIII Others	3	0.29	3	0.81	1	0.47	1	0.28	0	0.00
<b>All Types</b>	<b>1029</b>	<b>100.00</b>	<b>369</b>	<b>100.00</b>	<b>215</b>	<b>100.00</b>	<b>355</b>	<b>100.00</b>	<b>28</b>	<b>100.00</b>

**Females**

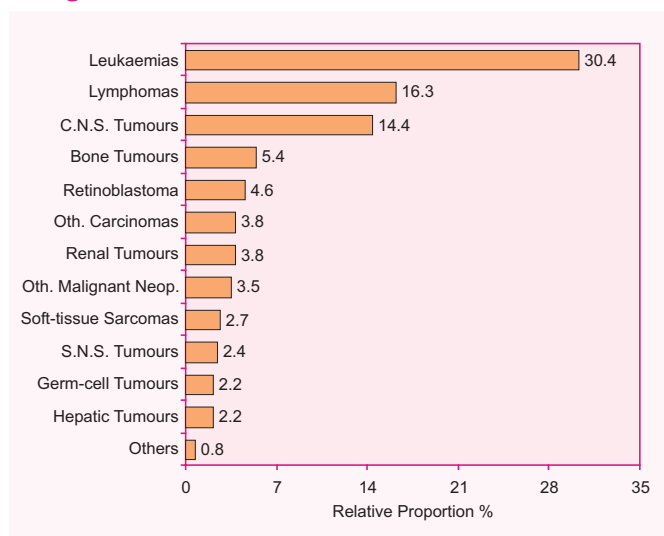
Broad Types of Cancers in Childhood	Mumbai		Bangalore		Chennai		Thi'puram		Dibrugarh	
	#	%	#	%	#	%	#	%	#	%
I Leukaemias	186	39.41	91	35.83	51	39.23	109	36.95	0	0.00
II Lymphomas	40	8.47	27	10.63	10	7.69	10	3.39	0	0.00
III C.N.S. Tumours	61	12.92	35	13.78	4	3.08	38	12.88	1	16.67
IV S.N.S. Tumours	4	0.85	9	3.54	4	3.08	11	3.73	0	0.00
V Retinoblastoma	22	4.66	13	5.12	14	10.77	16	5.42	0	0.00
VI Renal Tumours	14	2.97	12	4.72	3	2.31	17	5.76	1	16.67
VII Hepatic Tumours	2	0.42	0	0.00	3	2.31	3	1.02	0	0.00
VIII Bone Tumours	40	8.47	17	6.69	19	14.62	25	8.47	1	16.67
IX Soft-tissue Sarcomas	46	9.75	14	5.51	9	6.92	17	5.76	0	0.00
X Germ-cell Tumours	31	6.57	12	4.72	6	4.62	19	6.44	0	0.00
XI Oth. Carcinomas	17	3.60	11	4.33	4	3.08	28	9.49	1	16.67
XII Oth. Malignant Neop.	9	1.91	13	5.12	2	1.54	1	0.34	0	0.00
XIII Others	0	0.00	0	0.00	1	0.77	1	0.34	2	33.33
<b>All Types</b>	<b>472</b>	<b>100.00</b>	<b>254</b>	<b>100</b>	<b>130</b>	<b>100.00</b>	<b>295</b>	<b>100.00</b>	<b>6</b>	<b>100.0</b>

**Fig. 2.1 (a): Proportion of Broad Types of Childhood Cancers (0-14 years) - Males (1999-2000)**

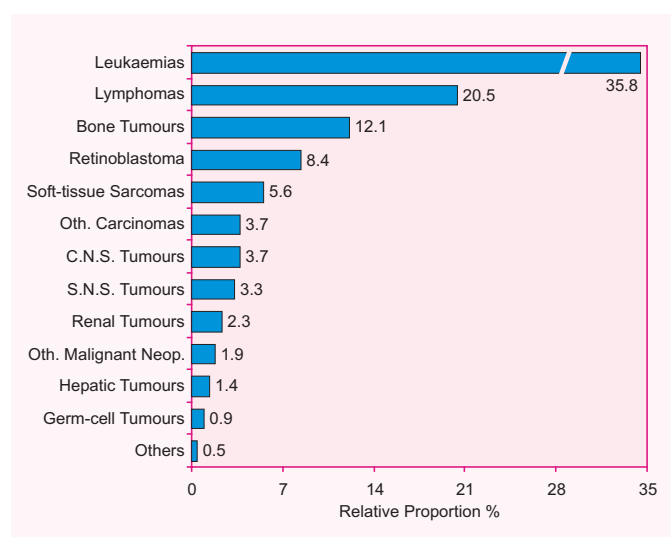
**Mumbai**



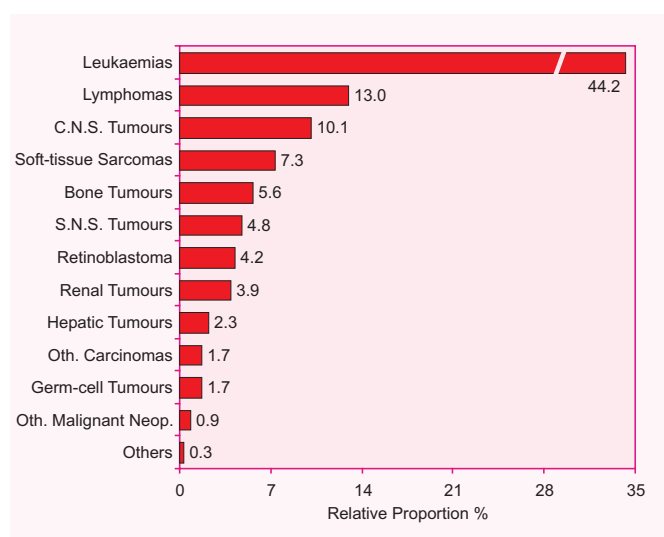
**Bangalore**



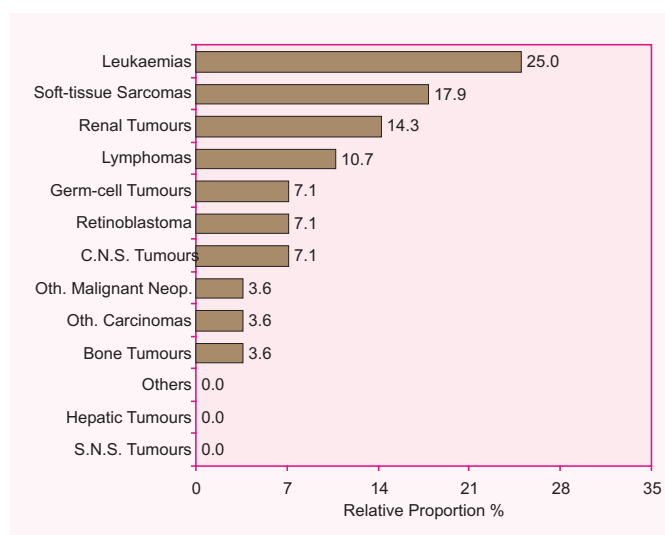
**Mumbai**



**Bangalore**

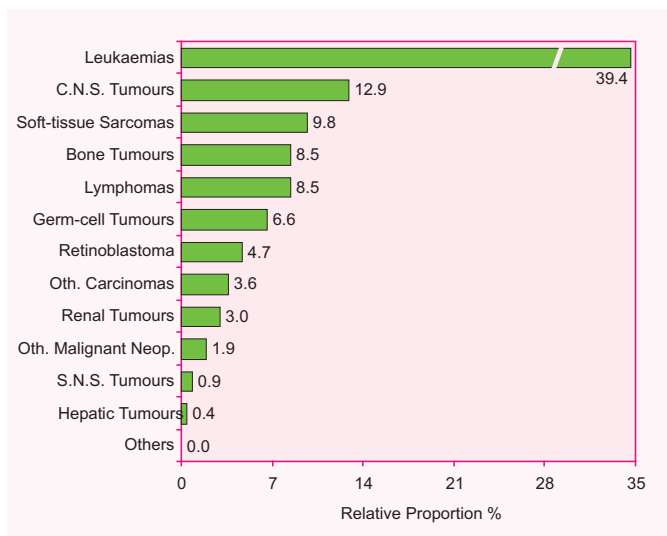


**Dibrugarh**

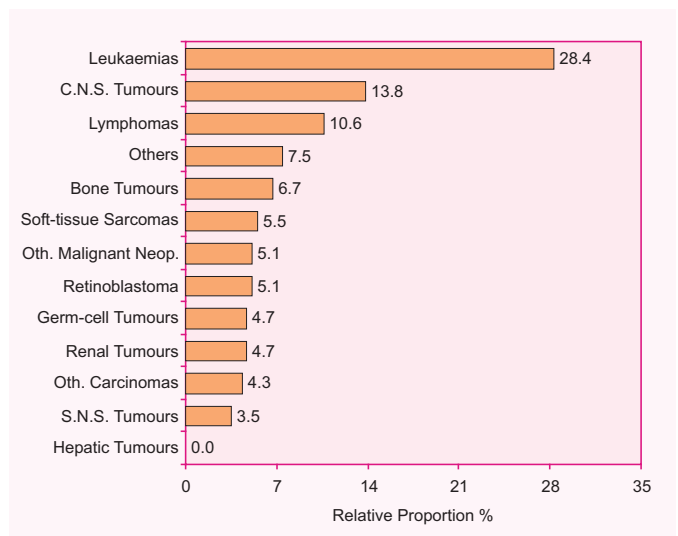


**Fig. 2.1 (b): Proportion of Broad Types of Childhood Cancers (0-14 years) - Females (1999-2000)**

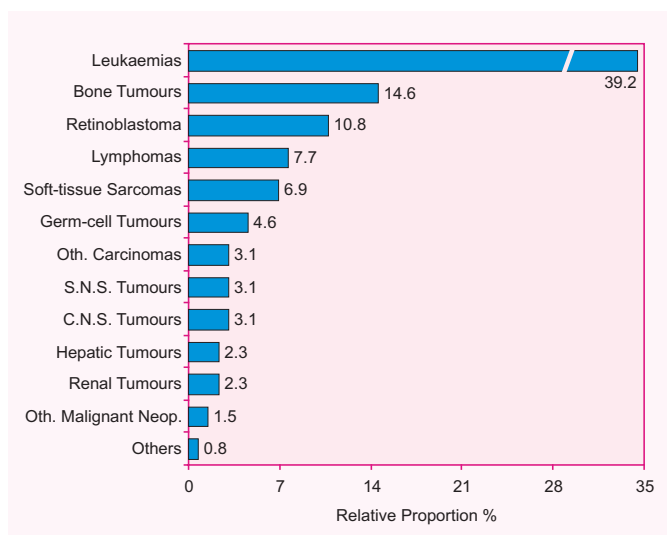
**Mumbai**



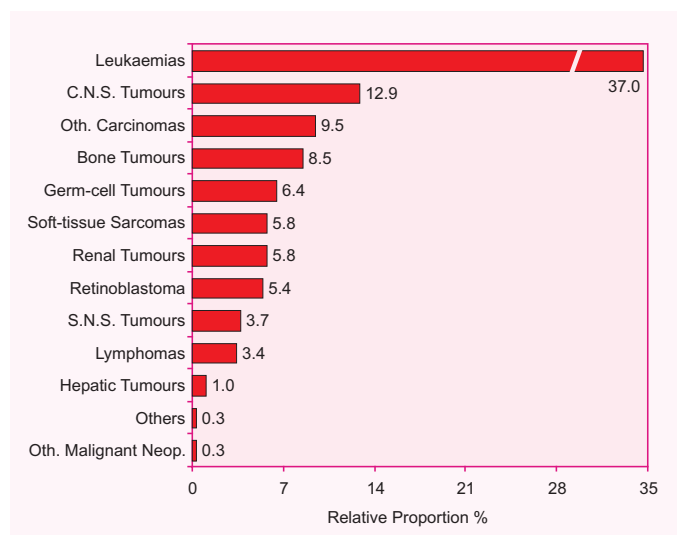
**Bangalore**



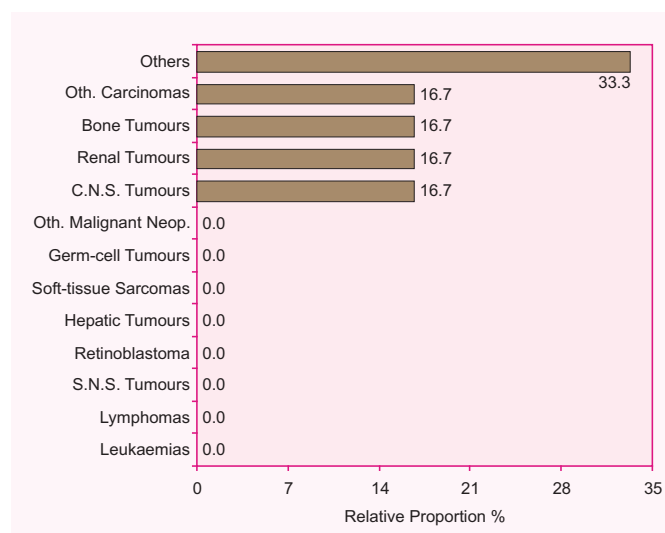
**Mumbai**



**Bangalore**



**Dibrugarh**



**Table 2.4(a): Number (#) & Relative Proportion (%) of Specific Types of Cancer in Childhood (0-14 years) - Males (1999-2000)**

