

# Chapter 5

## CANCER MORTALITY

Table 5.1 shows the incidence cases, mortality cases and mortality incidence percent (M/I%) of all sites of cancer in the eight registries. In Males M/I% was found to be highest in Barshi (68.6%) followed by Mumbai (53.3%), Chennai (47.3%), Ahmedabad district (other than Ahmedabad urban) (42.7%), Bangalore (41.2%), Kolkata (38.9%), Bhopal (36.8%) and Delhi (11.3%).

In females M/I% was found to be highest in Barshi (74.0%), followed by Mumbai (45.9%), Kolkata (37.4%), Chennai (32.7%), Bangalore (31.3%), Ahmedabad district (other than Ahmedabad urban) (30.3%), Bhopal (24.6%) and Delhi (8.8%).

Crude mortality rate (CMR), age adjusted mortality rate (AAMR) and truncated mortality rate (TMR) per 100,000 population are shown in table 5.2. Among males, crude mortality rate was highest in Chennai (46.0) followed by Mumbai (36.4), Barshi (31.1), Kolkata (29.0), Bangalore (28.1), Bhopal (22.6), Ahmedabad district (other than Ahmedabad urban) (21.3) and Delhi (8.2).

Similarly, in females the highest CMR was observed in Mumbai (40.1), followed by Barshi (40.0), Chennai (35.9), Kolkata (31.4), Bangalore (28.6), Bhopal (16.6), Ahmedabad district (other than Ahmedabad urban) (11.2) and Delhi (7.2).

Table 5.3 gives the number of matched deaths, number of DCOs and total deaths. In males, the maximum number of deaths due to cancer were observed for the registry of Mumbai (5183) followed by Chennai (2131), Bangalore (1903), Delhi (1367), Kolkata (732), Bhopal (399), Ahmedabad district (other than Ahmedabad urban) (363) and Barshi (166). Among these, the percentage of matched deaths for above registries were 88.1%, 94.8%, 78.9%, 91.1%, 76.9%, 86.7%, 84.8% and 99.4% respectively.

Among females, the number of deaths for different registries like Bangalore, Barshi, Bhopal, Chennai, Delhi, Mumbai, Ahmedabad district (other than Ahmedabad urban) and Kolkata were 1762, 196, 263, 1608, 989, 4611, 173 and 668 respectively. The percentage of matched deaths for above registries were 81.8%, 100.0%, 86.7%, 92.9%, 92.5%, 86.6%, 74.6%, and 81.9% respectively.

The age specific mortality rates of eight registries for males and females are portrayed in fig.5.1 (a) and (b).

Fig.5.2 (a) to 5.2 (h) illustrates the age specific incidence and mortality for all sites of cancer, in the eight registries for both genders.

**TABLE 5.1: Number of Incident and Mortality cases and Mortality-Incidence Percent (M/I%)**

Registry	MALES			FEMALES		
	Incidence	Mortality	M/I%	Incidence	Mortality	M/I%
<b>Bangalore</b>	4619	1903	41.2	5627	1762	31.3
<b>Barshi</b>	242	166	68.6	265	196	74.0
<b>Bhopal</b>	1085	399	36.8	1069	263	24.6
<b>Chennai</b>	4501	2131	47.3	4912	1608	32.7
<b>Delhi</b>	12151	1367	11.3	11256	989	8.8
<b>Mumbai</b>	9731	5183	53.3	10053	4611	45.9
<b>Ahmedabad</b>	851	363	42.7	571	173	30.3
<b>Kolkata*</b>	1881	732	38.9	1786	668	37.4

**TABLE 5.2: Crude (CMR), Age Adjusted (AAMR) and Truncated (TMR) Mortality Rate**

Registry	MALES			FEMALES		
	CMR	AAMR	TMR	CMR	AAMR	TMR
<b>Bangalore</b>	28.1	42.2	59.1	28.6	39.5	68.5
<b>Barshi</b>	31.1	32.3	53.2	40.0	41.6	92.2
<b>Bhopal</b>	22.6	34.9	63.4	16.6	23.8	46.2
<b>Chennai</b>	46.0	52.5	94.4	35.9	39.8	81.7
<b>Delhi</b>	8.2	13.3	22.1	7.2	10.5	21.0
<b>Mumbai</b>	36.4	55.8	70.5	40.1	49.5	80.3
<b>Ahmedabad</b>	21.3	29.1	57.2	11.2	13.1	29.1
<b>Kolkata*</b>	29.0	27.6	38.3	31.4	29.0	48.2