Specific Types of Cancers in Childhood	Mumbai		Bangalore		Chennai		Thi'puram		Dibrugarh	
	#	%	#	%	#	%	#	%	#	%
I. LEUKAEMIAS	431	41.89	140	37.94	77	35.81	157	44.23	7	25.00
(a) Lymphoid leukaemia	301	29.25	93	25.20	50	23.26	123	34.65	6	21.43
(b) Acute non-lymphocytic leukaemia	88	8.55	25	6.78	17	7.91	30	8.45	1	3.57
(c) Chronic myeloid leukaemia	12	1.17	5	1.36	2	0.93	2	0.56	0	0.00
(d) Other specified leukaemias	1	0.10	3	0.81	0	0.00	0	0.00	0	0.00
(e) Unspecified leukaemia	29	2.82	14	3.79	8	3.72	2	0.56	0	0.00
II. LYMPHOMAS & RETICULOENDOTHELIAL NPLMS	210	20.41	60	16.26	44	20.47	46	12.96	3	10.71
(a) Hodgkin's disease	120	11.66	35	9.49	20	9.30	26	7.32	0	0.00
(b) Non-Hodgkin lymphoma	64	6.22	10	2.71	19	8.84	13	3.66	3	10.71
(c) Burkitt's lymphoma	23	2.24	5	1.36	0	0.00	1	0.28	0	0.00
(d) Miscellaneous lymphoreticular nplms	1	0.10	4	1.08	0	0.00	0	0.00	0	0.00
(e) Unspecified lymphomas	2	0.19	6	1.63	5	2.33	6	1.69	0	0.00
III. C.N.S. & MISC. INTRACRANIAL & INTRASPINAL NEOP.	80	7.77	53	14.36	8	3.72	36	10.14	2	7.14
(a) Ependymoma	7	0.68	2	0.54	0	0.00	1	0.28	1	3.57
(b) Astrocytoma	30	2.92	14	3.79	2	0.93	11	3.10	0	0.00
(c) Primitive neuroectodermal tumours	26	2.53	24	6.50	4	1.86	12	3.38	1	3.57
(d) Other gliomas	13	1.26	6	1.63	1	0.47	3	0.85	0	0.00
(e) Other specified intracranial & intraspinal	4	0.39	1	0.27	0	0.00	0	0.00	0	0.00
(f) Unspecified intracranial & intraspinal	0	0.00	6	1.63	1	0.47	9	2.54	0	0.00
IV. SYMPATHETIC NERVOUS SYSTEM TUMOURS	26	2.53	9	2.44	7	3.26	17	4.79	0	0.00
(a) Neuroblastoma & ganglioneuroblastoma	26	2.53	9	2.44	7	3.26	17	4.79	0	0.00
(b) Other SNS tumours	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
V. RETINOBLASTOMA	30	2.92	17	4.61	18	8.37	15	4.23	2	7.14
VI. RENAL TUMOURS	30	2.92	14	3.79	5	2.33	14	3.94	4	14.29
(a) Wilms' tumour	30	2.92	11	2.98	4	1.86	13	3.66	1	3.57
(b) Renal carcinoma	0	0.00	0	0.00	0	0.00	1	0.28	0	0.00
(c) Unsp. malignant renal tumours	0	0.00	3	0.81	1	0.47	0	0.00	3	10.71
VII. HEPATIC TUMOURS	10	0.97	8	2.17	3	1.40	8	2.25	0	0.00
(a) Hepatoblastoma	9	0.87	5	1.36	3	1.40	7	1.97	0	0.00
(b) Hepatic carcinoma	0	0.00	1	0.27	0	0.00	0	0.00	0	0.00
(c) Unsp. malignant hepatic tumours	1	0.10	2	0.54	0	0.00	1	0.28	0	0.00
VIII. MALIGNANT BONE TUMOURS	79	7.68	20	5.42	26	12.09	20	5.63	1	3.57
(a) Osteosarcoma	49	4.76	9	2.44	13	6.05	16	4.51	1	3.57
(b) Chondrosarcoma	0	0.00	1	0.27	0	0.00	0	0.00	0	0.00
(c) Ewing's sarcoma	25	2.43	8	2.17	11	5.12	4	1.13	0	0.00
(d) Other specified malignant bone tumours	0	0.00	1	0.27	0	0.00	0	0.00	0	0.00
(e) Unspecified malignant bone tumours	5	0.49	1	0.27	2	0.93	0	0.00	0	0.00
IX. SOFT-TISSUE(S-T) SARCOMAS(S)	79	7.68	10	2.71	12	5.58	26	7.32	5	17.86
(a) Rhabdomyos. embryonals.	33	3.21	4	1.08	8	3.72	15	4.23	0	0.00
(b) Fibros. neurofibros. & oth. fibromatous neop.	4	0.39	0	0.00	0	0.00	0	0.00	2	7.14
(c) Kaposi's sarcoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
(d) Other specified soft-tissue sarcoma	28	2.72	4	1.08	0	0.00	8	2.25	2	7.14
(e) Unspecified soft-tissue sarcoma	14	1.36	2	0.54	4	1.86	3	0.85	1	3.57
X. GERM-CELL TROPHOBLASTIC & OTH GONADAL NEOP.	10	0.97	8	2.17	2	0.93	6	1.69	2	7.14
(a) Intracranial & intraspinal gc tumours	2	0.19	0	0.00	0	0.00	0	0.00	0	0.00
(b) Other & unspecified non-gonadal gc tumours	1	0.10	1	0.27	1	0.47	3	0.85	1	3.57
(c) Gonadal gc tumours	7	0.68	5	1.36	1	0.47	3	0.85	1	3.57
(d) Gonadal carcinomas	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
(e) Other & unsp. malignant gonadal tumours	0	0.00	2	0.54	0	0.00	0	0.00	0	0.00
XI. CARCINOMA & OTH MALIGNANT EPITHELIAL NEOP.	27	2.62	14	3.79	8	3.72	6	1.69	1	3.57
(a) Adrenocortical carcinoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
(b) Thyroid carcinoma	7	0.68	2	0.54	1	0.47	0	0.00	0	0.00
(c) Nasopharyngeal carcinoma	7	0.68	2	0.54	3	1.40	3	0.85	0	0.00
(d) Malignant melanoma	0	0.00	1	0.27	0	0.00	0	0.00	0	0.00
(e) Skin carcinoma	1	0.10	0	0.00	1	0.47	0	0.00	0	0.00
(f) Other & unspec. carcinomas	12	1.17	9	2.44	3	1.40	3	0.85	1	3.57
XII. OTHER & UNSP. MALIGNANT NEOPLASMS	14	1.36	13	3.52	4	1.86	3	0.85	1	3.57
(a) Other spec. malignant tumours	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
(b) Other unspec. malignant tumours	14	1.36	13	3.52	4	1.86	3	0.85	1	3.57
XIII. OTHERS (Not Classified)	3	0.29	3	0.81	1	0.47	1	0.28	0	0.00
<b>All Types</b>	<b>1029</b>	<b>100.00</b>	<b>369</b>	<b>100.00</b>	<b>215</b>	<b>100.00</b>	<b>355</b>	<b>100.00</b>	<b>28</b>	<b>100.00</b>

**Table 2.4(b): Number (#) & Relative Proportion (%) of Specific Types of Cancer in Childhood (0-14 years) - Females (1999-2000)**

Specific Types of Cancers in Childhood	Mumbai		Bangalore		Chennai		Thi'puram		Dibrugarh	
	#	%	#	%	#	%	#	%	#	%
I. LEUKAEMIAS	186	39.41	91	35.83	51	39.23	109	36.95	0	0.00
(a) Lymphoid leukaemia	114	24.15	63	24.80	29	22.31	82	27.80	0	0.00
(b) Acute non-lymphocytic leukaemia	40	8.47	16	6.30	11	8.46	22	7.46	0	0.00
(c) Chronic myeloid leukaemia	10	2.12	2	0.79	5	3.85	1	0.34	0	0.00
(d) Other specified leukaemias	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
(e) Unspecified leukaemia	22	4.66	10	3.94	6	4.62	4	1.36	0	0.00
II. LYMPHOMAS & RETICULOENDOTHELIAL NPLMS	40	8.47	27	10.63	10	7.69	10	3.39	0	0.00
(a) Hodgkin's disease	18	3.81	11	4.33	5	3.85	3	1.02	0	0.00
(b) Non-Hodgkin lymphoma	19	4.03	4	1.57	3	2.31	5	1.69	0	0.00
(c) Burkitt's lymphoma	1	0.21	4	1.57	0	0.00	1	0.34	0	0.00
(d) Miscellaneous lymphoreticular nplms	1	0.21	3	1.18	1	0.77	0	0.00	0	0.00
(e) Unspecified lymphomas	1	0.21	5	1.97	1	0.77	1	0.34	0	0.00
III. C.N.S.& MISC.INTRACRANIAL & INTRASPINAL NEOP.	61	12.92	35	13.78	4	3.08	38	12.88	1	16.67
(a) Ependymoma	3	0.64	1	0.39	0	0.00	1	0.34	0	0.00
(b) Astrocytoma	32	6.78	12	4.72	0	0.00	12	4.07	1	16.67
(c) Primitive neuroectodermal tumours	18	3.81	11	4.33	1	0.77	13	4.41	0	0.00
(d) Other gliomas	7	1.48	6	2.36	1	0.77	1	0.34	0	0.00
(e) Other specified intracranial & intraspinal	1	0.21	1	0.39	0	0.00	1	0.34	0	0.00
(f) Unspecified intracranial & intraspinal	0	0.00	4	1.57	2	1.54	10	3.39	0	0.00
IV. SYMPATHETIC NERVOUS SYSTEM TUMOURS	4	0.85	9	3.54	4	3.08	11	3.73	0	0.00
(a) Neuroblastoma & ganglioneuroblastoma	4	0.85	9	3.54	4	3.08	11	3.73	0	0.00
(b) Other SNS tumours	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
V. RETINOBLASTOMA	22	4.66	13	5.12	14	10.77	16	5.42	0	0.00
VI. RENAL TUMOURS	14	2.97	12	4.72	3	2.31	17	5.76	1	16.67
(a) Wilms' tumour	14	2.97	11	4.33	2	1.54	17	5.76	1	16.67
(b) Renal carcinoma	0	0.00	1	0.39	1	0.77	0	0.00	0	0.00
(c) Unsp. malignant renal tumours	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
VII. HEPATIC TUMOURS	2	0.42	0	0.00	3	2.31	3	1.02	0	0.00
(a) Hepatoblastoma	2	0.42	0	0.00	3	2.31	3	1.02	0	0.00
(b) Hepatic carcinoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
(c) Unsp. malignant hepatic tumours	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
VIII. MALIGNANT BONE TUMOURS	40	8.47	17	6.69	19	14.62	25	8.47	1	16.67
(a) Osteosarcoma	23	4.87	8	3.15	7	5.38	16	5.42	0	0.00
(b) Chondrosarcoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
(c) Ewing's sarcoma	13	2.75	6	2.36	7	5.38	9	3.05	1	16.67
(d) Other specified malignant bone tumours	1	0.21	0	0.00	1	0.77	0	0.00	0	0.00
(e) Unspecified malignant bone tumours	3	0.64	3	1.18	4	3.08	0	0.00	0	0.00
IX. SOFT-TISSUE(S-T) SARCOMAS(S)	46	9.75	14	5.51	9	6.92	17	5.76	0	0.00
(a) Rhabdomyos. embryonals.	18	3.81	8	3.15	4	3.08	12	4.07	0	0.00
(b) Fibros.neurofibros.&oth.fibromatous neop.	2	0.42	0	0.00	0	0.00	0	0.00	0	0.00
(c) Kaposi's sarcoma	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
(d) Other specified soft-tissue sarcoma	12	2.54	4	1.57	1	0.77	4	1.36	0	0.00
(e) Unspecified soft-tissue sarcoma	14	2.97	2	0.79	4	3.08	1	0.34	0	0.00
X. GERM-CELL TROPHOBLASTIC & OTH GONADAL NEOP.	31	6.57	12	4.72	6	4.62	19	6.44	0	0.00
(a) Intracranial & intraspinal gc tumours	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
(b) Other & unspecified non-gonadal gc tumours	4	0.85	1	0.39	1	0.77	5	1.69	0	0.00
(c) Gonadal gc tumours	25	5.30	8	3.15	4	3.08	13	4.41	0	0.00
(d) Gonadal carcinomas	1	0.21	1	0.39	1	0.77	1	0.34	0	0.00
(e) Other & unsp.malignant gonadal tumours	1	0.21	2	0.79	0	0.00	0	0.00	0	0.00
XI. CARCINOMA & OTH MALIGNANT EPITHELIAL NEOP.	17	3.60	11	4.33	4	3.08	28	9.49	1	16.67
(a) Adrenocortical carcinoma	1	0.21	0	0.00	1	0.77	0	0.00	0	0.00
(b) Thyroid carcinoma	7	1.48	6	2.36	1	0.77	19	6.44	0	0.00
(c) Nasopharyngeal carcinoma	1	0.21	0	0.00	0	0.00	4	1.36	0	0.00
(d) Malignant melanoma	1	0.21	0	0.00	0	0.00	0	0.00	0	0.00
(e) Skin carcinoma	1	0.21	0	0.00	0	0.00	0	0.00	0	0.00
(f) Other & unspec.carcinomas	6	1.27	5	1.97	2	1.54	5	1.69	1	16.67
XII. OTHER & UNSP. MALIGNANT NEOPLASMS	9	1.91	13	5.12	2	1.54	1	0.34	0	0.00
(a) Other spec.malignant tumours	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
(b) Other unspec.malignant tumours	9	1.91	13	5.12	2	1.54	1	0.34	0	0.00
XIII. OTHERS (Not Classified)	0	0.00	0	0.00	1	0.77	1	0.34	2	33.33
<b>All Types</b>	<b>472</b>	<b>100.00</b>	<b>254</b>	<b>100</b>	<b>130</b>	<b>100.00</b>	<b>295</b>	<b>100.00</b>	<b>6</b>	<b>100.00</b>

# Chapter 3

## TOBACCO RELATED CANCERS

A list of sites of cancer (alongwith corresponding ICD-10 codes) considered to be associated with the use of tobacco [Tobacco Related Cancers (TRC)] is provided in the table below. This consideration is based on IARC monographs on overall evaluations of carcinogenicity (IARC, 1987).

Recently, International Agency for Research on Cancer Monograph (IARC 2004) states, that, there is now sufficient evidence to establish a causal association between cigarette smoking and cancers of the

**Table 3.1: Sites of cancer included in TRCs alongwith corresponding ICD codes (1999-2000)**

Site	ICD-10 Code
Lip	C00
Tongue	C01-C02
Mouth	C03-C06
Pharynx	C09-C10 and C12-C14
Oesophagus	C15
Larynx	C32
Lung	C33-34
Urinary Bladder	C67

**Table 3.2 : Number(#) & Proportion(%) of cancers associated with use of tobacco relative to all sites of cancer (1999-2000)**

Registry	Males			Females		
	All sites	#	%	All sites	#	%
<b>Mumbai</b>	17637	8476	48.1	13679	2262	16.5
<b>Bangalore</b>	6106	2886	47.3	7543	1731	22.9
<b>Chennai</b>	6195	2815	45.4	7139	1159	16.2
<b>Thi'puram</b>	7859	3701	47.1	7247	983	13.6
<b>Dibrugarh</b>	997	683	68.5	536	187	34.9
<b>All Registries</b>	<b>38794</b>	<b>18561</b>	<b>47.8</b>	<b>36144</b>	<b>6322</b>	<b>17.5</b>



nasal cavities and nasal sinuses, oesophagus (Adenocarcinoma), stomach, liver, kidney (Renal Cell Carcinoma), uterine cervix and myeloid leukaemia apart from the sites in the earlier monograph (IARC, 1987).