**TABLE 5.3: Number of Matched Deaths (MD), Number of DCO's and Total Deaths (TD)**

Registry	MALES			FEMALES		
	MD	DCO's	TD	MD	DCO's	TD
<b>Bangalore</b>	1502	401	1903	1442	320	1762
<b>Barshi</b>	165	1	166	196	0	196
<b>Bhopal</b>	346	53	399	228	35	263
<b>Chennai</b>	2021	110	2131	1494	114	1608
<b>Delhi</b>	1246	121	1367	915	74	989
<b>Mumbai</b>	4566	617	5183	3994	617	4611
<b>Ahmedabad</b>	308	55	363	129	44	173
<b>Kolkata*</b>	563	169	732	547	121	668

\* Only 2005 data.

**TABLE 5.4: Average Annual Age Specific Cancer Mortality rates per 100,000 persons - All sites of cancer for all PBCRs**

Age in Years	Bangalore	Barshi	Bhopal	Chennai	Delhi	Mumbai	Ahmedabad	Kolkata*
<b>Males</b>								
<b>0-4</b>	1.4	3.8	0.6	2.0	1.6	3.9	1.7	0.8
<b>5-9</b>	1.6	3.6	0.0	4.5	1.4	3.1	1.5	0.0
<b>10-14</b>	2.3	1.4	0.5	3.5	1.8	2.5	3.1	0.5
<b>15-19</b>	1.5	5.1	3.5	3.6	1.5	2.9	3.4	1.3
<b>20-24</b>	3.3	14.1	2.2	4.8	1.6	2.4	2.5	1.2
<b>25-29</b>	4.0	8.3	4.6	6.7	2.5	3.1	1.5	2.1
<b>30-34</b>	6.3	11.5	9.2	13.6	2.6	5.4	10.6	7.8
<b>35-39</b>	9.6	20.4	19.4	16.3	3.7	12.1	12.6	7.4
<b>40-44</b>	14.9	26.9	24.5	38.6	7.3	22.8	28.2	15.0
<b>45-49</b>	40.7	26.2	37.0	62.5	14.9	40.0	45.7	28.5
<b>50-54</b>	60.7	58.1	90.5	114.5	29.7	77.3	89.5	40.5
<b>55-59</b>	141.7	70.9	128.1	178.8	39.1	134.5	87.9	59.9
<b>60-64</b>	142.6	158.6	128.9	233.3	56.2	203.0	113.8	110.1
<b>65-69</b>	249.1	85.6	183.4	271.8	59.2	302.4	129.4	161.9
<b>70-74</b>	318.0	215.1	206.8	316.6	75.4	453.9	150.6	232.1
<b>75+</b>	419.2	252.1	204.9	284.0	101.7	690.0	126.2	261.3
<b>Females</b>								
<b>0-4</b>	0.4	4.4	4.0	3.3	1.0	2.4	2.0	0.8
<b>5-9</b>	1.3	1.9	0.6	0.9	0.5	2.1	0.6	0.7
<b>10-14</b>	1.2	1.6	0.0	2.8	1.0	2.5	0.6	1.1
<b>15-19</b>	1.8	0.0	0.6	1.2	1.1	2.8	1.9	2.0
<b>20-24</b>	1.9	3.0	1.9	4.1	1.4	2.0	1.4	2.0
<b>25-29</b>	4.4	2.7	7.2	6.9	2.0	3.9	5.4	2.5
<b>30-34</b>	10.7	8.4	7.0	10.8	2.9	11.8	7.9	9.0
<b>35-39</b>	14.5	17.0	11.4	19.9	7.2	17.6	10.5	10.0
<b>40-44</b>	29.3	40.1	32.4	44.8	8.5	39.0	19.4	23.0
<b>45-49</b>	52.7	95.8	51.6	66.9	17.7	59.3	38.3	42.8
<b>50-54</b>	82.5	111.0	59.2	109.8	29.2	96.5	40.0	59.7
<b>55-59</b>	140.4	215.0	52.2	144.2	33.4	139.8	36.4	77.4
<b>60-64</b>	142.7	131.7	89.1	154.6	43.1	187.8	37.2	107.5
<b>65-69</b>	191.5	89.6	100.3	162.7	38.9	220.9	33.4	121.0
<b>70-74</b>	244.5	234.9	127.5	187.9	50.5	312.3	37.3	209.9
<b>75+</b>	299.4	189.9	111.0	171.7	48.2	477.3	40.2	243.3