Table 3.2 and Figure 3.1 give the number and proportion of sites of cancer associated with use of tobacco as a whole relative to all sites of cancer, in different registries. The highest percentage of TRC was observed in Dibrugarh; both in males (69%) and in females (35%). In the other registries, it varied from 45 to 48% of all cancers in males and from 14 to 23% in females.

Table 3.3 and Figure 3.2 give the number and relative percentage according to the specific sites of TRC in different registries.

### **Males** (Relative proportion (%) of TRC given given in parentheses)

*Mumbai:* Mouth(23%), tongue(15%), and lung(15%) were the main sites that contributed to overall TRCs.

*Bangalore:* Oesophagus(20%) was the leading site in TRCs followed by hypopharynx(19%) and lung(15%).

*Chennai:* Mouth(19%) was the leading contributor to TRCs followed by oesophagus(17%) and tongue(16%).

*Thiruvananthapuram:* Cancer of lung accounted for 28% of TRCs followed by mouth(20%) and tongue(13%).

*Dibrugarh:* Cancer of the hypopharynx constituted 24% of TRCs followed by oesophagus(22%) and mouth(13%).

### **Females**

*Mumbai:* Mouth(29%), oesophagus(22%) and tongue(16%) were the leading sites among TRCs.

*Bangalore:* Mouth(48%) contributed almost half of the TRCs. Another important site was oesophagus(27%).

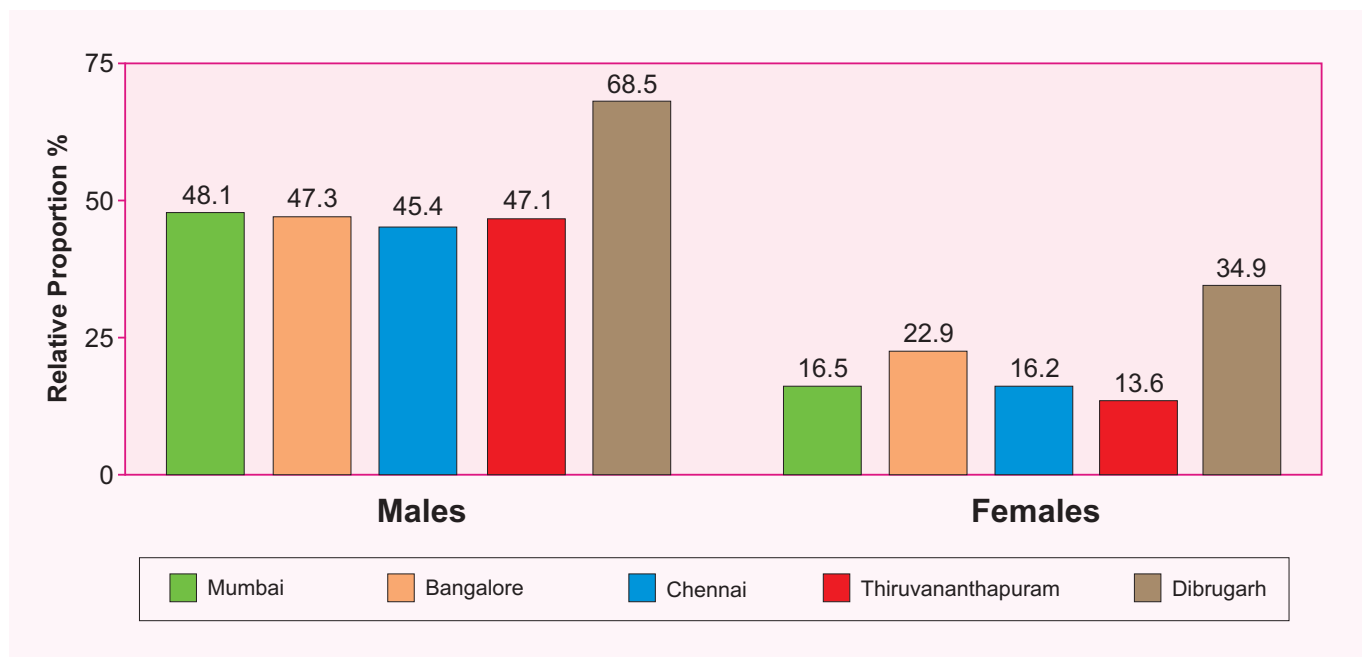
*Chennai:* Mouth(38%) accounted for most of TRCs followed by oesophagus(22%) and hypopharynx(13%).

*Thiruvananthapuram:* Like in Chennai, in Thiruvananthapuram also mouth(39%) accounted for most of TRCs followed by tongue(24%) and lung(14%).

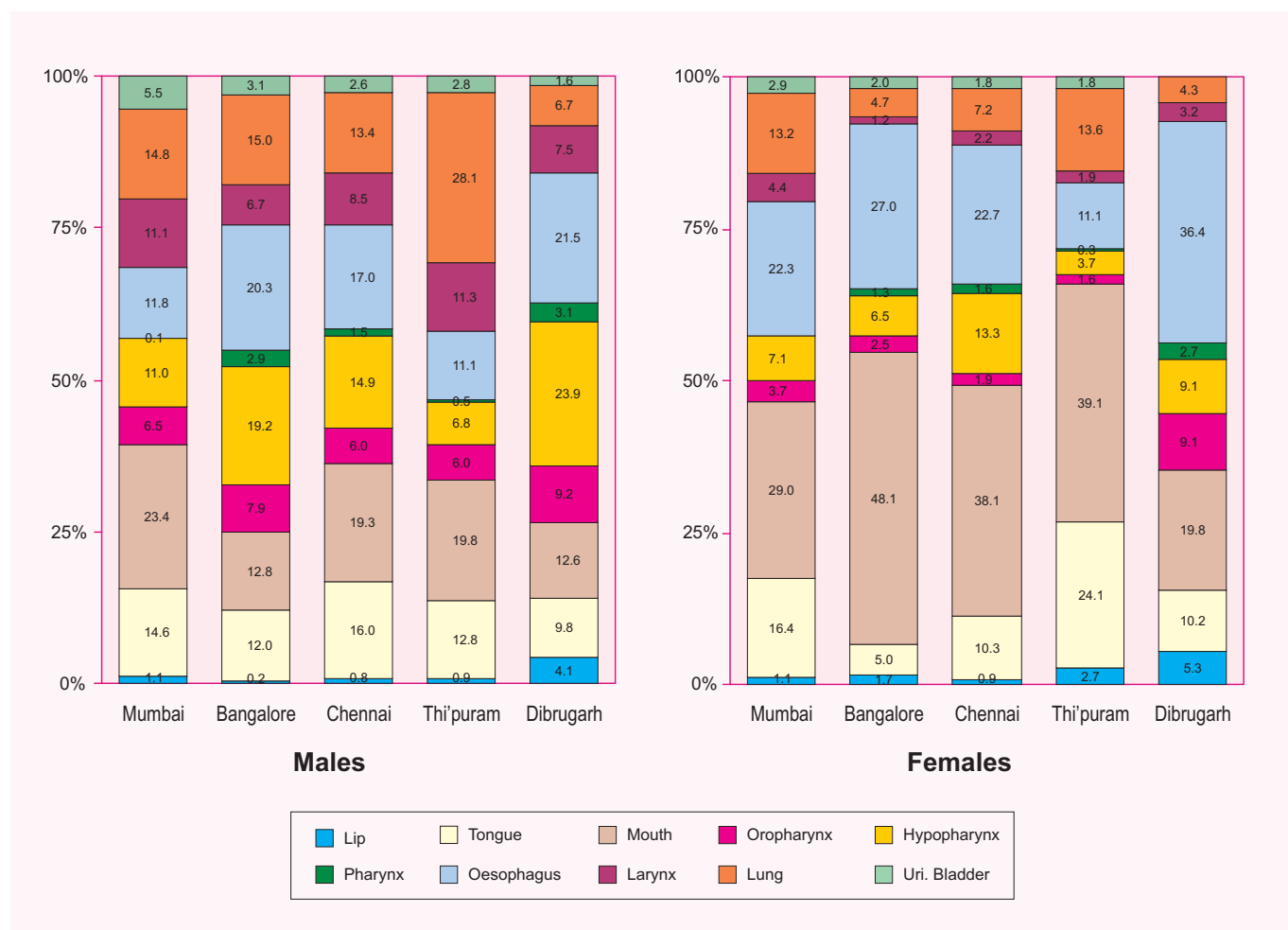
*Dibrugarh:* Oesophagus(36%) was the leading site in TRCs followed by mouth(20%) and tongue(10%).

Table 3.4 shows the age distribution of all TRCs taken together. Among males, the mean ( $\pm$  SD) age of TRCs varied between  $55.1 \pm 12.17$  in Mumbai to  $59.3 \pm 11.11$  in Thiruvananthapuram. Similarly in females, mean age varied between  $51.0 \pm 12.18$  in Dibrugarh to  $58.7 \pm 12.68$  in Thiruvananthapuram.

**Fig. 3.1: Proportion(%) of Tobacco Related Cancers Relative to All Sites (1999-2000)**



**Fig. 3.2: Stack(100%) diagram showing Proportion of Specific Tobacco Related Sites Relative to All Tobacco Related Cancers (1999-2000)**



**Table 3.3 : Number(#) & Relative Proportion(%) of specific sites of cancer among Tobacco Related Cancers (TRC) (1999-2000)****Males**

Sites of Cancer	Mumbai		Bangalore		Chennai		Thi'puram		Dibrugarh	
	#	%	#	%	#	%	#	%	#	%
Lip	96	1.1	7	0.2	22	0.8	32	0.9	28	4.1
Tongue	1236	14.6	346	12.0	450	16.0	473	12.8	67	9.8
Mouth	1986	23.4	368	12.8	544	19.3	734	19.8	86	12.6
Oropharynx	554	6.5	227	7.9	170	6.0	222	6.0	63	9.2
Hypopharynx	935	11.0	554	19.2	420	14.9	250	6.8	163	23.9
Pharynx	12	0.1	84	2.9	41	1.5	17	0.5	21	3.1
Oesophagus	998	11.8	587	20.3	478	17.0	412	11.1	147	21.5
Larynx	937	11.1	192	6.7	238	8.5	417	11.3	51	7.5
Lung	1253	14.8	432	15.0	378	13.4	1041	28.1	46	6.7
Uri. Bladder	469	5.5	89	3.1	74	2.6	103	2.8	11	1.6
<b>TRC</b>	<b>8476</b>	<b>100.0</b>	<b>2886</b>	<b>100.0</b>	<b>2815</b>	<b>100.0</b>	<b>3701</b>	<b>100.0</b>	<b>683</b>	<b>100.0</b>

**Females**

Sites of Cancer	Mumbai		Bangalore		Chennai		Thi'puram		Dibrugarh	
	#	%	#	%	#	%	#	%	#	%
Lip	25	1.1	30	1.7	11	0.9	27	2.7	10	5.3
Tongue	370	16.4	86	5.0	119	10.3	237	24.1	19	10.2
Mouth	656	29.0	833	48.1	441	38.1	384	39.1	37	19.8
Oropharynx	83	3.7	44	2.5	22	1.9	16	1.6	17	9.1
Hypopharynx	161	7.1	112	6.5	154	13.3	36	3.7	17	9.1
Pharynx	0	0.0	23	1.3	18	1.6	3	0.3	5	2.7
Oesophagus	505	22.3	467	27.0	263	22.7	109	11.1	68	36.4
Larynx	99	4.4	20	1.2	26	2.2	19	1.9	6	3.2
Lung	298	13.2	82	4.7	84	7.2	134	13.6	8	4.3
Uri. Bladder	65	2.9	34	2.0	21	1.8	18	1.8	0	0.0
<b>TRC</b>	<b>2262</b>	<b>100.0</b>	<b>1731</b>	<b>100.0</b>	<b>1159</b>	<b>100.0</b>	<b>983</b>	<b>100.0</b>	<b>187</b>	<b>100.0</b>

**Table 3.4: Number(#) and Relative Proportion(%) of Tobacco Related Cancers by five-year age groups with Standard Deviation (SD) (1999-2000)****Males**

Age Group	Mumbai		Bangalore		Chennai		Thi'puram		Dibrugarh	
	#	%	#	%	#	%	#	%	#	%
00-14	6	0.1	2	0.1	1	0.0	2	0.1	6	0.9
15-19	9	0.1	3	0.1	3	0.1	2	0.1	2	0.3
20-24	34	0.4	6	0.2	15	0.5	3	0.1	6	0.9
25-29	91	1.1	26	0.9	28	1.0	8	0.2	5	0.7
30-34	224	2.6	39	1.4	50	1.8	26	0.7	18	2.6
35-39	467	5.5	93	3.2	102	3.6	92	2.5	30	4.4
40-44	758	8.9	137	4.7	174	6.2	175	4.7	43	6.3
45-49	987	11.6	311	10.8	318	11.3	393	10.6	81	11.9
50-54	1268	15.0	403	14.0	437	15.5	481	13.0	91	13.3
55-59	1262	14.9	450	15.6	486	17.3	596	16.1	94	13.8
60-64	1165	13.7	526	18.2	433	15.4	609	16.5	140	20.5
65-69	1116	13.2	405	14.0	371	13.2	622	16.8	73	10.7
70-74	635	7.5	267	9.3	221	7.9	367	9.9	52	7.6
75+	454	5.4	218	7.6	176	6.3	325	8.8	42	6.1
ANS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<b>All Ages</b>	<b>8476</b>	<b>100.0</b>	<b>2886</b>	<b>100.0</b>	<b>2815</b>	<b>100.0</b>	<b>3701</b>	<b>100.0</b>	<b>683</b>	<b>100.0</b>
<b>Mean</b>	55.1		57.3		56.4		59.3		55.5	
<b>SD</b>	12.17		11.55		11.71		11.11		12.14	

**Females**

Age Group	Mumbai		Bangalore		Chennai		Thi'puram		Dibrugarh	
	#	%	#	%	#	%	#	%	#	%
00-14	1	0.0	2	0.1	1	0.1	3	0.3	0	0.0
15-19	6	0.3	3	0.2	0	0.0	1	0.1	0	0.0
20-24	16	0.7	7	0.4	6	0.5	3	0.3	2	1.1
25-29	23	1.0	19	1.1	25	2.2	7	0.7	4	2.1
30-34	66	2.9	26	1.5	38	3.3	22	2.2	8	4.3
35-39	151	6.7	100	5.8	62	5.3	27	2.7	18	9.6
40-44	211	9.3	139	8.0	82	7.1	52	5.3	17	9.1
45-49	304	13.4	207	12.0	175	15.1	95	9.7	26	13.9
50-54	345	15.3	283	16.3	190	16.4	105	10.7	29	15.5
55-59	306	13.5	212	12.2	150	12.9	160	16.3	33	17.6
60-64	330	14.6	285	16.5	179	15.4	152	15.5	23	12.3
65-69	259	11.5	204	11.8	130	11.2	146	14.9	12	6.4
70-74	143	6.3	145	8.4	62	5.3	101	10.3	9	4.8
75+	101	4.5	99	5.7	59	5.1	109	11.1	6	3.2
ANS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<b>All Ages</b>	<b>2262</b>	<b>100.0</b>	<b>1731</b>	<b>100.0</b>	<b>1159</b>	<b>100.0</b>	<b>983</b>	<b>100.0</b>	<b>187</b>	<b>100.0</b>
<b>Mean</b>	53.6		54.7		53.6		58.7		51.0	
<b>SD</b>	12.26		12.24		12.27		12.68		12.18	

# Chapter 4

## BASIS OF DIAGNOSIS

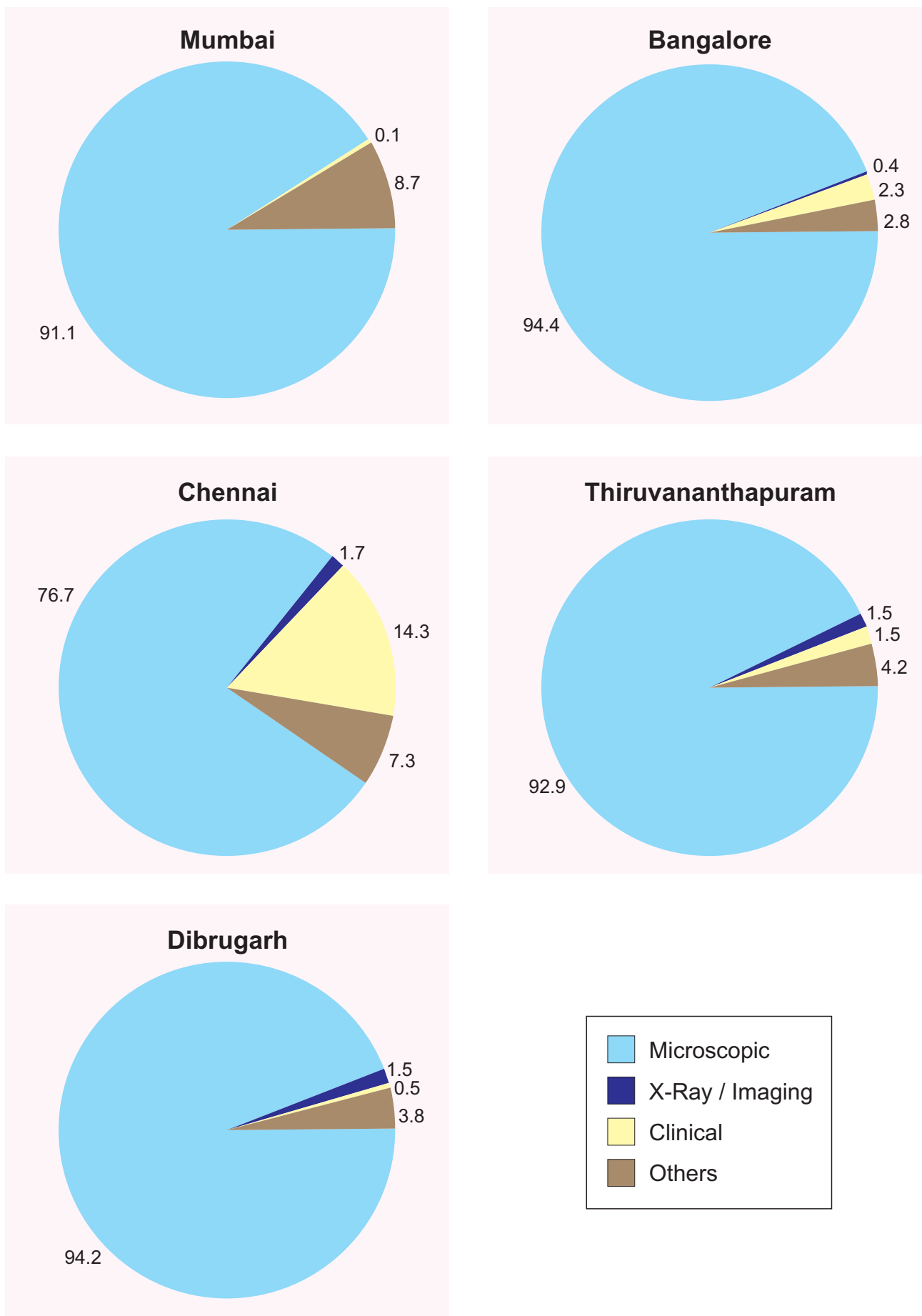
The basis of diagnosis of cancers registered at the various centres is shown in Table 4.1 and depicted as Pie(II) diagrams in Figure 4.1. The proportion of microscopic confirmation was about 90% and above in both sexes except in Chennai where it was 77% in males and 85% in females. Correspondingly, the proportion of diagnosis based on X-ray was higher in Chennai.

Table 4.2 and Figure 4.2 give further details of microscopically verified cancers by various types of microscopic diagnosis. Primary Histology was the predominant form of microscopic diagnosis in all registries in both sexes. In Bangalore(23% in males and 13% in females) and Thiruvananthapuram (17% in males and 9% in females), the percentage of diagnoses based on cytology was relatively higher compared to

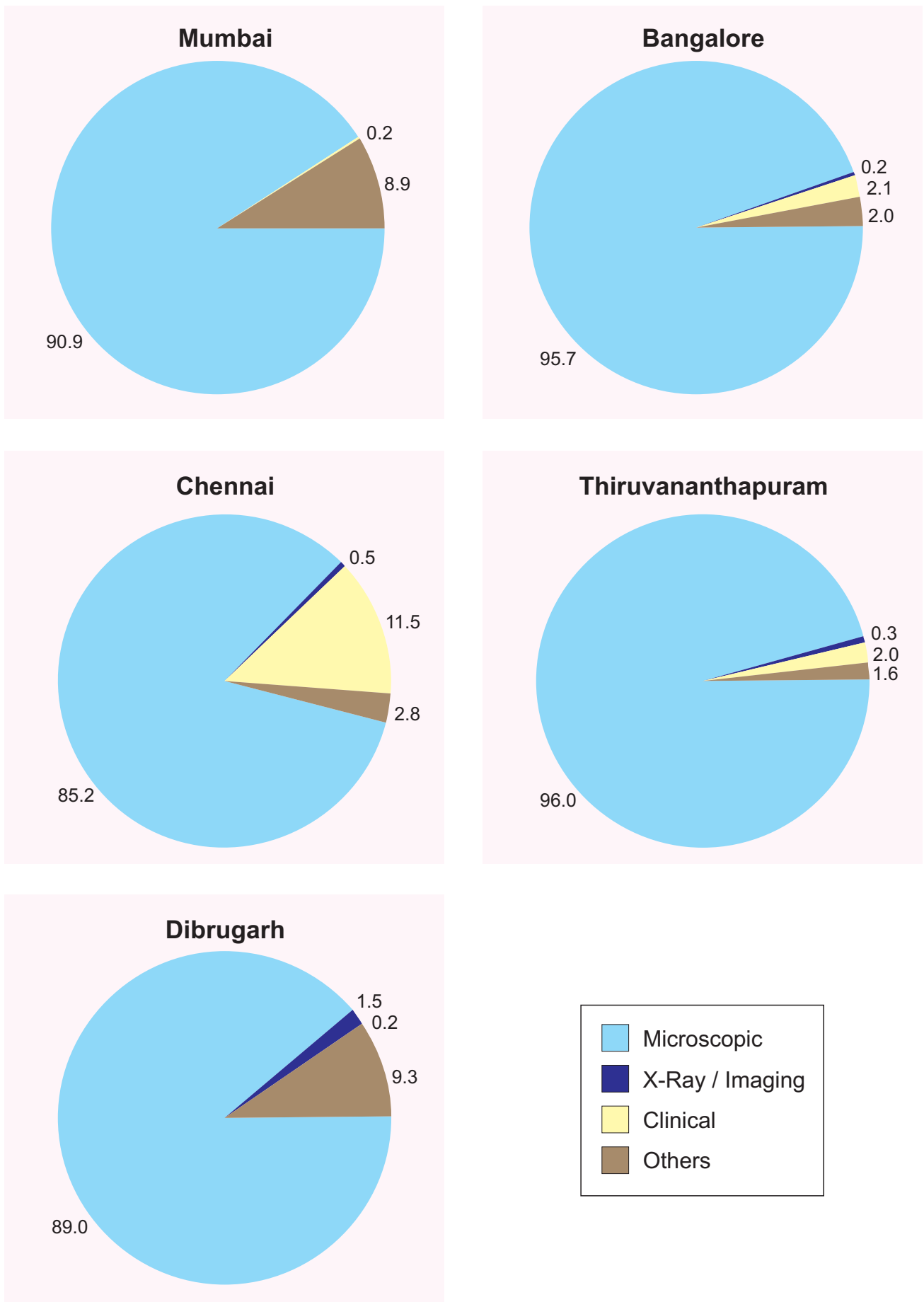
**Table 4.1 : Number(#) & Relative Proportion(%) of cancers based on different methods of diagnosis (1999-2000)**

Registry	Microscopic		X-ray		Clinical		Others		Total	
	#	%	#	%	#	%	#	%	#	%
<b>Males</b>										
<b>Mumbai</b>	16064	91.1	23	0.1	7	0.0	1543	8.7	17637	100.0
<b>Bangalore</b>	5767	94.4	140	2.3	25	2.3	174	2.8	6106	100.0
<b>Chennai</b>	4751	76.7	888	14.3	104	14.3	452	7.3	6195	100.0
<b>Thi'puram</b>	7301	92.9	117	1.5	114	1.5	327	4.2	7859	100.0
<b>Dibrugarh</b>	939	94.2	5	0.5	15	0.5	38	3.8	997	100.0
<b>Females</b>										
<b>Mumbai</b>	12433	90.9	21	0.2	2	0.0	1223	8.9	13679	100.0
<b>Bangalore</b>	7217	95.7	157	2.1	16	0.2	153	2.0	7543	100.0
<b>Chennai</b>	6083	85.2	821	11.5	38	0.5	197	2.8	7139	100.0
<b>Thi'puram</b>	6960	96.0	146	2.0	23	0.3	118	1.6	7247	100.0
<b>Dibrugarh</b>	477	89.0	1	0.2	8	1.5	50	9.3	536	100.0

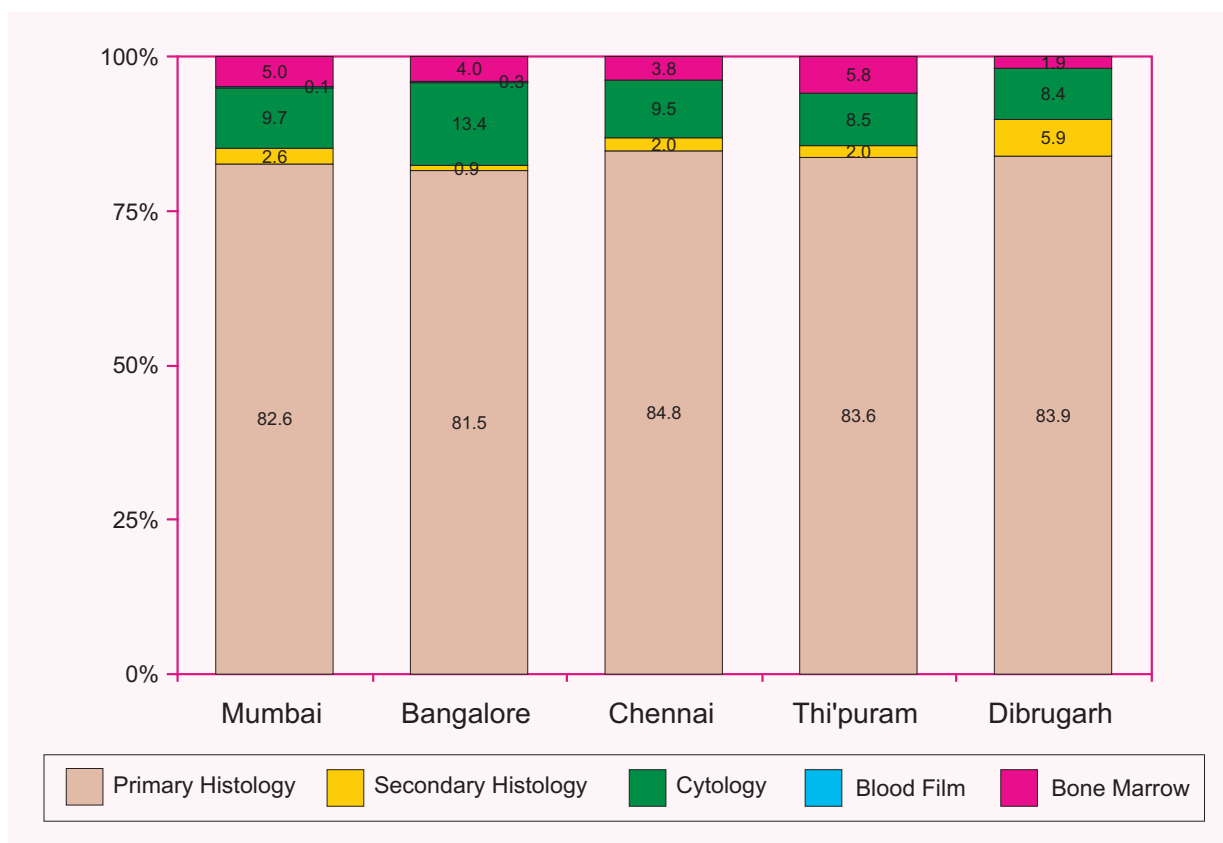
**Fig. 4.1 (a): Pie(II) diagram showing Proportion (%) of Patients according to Method of Diagnosis - Males (1999-2000)**