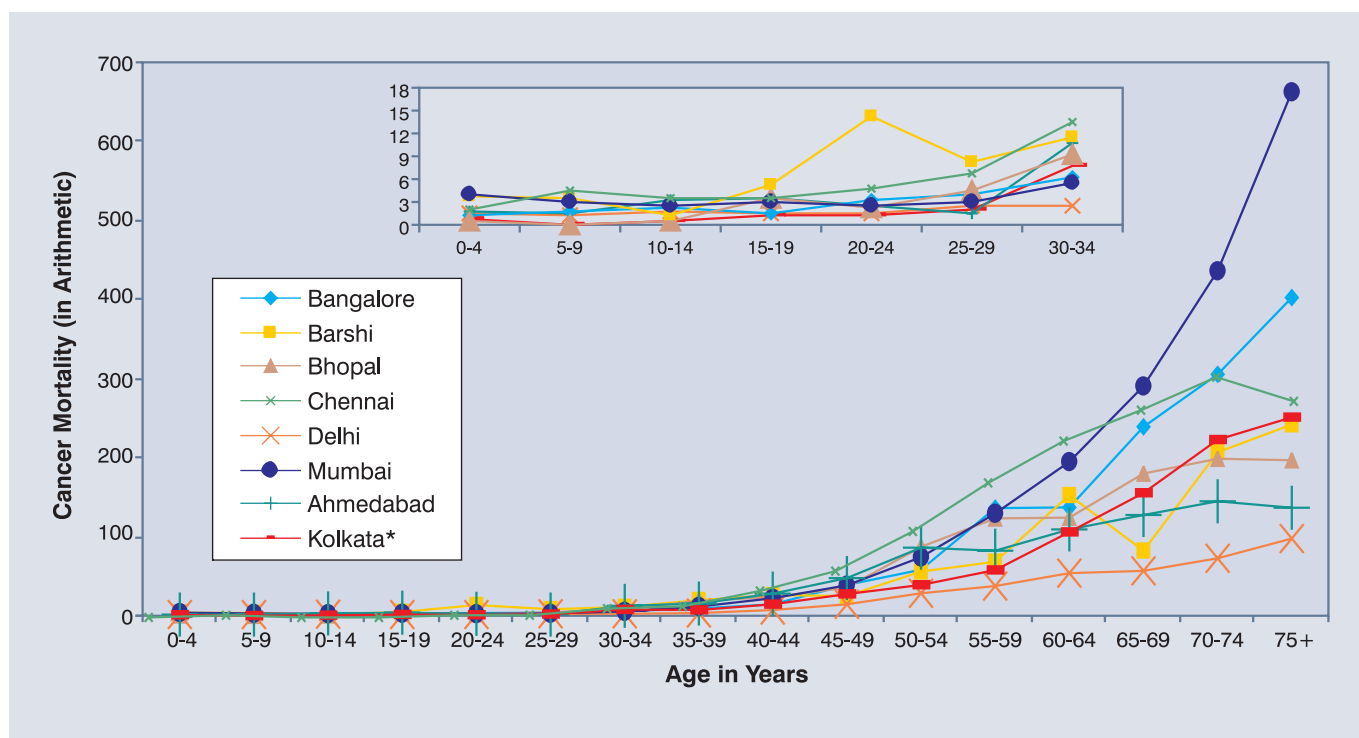