**Fig. 4.1 (b): Pie(II) diagram showing Proportion (%) of Patients according to Method of Diagnosis - Females (1999-2000)**



**Fig. 4.2(a): Stack(100%) diagram showing Proportion(%) of Microscopically Diagnosed patients according to specific Microscopic Diagnosis - Males (1999-2000)**



**Fig. 4.2(b): Stack(100%) diagram showing Proportion(%) of Microscopically Diagnosed patients according to specific Microscopic Diagnosis - Females (1999-2000)**





**Table 4.2: Number (#) & Relative Proportion (%) of cancers based on different types of Microscopic Diagnosis (1999-2000)****Males**

Registry	Primary Histology		Secondary Histology		Cytology		Peripheral Blood		Bone Marrow		All Microscopic*	
	#	%	#	%	#	%	#	%	#	%	#	%
Mumbai	11676	72.7	6.5	3.8	2181	13.6	20	0.1	1582	9.8	16064	100.0
Bangalore	3871	67.1	110	1.9	1350	23.4	19	0.3	417	7.2	5767	100.0
Chennai	3753	79.0	247	5.2	343	7.2	6	0.1	402	8.5	4751	100.0
Thi'puram	5091	69.7	352	4.8	1202	16.5	7	0.1	649	8.9	7301	100.0
Dibrugarh	708	75.4	118	12.6	91	9.7	0	0.0	22	2.3	939	100.0

**Females**

Registry	Primary Histology		Secondary Histology		Cytology		Peripheral Blood		Bone Marrow		All Microscopic*	
	#	%	#	%	#	%	#	%	#	%	#	%
Mumbai	10269	82.6	321	2.6	1212	9.7	13	0.1	618	5.0	12433	100.0
Bangalore	5880	81.5	63	0.9	964	13.4	21	0.3	289	4.0	7217	100.0
Chennai	5159	84.8	119	2.0	575	9.5	1	0.0	229	3.8	6083	100.0
Thi'puram	5819	83.6	142	2.0	590	8.5	2	0.0	407	5.8	6960	100.0
Dibrugarh	400	83.9	28	5.9	40	8.4	0	0.0	9	1.9	477	100.0

\* Excludes few cases diagnosed by autopsy.

other registries especially in males. Dibrugarh (13%) had a high proportion of cases based on secondary histology in males.

Table 4.3 presents the proportion of microscopic diagnosis from 1994-2000. The proportion has been stable in both sexes in all the registries except for a slight increase in males in Thiruvananthapuram. Table 4.4 further gives the proportion of microscopic diagnosis for the three time periods of publication of HBCR reports. The proportion seems to be stable in the three time periods except slight increase in Chennai and Thiruvananthapuram.

The relative proportion of cytological diagnosis during the three periods has been presented in Table 4.5. The proportion is stable in both sexes in Mumbai and in males in Bangalore. In other registry hospitals,

**Table 4.3 : Number(#) & Relative Proportion(%) of Microscopic Diagnosis across different years of diagnosis**

Year of Diagnosis	Mumbai		Bangalore		Chennai		Thi'puram		Dibrugarh	
	#	%	#	%	#	%	#	%	#	%
<b>MALES</b>										
1994	7914	90.0	2913	92.9	1970	72.3	3092	88.2	710	92.8
1995	7758	88.4	3163	94.2	2041	75.8	3318	87.3	579	93.4
1996	7269	90.2	3018	94.2	2052	78.1	3563	89.7	286	92.9
1997	7945	90.9	3076	94.8	2180	78.3	3460	90.2	396	94.5
1998	7870	91.0	2838	95.1	2027	78.4	3540	91.6	513	96.2
1999	7991	90.7	2812	94.8	2270	76.4	3676	92.2	421	93.8
2000	8073	90.9	2955	93.6	2481	75	3625	93.4	518	93.4
<b>1994-2000</b>	<b>54820</b>	<b>90.2</b>	<b>20775</b>	<b>94.3</b>	<b>15021</b>	<b>76.55</b>	<b>24274</b>	<b>89.9</b>	<b>3423</b>	<b>93.9</b>
<b>FEMALES</b>										
1994	6098	89.2	3485	94.8	2521	81.4	2921	93.0	397	90.2
1995	6113	88.8	3780	96.0	2592	83.0	3069	92.8	290	90.9
1996	5673	89.4	3614	95.8	2603	84.6	3173	94.3	178	90.8
1997	6283	90.4	3558	96.1	2670	84.5	3200	94.8	240	92.3
1998	6041	90.2	3320	95.9	2609	83.5	3312	95.8	264	93.3
1999	6253	90.5	3636	96.1	2986	85.5	2472	96.2	185	86.0
2000	6180	90.7	3581	93.5	3097	80.7	4488	95.6	292	92.0
<b>1994-2000</b>	<b>42641</b>	<b>89.8</b>	<b>24974</b>	<b>95.8</b>	<b>19078</b>	<b>83.75</b>	<b>22635</b>	<b>94.5</b>	<b>1846</b>	<b>90.6</b>

**Table 4.4: Proportion(%) of Microscopic Diagnosis during the three periods 1984-93, 1994-98 and 1999-2000**

Registry	Males			Females		
	1984-93	1994-98	1999-00	1984-93	1994-98	1999-00
Mumbai	91.3	90.1	91.1	91.5	89.6	90.9
Bangalore	91.1	94.2	94.2	94.8	95.7	94.8
Chennai	69.5	76.6	75.7	71.5	83.4	83.1
Thi'puram	86.0	89.4	92.8	90.3	94.2	95.9
Dibrugarh	88.3	93.9	94.2	88.3	91.4	89.0

**Table 4.5: Proportion(%) of Cytological Diagnosis during the three periods 1984-93, 1994-98 and 1999-2000**

Registry	Males			Females		
	1984-93	1994-98	1999-00	1984-93	1994-98	1999-00
Mumbai	13.3	13.2	13.6	8.2	9.9	9.7
Bangalore	23.2	23.6	23.2	8.5	10.7	13.5
Chennai	4.0	4.7	7.0	4.2	4.7	9.1
Thi'puram	9.6	12.8	16.0	5.6	7.3	8.4
Dibrugarh	2.6	8.1	9.7	3.6	7.6	8.4

# Chapter 5

## BROAD TREATMENT GROUPS

In order to study different aspects in the management of cancer patients the data from the HBCRs are categorized into the following four groups:

***Prior Treatment Only (Prior Tmt. Only):***

Those patients who have received some or complete cancer directed treatment before registration and have not received any further treatment at the reporting institution (RI).

***Prior Treatment & Treatment at Reporting Institution (Prior & Tmt. at RI):***

These are patients who have received cancer directed treatment prior to registration and have received further treatment at the reporting institution.

***Treatment Only at Reporting Institution (Tmt. only at RI):***

Patients who have come for the first time to the reporting institution with or without a confirmed diagnosis of malignancy and have not received any cancer directed treatment earlier and received complete cancer directed treatment at the reporting institution.

***No Cancer Directed Treatment (No CDT):***

This group includes patients who have neither received nor accepted any treatment. It also includes the patients who have not completed any form of treatment and where the treatment status is unknown.

Table 5.1 and stack diagram (Fig. 5.1) shows the number and relative proportion of the patients by the above four broad treatment groups in different registries for the year 1999-2000. The proportion of patients belonging to Prior Tmt. Only varied from less than one percent in either sex in Dibrugarh to 14 -15% in both sexes at Mumbai. Similarly, the relative proportion in the second group, viz., Prior and Tmt. at RI also showed variation among the registries - from 3% in Dibrugarh to 13% in Thiruvananthapuram in males and 3% in Dibrugarh to 31% in Thiruvananthapuram in females. The relative proportion of the patients treated only at the reporting institution (Tmt. only at RI) was comparatively higher in the centres at Thiruvananthapuram and Dibrugarh with a correspondingly lower relative proportion in the 'No CDT' category as compared with the centres at Mumbai, Bangalore and Chennai.

**Table 5.1 : Number(#) & Relative Proportion(%) of cancer patients according to Broad Groups of Treatment (Tmt) at Reporting Institution (RI) and/or elsewhere (1999-2000)****Males**

Treatment Group	Mumbai		Bangalore		Chennai		Thi'puram		Dibrugarh	
	#	%	#	%	#	%	#	%	#	%
Prior Tmt. Only	2452	13.9	391	6.4	884	14.3	541	6.9	1	0.1
Prior & Tmt. at RI	1490	8.4	340	5.6	255	4.1	1052	13.4	30	3.0
Tmt. Only at RI	5667	32.1	2227	36.5	1828	29.5	4766	60.6	832	83.5
No CDT*	8028	45.5	3148	51.6	3228	52.1	1500	19.1	134	13.4
<b>Total Patients</b>	<b>17637</b>	<b>100.0</b>	<b>6106</b>	<b>100.0</b>	<b>6195</b>	<b>100.0</b>	<b>7859</b>	<b>100.0</b>	<b>997</b>	<b>100.0</b>

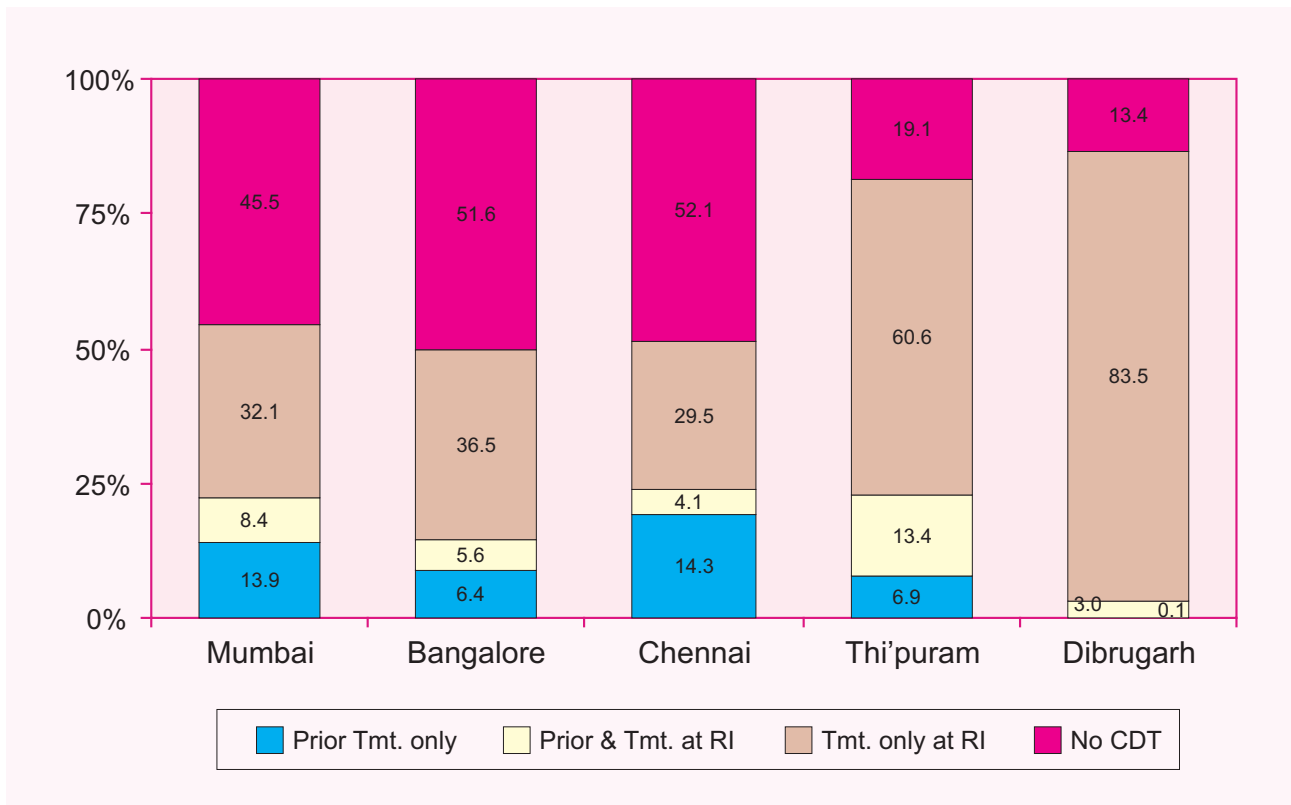
**Females**

Treatment Group	Mumbai		Bangalore		Chennai		Thi'puram		Dibrugarh	
	#	%	#	%	#	%	#	%	#	%
Prior Tmt. Only	2112	15.4	546	7.2	919	12.9	892	12.3	4	0.7
Prior & Tmt. at RI	2119	15.5	583	7.7	520	7.3	2212	30.5	15	2.8
Tmt. Only at RI	4470	32.7	3334	44.2	2616	36.6	3325	45.9	430	80.2
No CDT*	4978	36.4	3080	40.8	3084	43.2	818	11.3	87	16.2
<b>Total Patients</b>	<b>13679</b>	<b>100.0</b>	<b>7543</b>	<b>100.0</b>	<b>7139</b>	<b>100.0</b>	<b>7247</b>	<b>100.0</b>	<b>536</b>	<b>100.</b>

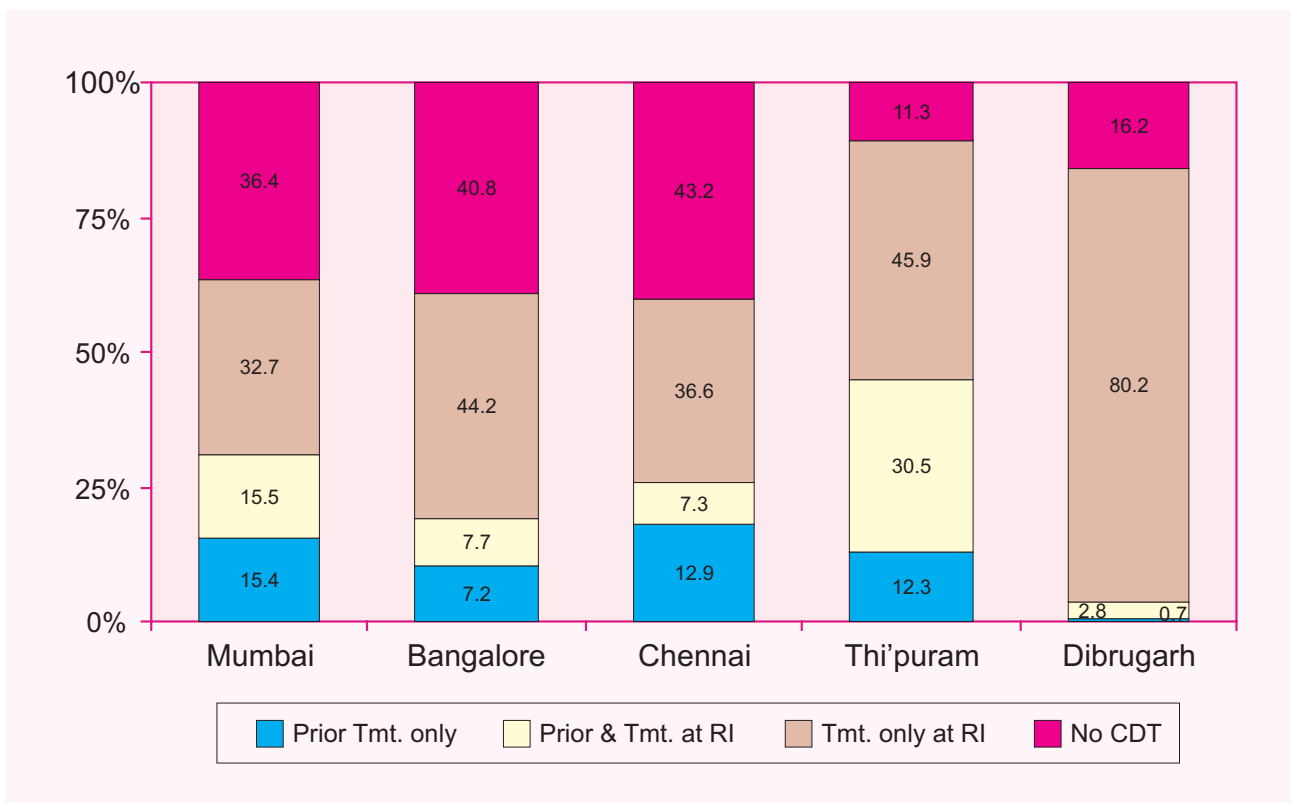
\* CDT - Cancer Directed Treatment

**Fig. 5.1 : Stack(100%) diagram showing HBCRs, Proportion(%) According To Broad Groups of Treatment(Tmt) (1999-2000)**

**Males**



**Females**



# Chapter 6

## CLINICAL EXTENT OF DISEASE AT PRESENTATION

Table 6.1 presents number and relative proportion of cancer patients in various clinical extent of disease of presentation at the time of registering at the reporting institution for the year 1999-2000. The proportion of the patients with localised disease varied from 4.6% in males at Chennai to 34% in both sexes at Mumbai. The proportion of the patients with distant or advanced cancer was 12% in Chennai, 14% in Bangalore and 16-18% in other three registries in males. In females, the proportion was lower, 5% in Chennai to 14% in Thiruvananthapuram. The proportion under the category 'Others' mainly refers to Lymphomas and Leukaemias, which are generally not staged according to the above system.

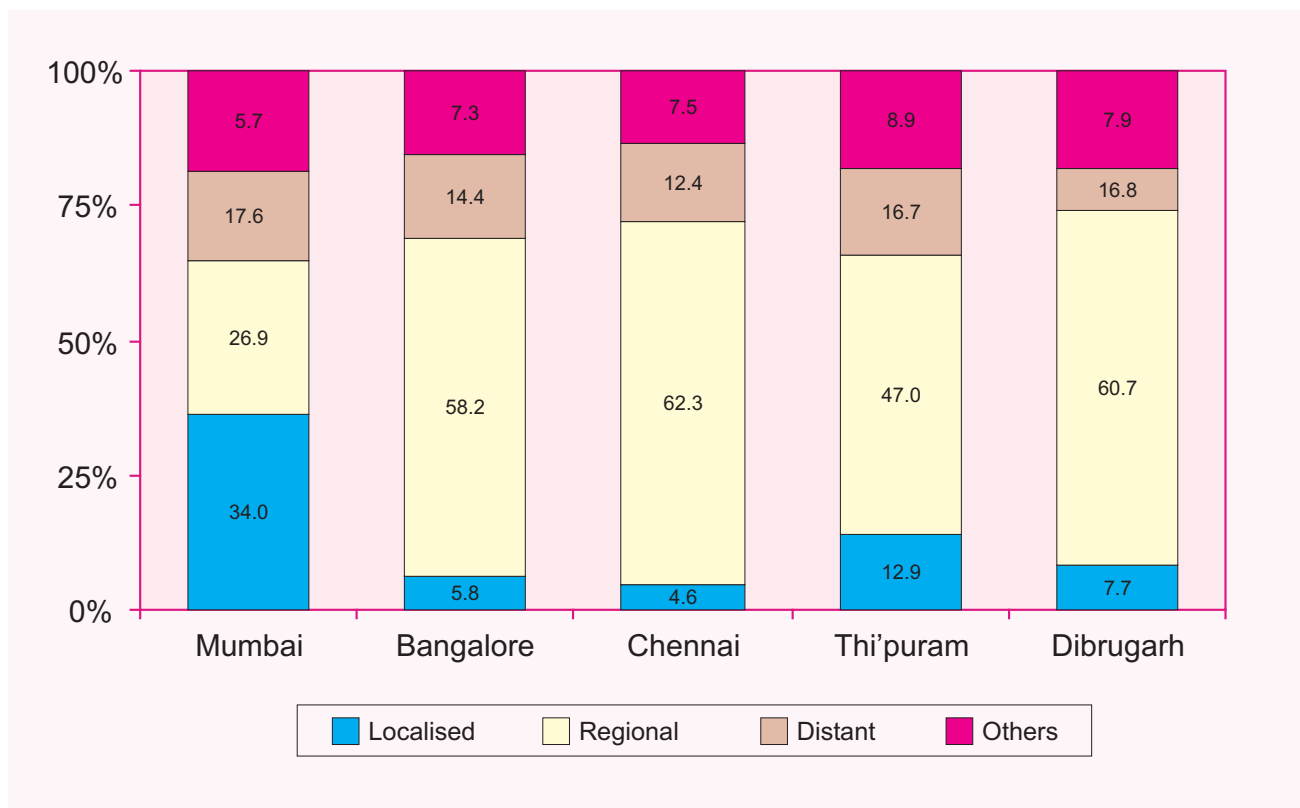
*Due to a number of reasons (which are beyond the scope of this report) there have been difficulties in abstracting and standardizing this particular information (Clinical Extent of Disease) in a uniform way by all registries. Therefore, noticeable variations in relative proportions of clinical extent of disease are observed (as also in previous reports). The same problem is seen in individual site chapters as well. The patterns of care and survival studies commenced by HBCRs is expected to iron out anomalies if any. The above may be kept in mind, while observing the relative proportion of Clinical Extent of Disease.*

**Table 6.1: Number(#) and Relative Proportion(%) of patients according to Clinical Extent of Disease (Excludes Patients Previously Treated) (1999-2000)**

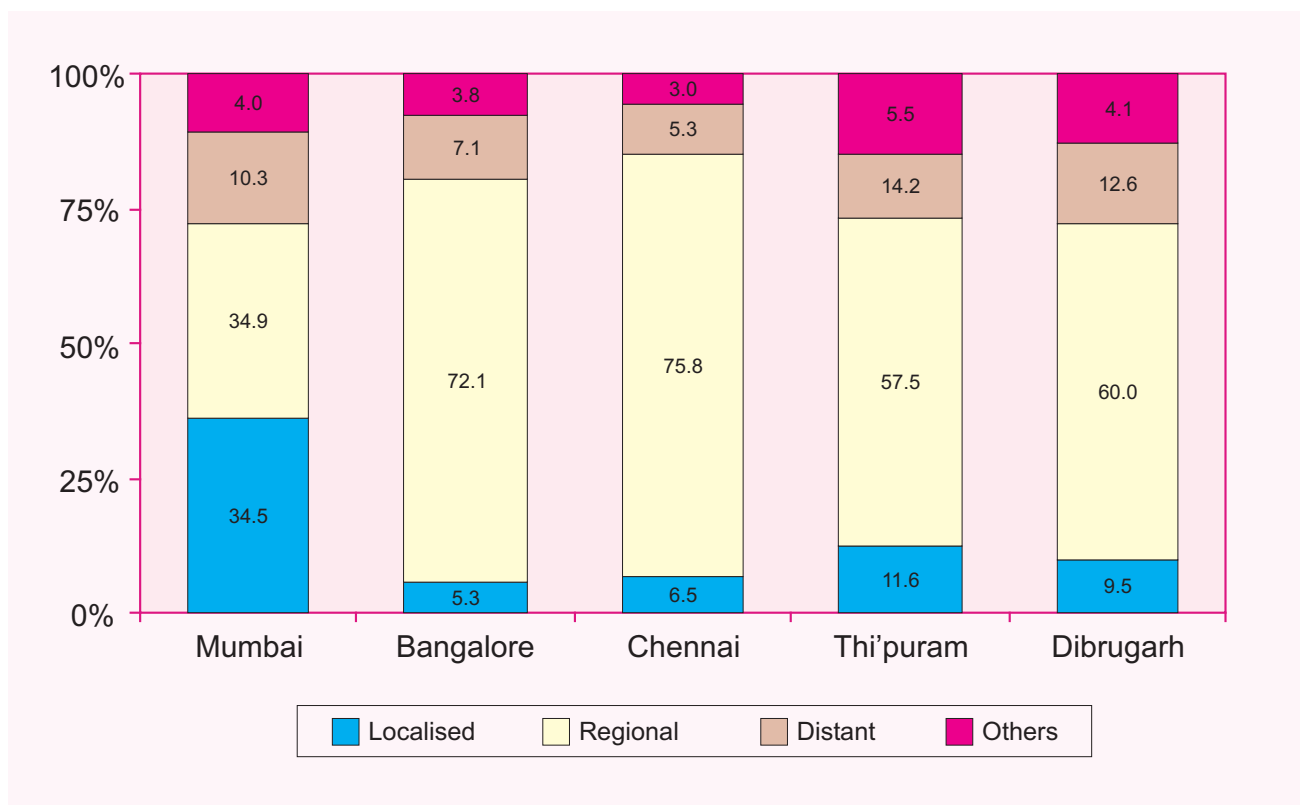
Registry	Localised (L)		Regional (R)		L + R		Distant		Others		All Stages	
	#	%	#	%	#	%	#	%	#	%	#	%
<b>Males</b>												
Mumbai	4650	34.0	3685	26.9	8335	60.9	2406	17.6	786	5.7	13695	100.0
Bangalore	311	5.8	3128	58.2	3439	64.0	774	14.4	391	7.3	5375	100.0
Chennai	231	4.6	3149	62.3	3380	66.9	625	12.4	377	7.5	5056	100.0
Thi'puram	806	12.9	2945	47.0	3751	59.9	1048	16.7	556	8.9	6266	100.0
Dibrugarh	74	7.7	586	60.7	660	68.3	162	16.8	76	7.9	966	100.0
<b>Females</b>												
Mumbai	3264	34.5	3301	34.9	6565	69.5	969	10.3	382	4.0	9448	100.0
Bangalore	341	5.3	4624	72.1	4965	77.4	457	7.1	243	3.8	6414	100.0
Chennai	369	6.5	4318	75.8	4687	82.2	303	5.3	171	3.0	5700	100.0
Thi'puram	481	11.6	2382	57.5	2823	69.1	588	14.2	228	5.5	4143	100.0
Dibrugarh	49	9.5	310	60.0	359	69.4	65	12.6	21	4.1	517	100.0

**Fig. 6.1 : Stack(100%) diagram showing HBCRs, Proportion(%) of Patients According To Clinical Extent of Disease (1999-2000)**

**Males**



**Females**



# Chapter 7

## TREATMENT ONLY AT REPORTING INSTITUTION

This is the most important category of the broad treatment groups presented in chapter 5, since it best represents the contribution to the treatment aspect of patient care of a given institution.

Table 7.1 gives an overview of the number of patients treated during the period and the total number of treatment procedures instituted. As may be observed these ratios are indeed comparable between registries located at regional cancer centres. The ratio is slightly lower at Dibrugarh which is in a medical college setup. Table 7.1 is further diagrammatically represented in Figure 7.1.

### TYPES OF TREATMENT

Table 7.2 and corresponding figures (Figures 7.2 and 7.3) give the numbers and relative proportions according to type of specific treatment given, whether only one type of treatment has been given (Single Modality Therapy) or more than one type of therapy (Combination Therapy) has been given. It also gives the overall number and relative proportion of any treatment with reference to the total patients treated.

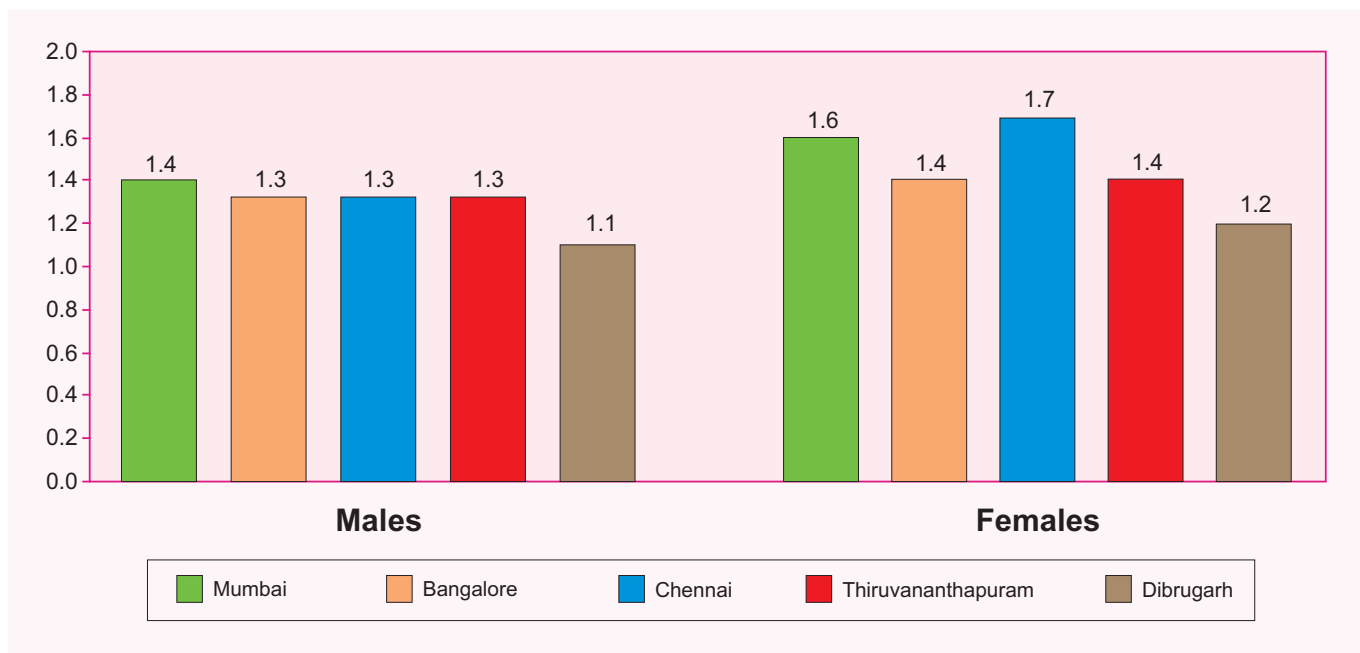
Single modality of therapy ranged between 66% in Mumbai to 91% in Dibrugarh in males. In females, the lowest and highest percentages were observed in Mumbai(61%) and Dibrugarh(79%) respectively.