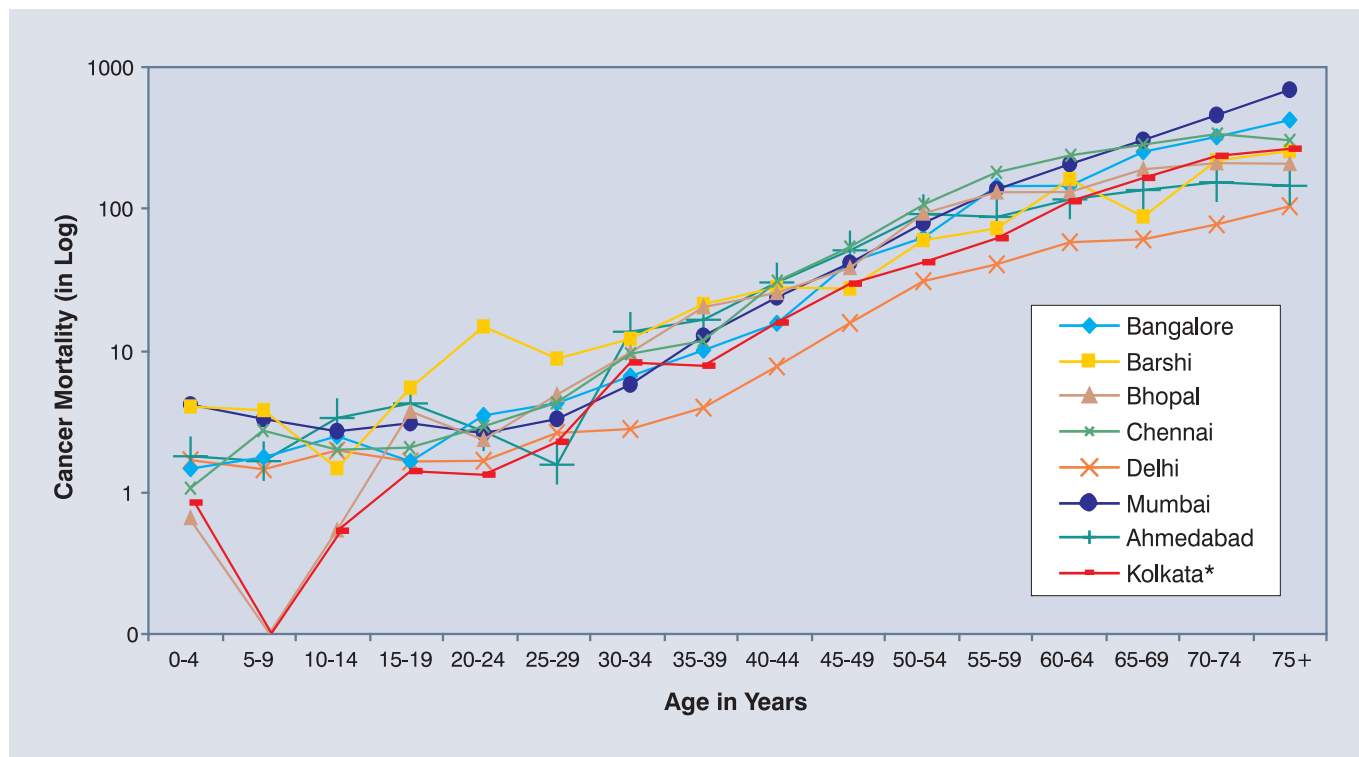
\* Only 2005 data.