**Table 7.1: Total number of cancer patients (Pts) treated, total number of treatment procedures (Proc) performed and procedures/patients ratio (1999-2000)**

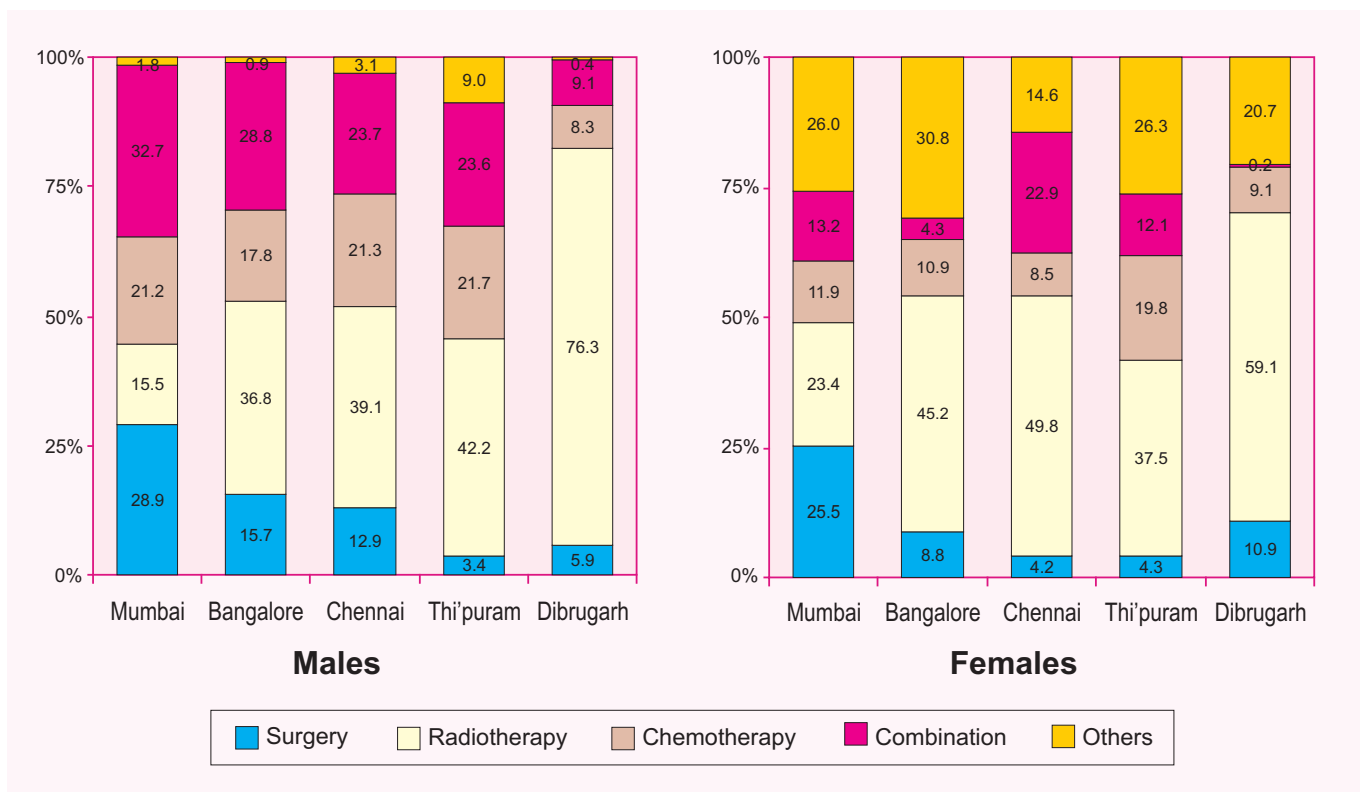
Registry	Males			Females		
	Total Pts.	Total Proc.	Ratio	Total Pts.	Total Proc.	Ratio
Mumbai	5667	7689	1.4	4470	7182	1.6
Bangalore	2227	2948	1.3	3334	4833	1.4
Chennai	1828	2353	1.3	2616	4466	1.7
Thi'puram	4766	5966	1.3	3325	4811	1.4
Dibrugarh	832	914	1.1	430	521	1.2



**Fig. 7.1: Procedure - Patient Ratio (Patients Treated only at Reporting Institution) (1999-2000)**



**Fig. 7.2 : Stack(100%) diagram showing HBCRs, Proportion of Different Types of Treatment (Patients Treated Only at Reporting Institution) (1999-2000)**



**Table 7.2: Number (#) & Relative Proportion (%) of patients according to Type of Treatment given (1999-2000)****Males**

Type of Treatment	Mumbai		Bangalore		Chennai		Thi'puram		Dibrugarh	
	#	%	#	%	#	%	#	%	#	%
<b>Total patients</b>	<b>5667</b>	<b>100.0</b>	<b>2227</b>	<b>100.0</b>	<b>1828</b>	<b>100.0</b>	<b>4766</b>	<b>100.0</b>	<b>832</b>	<b>100.0</b>
<b>Specific Treatments</b>										
Surgery(S)	1635	28.9	349	15.7	235	12.9	164	3.4	49	5.9
Radiotherapy(R)	877	15.5	820	36.8	714	39.1	2012	42.2	635	76.3
Chemotherapy(C)	1200	21.2	396	17.8	389	21.3	1035	21.7	69	8.3
S + R	788	13.9	264	11.9	174	9.5	218	4.6	37	4.4
S + C	230	4.1	88	4.0	59	3.2	64	1.3	16	1.9
R + C	695	12.3	242	10.9	166	9.1	790	16.6	20	2.4
S + R + C	142	2.5	48	2.2	34	1.9	54	1.1	3	0.4
Others	100	1.8	20	0.9	57	3.1	429	9.0	3	0.4
<b>Modality of therapy*</b>										
Single	3712	65.5	1565	70.3	1338	73.2	3211	67.4	753	90.5
Combination	1855	32.7	642	28.8	433	23.7	1126	23.6	76	9.1

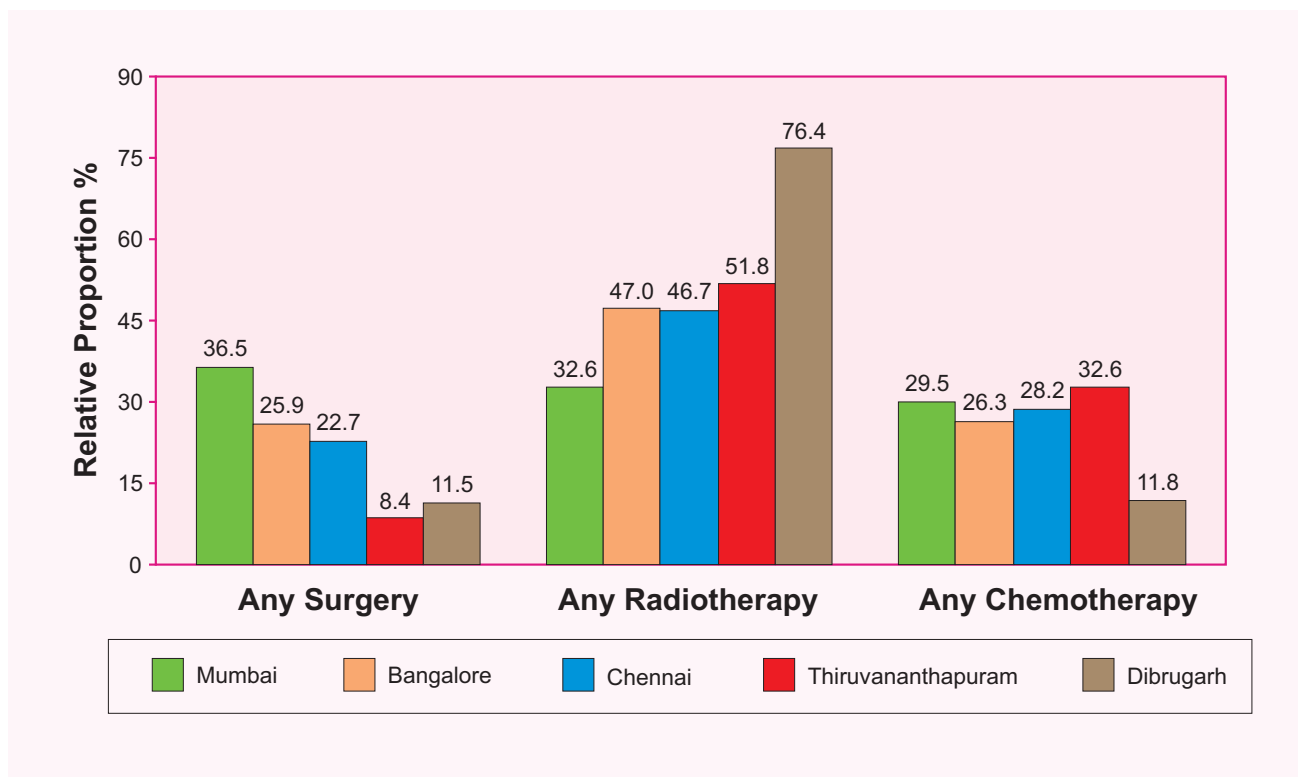
**Females**

Type of Treatment	Mumbai		Bangalore		Chennai		Thi'puram		Dibrugarh	
	#	%	#	%	#	%	#	%	#	%
<b>Total patients</b>	<b>4470</b>	<b>100.0</b>	<b>3334</b>	<b>100.0</b>	<b>2616</b>	<b>100.0</b>	<b>3325</b>	<b>100.0</b>	<b>430</b>	<b>100.0</b>
<b>Specific Treatments</b>										
Surgery(S)	1140	25.5	294	8.8	109	4.2	143	4.3	47	10.9
Radiotherapy(R)	1046	23.4	1506	45.2	1302	49.8	1247	37.5	254	59.1
Chemotherapy(C)	531	11.9	364	10.9	223	8.5	659	19.8	39	9.1
S + R	377	8.4	367	11.0	152	5.8	208	6.3	44	10.2
S + C	309	6.9	166	5.0	56	2.1	158	4.8	39	9.1
R + C	235	5.3	336	10.1	151	5.8	363	10.9	5	1.2
S + R + C	240	5.4	157	4.7	24	0.9	144	4.3	1	0.2
Others	592	13.2	144	4.3	599	22.9	403	12.1	1	0.2
<b>Modality of therapy*</b>										
Single	2717	60.8	2164	64.9	1634	62.5	2049	61.6	340	79.1
Combination	1161	26.0	1026	30.8	383	14.6	873	26.3	89	20.7

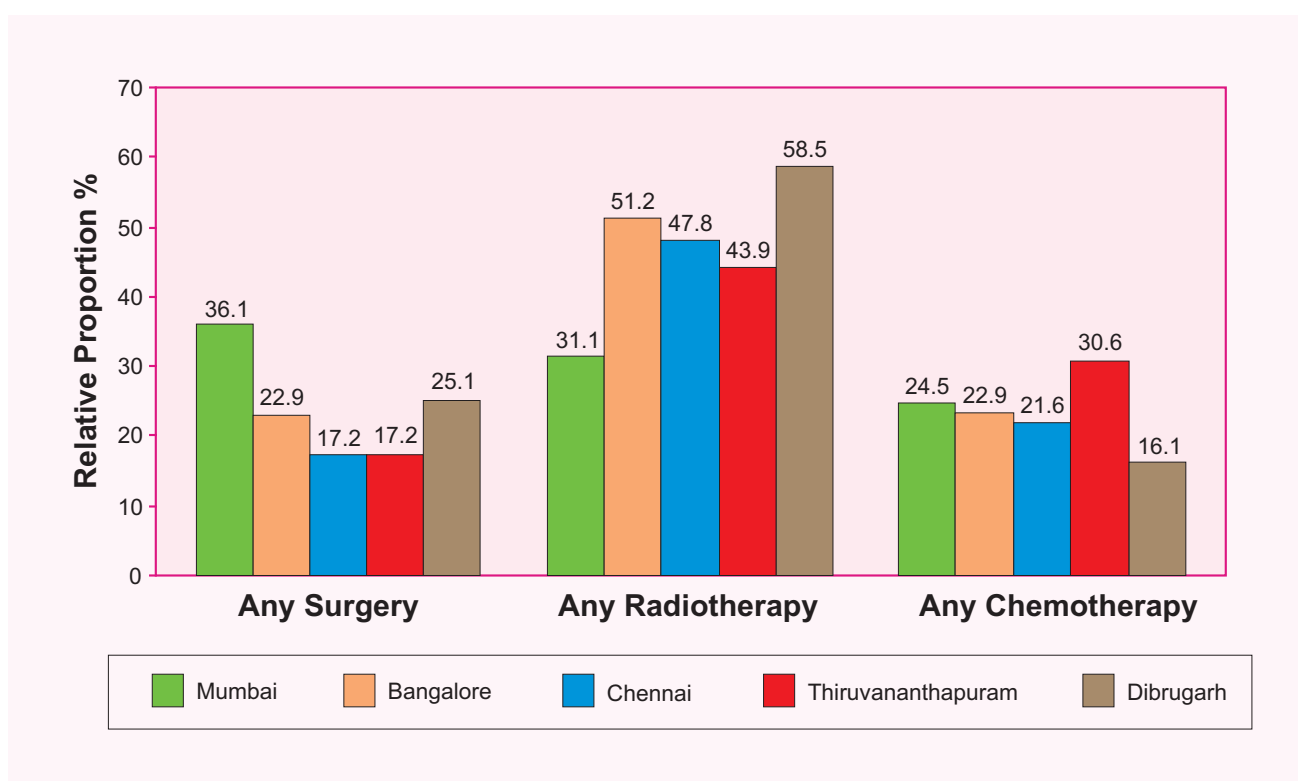
\* Excludes specific treatment classified as 'Others'