**TABLE 5.5: Average Annual Age Specific Incidence (I) and Mortality (M) rates per 100,000 persons - All sites of cancer for all PBCRs**

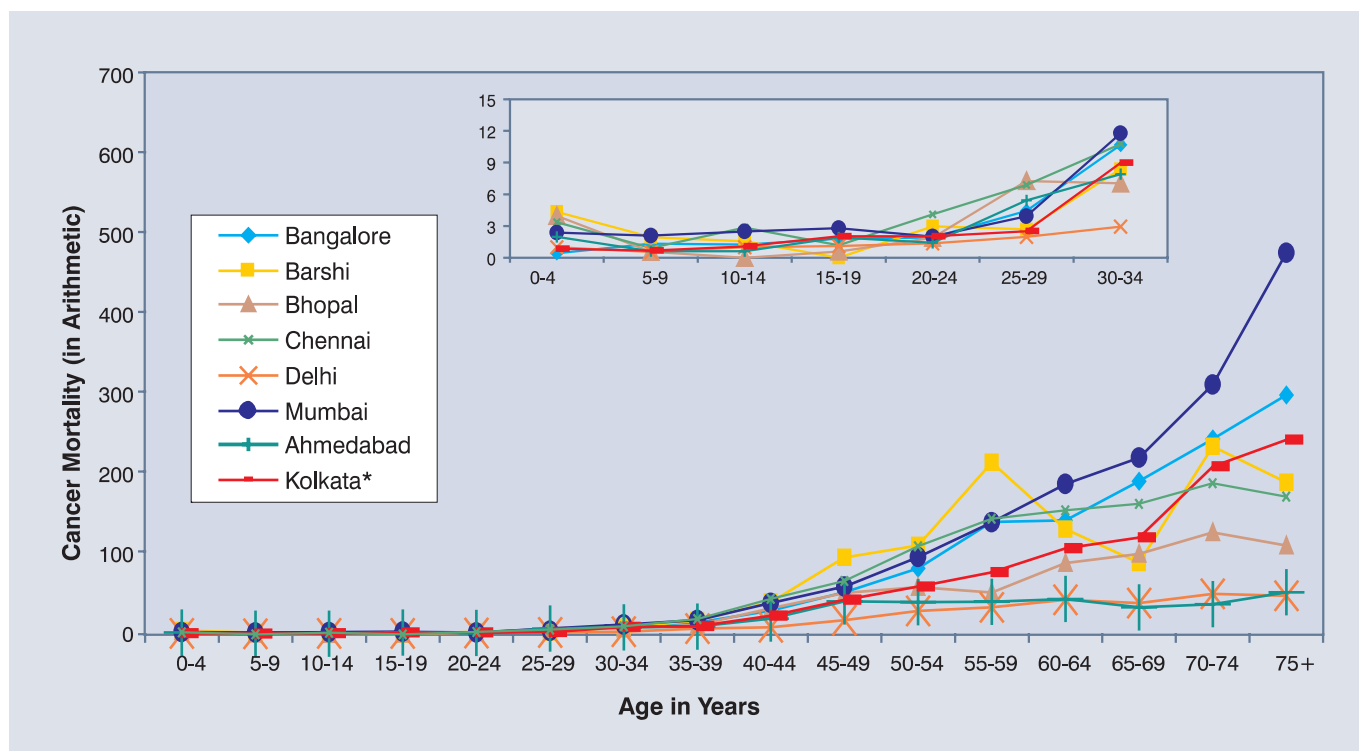
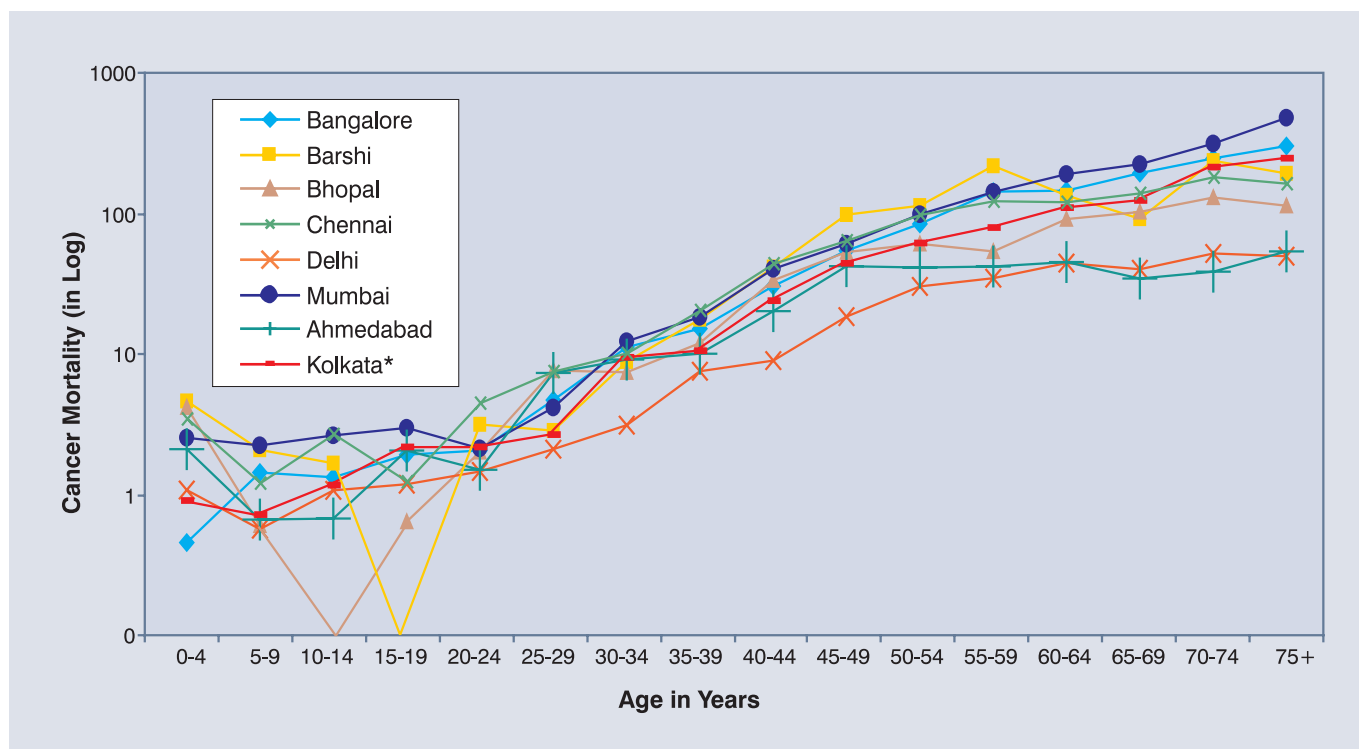
Age in Years	Bangalore		Barshi		Bhopal		Chennai		Delhi		Mumbai		Ahmedabad		Kolkata *	
	I	M	I	M	I	M	I	M	I	M	I	M	I	M	I	M
<b>Males</b>																
0-4	9.0	1.4	7.6	3.8	7.3	0.6	13.5	2.0	14.1	1.6	9.0	3.9	5.6	1.7	12.5	0.8
5-9	8.2	1.6	8.9	3.6	6.1	0.0	13.7	4.5	11.2	1.4	7.5	3.1	4.1	1.5	4.1	0.0
10-14	7.0	2.3	2.7	1.4	7.5	0.5	8.9	3.5	10.8	1.8	8.6	2.5	6.8	3.1	10.3	0.5
15-19	6.8	1.5	10.3	5.1	10.0	3.5	12.9	3.6	12.6	1.5	9.2	2.9	7.4	3.4	10.0	1.3
20-24	10.8	3.3	7.1	14.1	10.4	2.2	14.5	4.8	14.1	1.6	8.1	2.4	13.2	2.5	9.9	1.2
25-29	13.1	4.0	11.1	8.3	17.1	4.6	17.2	6.7	18.1	2.5	12.3	3.1	8.0	1.5	9.7	2.1
30-34	19.6	6.3	23.1	11.5	29.0	9.2	29.8	13.6	29.2	2.6	22.8	5.4	19.8	10.6	26.7	7.8
35-39	33.2	9.6	34.9	20.4	38.1	19.4	39.2	16.3	40.4	3.7	36.0	12.1	30.0	12.6	31.8	7.4