**Fig. 7.3: Proportion of Types of Treatments (Patients Treated only at Reporting Institution)**

**Males**



**Females**



**Table 7.3: Number (#) and Proportion (%) of cancer patients according to Any Specific Treatment at Reporting Institution relative to All Treatment procedures (Proced.) (1999-2000)**

Registry	Any Surgery		Any Radiotherapy		Any Chemotherapy		Any Others		Total
	#	%	#	%	#	%	#	%	Proced.
<b>MALES</b>									
Mumbai	2808	36.5	2509	32.6	2272	29.5	100	1.3	7689
Bangalore	765	25.9	1387	47.0	776	26.3	20	0.7	2948
Chennai	533	22.7	1099	46.7	664	28.2	57	2.4	2353
Thi'puram	504	8.4	3088	51.8	1945	32.6	429	7.2	5966
Dibrugarh	105	11.5	698	76.4	108	11.8	3	0.3	914
<b>FEMALES</b>									
Mumbai	2595	36.1	2236	31.1	1759	24.5	592	8.2	7182
Bangalore	1108	22.9	2473	51.2	1108	22.9	144	3.0	4833
Chennai	769	17.2	2133	47.8	965	21.6	599	13.4	4466
Thi'puram	828	17.2	2110	43.9	1470	30.6	403	8.4	4811
Dibrugarh	131	25.1	305	58.5	84	16.1	1	0.2	521

Table 7.3 and Fig. 7.3 presents the total treatment procedures according to specific treatment. Except in Mumbai, radiotherapy was the predominant form of the modalities accounting for nearly half to three fourth of treatment procedures. In Mumbai, 36% of the treatment procedures were surgery in both the sexes.

Tables 7.4(a) and 7.4(b) present number and relative proportion of various types of treatment within different categories of clinical extent of disease (viz. Localised, Regional, Distant and Others).

Tables 7.5(a) and 7.5(b) present number of proportion of specific types of treatment relative to all patients within each category of clinical extent of disease.

**Table 7.4(a): Number (#) & Relative Proportion (%) of types of treatment according to Clinical Extent of Disease - Males (1999-2000)**

Clinical Extent	Mumbai		Bangalore		Chennai		Thi'puram		Dibrugarh	
	#	%	#	%	#	%	#	%	#	%
<b>Localised</b>										
Surgery(S)	1133	53.7	66	39.3	27	14.0	51	8.4	13	18.1
Radiotherapy(R)	288	13.7	57	33.9	119	61.7	383	63.0	52	72.2
Chemotherapy(C)	101	4.8	3	1.8	0	0.0	24	3.9	0	0.0
S + R	195	9.3	19	11.3	42	21.8	30	4.9	6	8.3
S + C	167	7.9	7	4.2	2	1.0	15	2.5	0	0.0
R + C	120	5.7	12	7.1	1	0.5	72	11.8	1	1.4
S + R + C	73	3.5	3	1.8	0	0.0	7	1.2	0	0.0
Others	31	1.5	1	0.6	2	1.0	26	4.3	0	0.0
ALL TREATMENTS	2108	100.0	168	100.0	193	100.0	608	100.0	72	100.0
<b>Regional</b>										
Surgery(S)	430	24.3	248	39.3	197	17.2	99	4.3	23	4.3
Radiotherapy(R)	389	22.0	655	33.9	549	47.9	1158	50.6	461	85.8
Chemotherapy(C)	100	5.7	92	1.8	61	5.3	204	8.9	6	1.1
S + R	546	30.9	226	11.3	129	11.3	176	7.7	22	4.1
S + C	31	1.8	68	4.2	51	4.5	39	1.7	11	2.0
R + C	209	11.8	117	7.1	90	7.9	444	19.4	10	1.9
S + R + C	53	3.0	42	1.8	31	2.7	45	2.0	3	0.6
Others	11	0.6	14	0.6	38	3.3	124	5.4	1	0.2
ALL TREATMENTS	1769	100.0	1462	100.0	1146	100.0	2289	100.0	537	100.0
<b>Distant</b>										
Surgery(S)	48	8.1	19	12.7	9	11.0	8	1.3	8	16.7
Radiotherapy(R)	135	22.8	67	44.7	9	11.0	256	40.4	11	22.9
Chemotherapy(C)	236	39.9	27	18.0	31	37.8	126	19.9	21	43.8
S + R	4	0.7	7	4.7	0	0.0	3	0.5	2	4.2
S + C	26	4.4	6	4.0	4	4.9	8	1.3	3	6.3
R + C	76	12.8	18	12.0	10	12.2	79	12.5	3	6.3
S + R + C	12	2.0	1	0.7	2	2.4	2	0.3	0	0.0
Others	55	9.3	5	3.3	17	20.7	152	24.0	0	0.0
ALL TREATMENTS	592	100.0	150	100.0	82	100.0	634	100.0	48	100.0
<b>Others</b>										
Surgery(S)	24	2.0	16	3.6	2	0.5	6	0.5	5	2.9
Radiotherapy(R)	65	5.4	41	9.2	37	9.1	215	17.4	111	63.4
Chemotherapy(C)	763	63.7	274	61.3	297	73.0	681	55.1	42	24.0
S + R	43	3.6	12	2.7	3	0.7	9	0.7	7	4.0
S + C	6	0.5	7	1.6	2	0.5	2	0.2	2	1.1
R + C	290	24.2	95	21.3	65	16.0	195	15.8	6	3.4
S + R + C	4	0.3	2	0.4	1	0.2	0	0.0	0	0.0
Others	3	0.3	0	0.0	0	0.0	127	10.3	2	1.1
ALL TREATMENTS	1198	100.0	447	100.0	407	100.0	1235	100.0	175	100.0

**Table 7.4(b): Number (#) & Relative Proportion (%) of types of treatment according to Clinical Extent of Disease - Females (1999-2000)**

Clinical Extent	Mumbai		Bangalore		Chennai		Thi'puram		Dibrugarh	
	#	%	#	%	#	%	#	%	#	%
<b>Localised</b>										
Surgery(S)	787	47.6	45	20.7	12	4.4	42	10.4	9	19.1
Radiotherapy(R)	163	9.9	67	30.9	137	50.7	172	42.6	31	66.0
Chemotherapy(C)	53	3.2	10	4.6	2	0.7	16	4.0	0	0.0
S + R	172	10.4	45	20.7	67	24.8	50	12.4	5	10.6
S + C	138	8.4	10	4.6	0	0.0	33	8.2	2	4.3
R + C	52	3.1	8	3.7	7	2.6	33	8.2	0	0.0
S + R + C	95	5.8	6	2.8	2	0.7	23	5.7	0	0.0
Others	192	11.6	26	12.0	43	15.9	35	8.7	0	0.0
ALL TREATMENTS	1652	100.0	217	100.0	270	100.0	404	100.0	47	100.0
<b>Regional</b>										
Surgery(S)	313	17.2	226	8.4	95	4.7	98	5.0	30	10.5
Radiotherapy(R)	745	40.9	1340	50.0	1143	56.4	936	47.7	182	63.6
Chemotherapy(C)	47	2.6	187	7.0	68	3.4	155	7.9	4	1.4
S + R	184	10.1	306	11.4	85	4.2	154	7.9	35	12.2
S + C	70	3.8	113	4.2	52	2.6	98	5.0	31	10.8
R + C	64	3.5	261	9.7	100	4.9	208	10.6	3	1.0
S + R + C	120	6.6	145	5.4	22	1.1	110	5.6	1	0.3
Others	279	15.3	103	3.8	460	22.7	202	10.3	0	0.0
ALL TREATMENTS	1822	100.0	2681	100.0	2025	100.0	1961	100.0	286	100.0
<b>Distant</b>										
Surgery(S)	34	5.9	14	6.4	1	0.6	0	0.0	7	16.3
Radiotherapy(R)	105	18.2	83	37.7	10	6.4	69	19.8	14	32.6
Chemotherapy(C)	147	25.5	43	19.5	34	21.8	99	28.4	15	34.9
S + R	14	2.4	11	5.0	0	0.0	4	1.1	0	0.0
S + C	92	16.0	36	16.4	3	1.9	25	7.2	6	14.0
R + C	43	7.5	14	6.4	12	7.7	42	12.1	1	2.3
S + R + C	22	3.8	5	2.3	0	0.0	9	2.6	0	0.0
Others	119	20.7	14	6.4	96	61.5	100	28.7	0	0.0
ALL TREATMENTS	576	100.0	220	100.0	156	100.0	348	100.0	43	100.0
<b>Others</b>										
Surgery(S)	6	1.4	9	4.2	1	0.6	3	0.5	1	1.9
Radiotherapy(R)	33	7.9	16	7.4	12	7.3	70	11.4	27	50.0
Chemotherapy(C)	284	67.6	124	57.4	119	72.1	389	63.6	20	37.0
S + R	7	1.7	5	2.3	0	0.0	0	0.0	4	7.4
S + C	9	2.1	7	3.2	1	0.6	2	0.3	0	0.0
R + C	76	18.1	53	24.5	32	19.4	80	13.1	1	1.9
S + R + C	3	0.7	1	0.5	0	0.0	2	0.3	0	0.0
Others	2	0.5	1	0.5	0	0.0	66	10.8	1	1.9
ALL TREATMENTS	420	100.0	216	100.0	165	100.0	612	100.0	54	100.0

**Table 7.5(a): Number (#) and Proportion (%) of any specific treatment relative to all treated patients according to Clinical Extent of Disease - Males (1999-2000)**

	Any Surgery		Any Radiotherapy		Any Chemotherapy		Any Others		Total Patients
	#	%	#	%	#	%	#	%	
LOCALISED									
<b>Mumbai</b>	1572	74.6	678	32.2	461	21.9	31	1.5	2108
<b>Bangalore</b>	96	57.1	92	54.8	25	14.9	1	0.6	168
<b>Chennai</b>	73	37.8	164	85.0	5	2.6	2	1.0	193
<b>Thi'puram</b>	103	16.9	492	80.9	118	19.4	26	4.3	608
<b>Dibrugarh</b>	19	26.4	59	81.9	1	1.4	0	0.0	72
REGIONAL									
<b>Mumbai</b>	1069	60.4	1201	67.9	397	22.4	11	0.6	1769
<b>Bangalore</b>	595	40.7	1049	71.8	320	21.9	14	1.0	1462
<b>Chennai</b>	436	38.0	804	70.2	241	21.0	38	3.3	1146
<b>Thi'puram</b>	360	15.7	1827	79.8	733	32.0	124	5.4	2289
<b>Dibrugarh</b>	59	11.0	497	92.6	30	5.6	1	0.2	537
DISTANT									
<b>Mumbai</b>	90	15.2	228	38.5	351	59.3	55	9.3	592
<b>Bangalore</b>	37	24.7	96	64.0	53	35.3	5	3.3	150
<b>Chennai</b>	16	19.5	25	30.5	53	64.6	17	20.7	82
<b>Thi'puram</b>	24	3.8	350	55.2	216	34.1	152	24.0	634
<b>Dibrugarh</b>	13	27.1	16	33.3	27	56.3	0	0.0	48
OTHERS									
<b>Mumbai</b>	77	6.4	402	33.6	1063	88.7	3	0.3	1198
<b>Bangalore</b>	37	8.3	150	33.6	378	84.6	0	0.0	447
<b>Chennai</b>	8	2.0	106	26.0	365	89.7	0	0.0	407
<b>Thi'puram</b>	17	1.4	419	33.9	878	71.1	127	10.3	1235
<b>Dibrugarh</b>	14	8.0	126	72.0	50	28.6	2	1.1	175

**Table 7.5(b): Number (#) and Proportion (%) of any specific treatment relative to all treated patients according to Clinical Extent of Disease - Females (1999-2000)**

	Any Surgery		Any Radiotherapy		Any Chemotherapy		Any Others		Total Patients
	#	%	#	%	#	%	#	%	
LOCALISED									
<b>Mumbai</b>	1380	83.5	576	34.9	446	27.0	192	11.6	1652
<b>Bangalore</b>	132	60.8	145	66.8	45	20.7	26	12.0	217
<b>Chennai</b>	124	45.9	251	93.0	47	17.4	43	15.9	270
<b>Thi'puram</b>	181	44.8	290	71.8	113	28.0	35	8.7	404
<b>Dibrugarh</b>	16	34.0	36	76.6	2	4.3	0	0.0	47
REGIONAL									
<b>Mumbai</b>	943	51.8	1285	70.5	536	29.4	279	15.3	1822
<b>Bangalore</b>	884	33.0	2134	79.6	770	28.7	103	3.8	2681
<b>Chennai</b>	631	31.2	1764	87.1	640	31.6	460	22.7	2025
<b>Thi'puram</b>	588	30.0	1500	76.5	668	34.1	202	10.3	1961
<b>Dibrugarh</b>	97	33.9	221	77.3	39	13.6	0	0.0	286
DISTANT									
<b>Mumbai</b>	247	42.9	256	44.4	405	70.3	119	20.7	576
<b>Bangalore</b>	70	31.8	119	54.1	107	48.6	14	6.4	220
<b>Chennai</b>	12	7.7	74	47.4	126	80.8	96	61.5	156
<b>Thi'puram</b>	52	14.9	158	45.4	215	61.8	100	28.7	348
<b>Dibrugarh</b>	13	30.2	15	34.9	22	51.2	0	0.0	43
OTHERS									
<b>Mumbai</b>	25	6.0	119	28.3	372	88.6	2	0.5	420
<b>Bangalore</b>	22	10.2	75	34.7	186	86.1	1	0.5	216
<b>Chennai</b>	2	1.2	44	26.7	152	92.1	0	0.0	165
<b>Thi'puram</b>	7	1.1	162	26.5	474	77.5	66	10.8	612
<b>Dibrugarh</b>	5	9.3	33	61.1	21	38.9	1	1.9	54