40-44	42.2	14.9	30.2	26.9	74.5	24.5	90.8	38.6	72.7	7.3	60.2	22.8	61.1	28.2	49.2	15.0
45-49	94.9	40.7	74.3	26.2	106.0	37.0	133.7	62.5	132.0	14.9	98.8	40.0	107.1	45.7	108.3	28.5
50-54	166.1	60.7	116.1	58.1	184.4	90.5	243.8	114.5	242.1	29.7	171.2	77.3	198.8	89.5	154.0	40.5
55-59	307.5	141.7	173.4	70.9	291.1	128.1	379.2	178.8	351.2	39.1	267.3	134.5	208.1	87.9	229.1	59.9
60-64	373.7	142.6	196.3	158.6	360.0	128.9	457.2	233.3	555.6	56.2	381.2	203.0	274.1	113.8	293.9	110.1
65-69	597.1	249.1	157.8	85.6	465.8	183.4	584.6	271.8	602.9	59.2	499.5	302.4	292.8	129.4	335.3	161.9
70-74	655.8	318.0	280.3	215.1	635.9	206.8	592.3	316.6	727.6	75.4	660.2	453.9	334.1	150.6	415.7	232.1
75+	817.2	419.2	204.8	252.1	577.4	204.9	511.0	284.0	725.2	101.7	839.3	690.0	283.9	126.2	331.7	261.3
<b>Females</b>																
0-4	6.5	0.4	8.7	4.4	6.6	4.0	15.7	3.3	8.6	1.0	5.5	2.4	5.3	2.0	6.7	0.8
5-9	4.4	1.3	1.9	1.9	2.2	0.6	6.8	0.9	5.5	0.5	4.9	2.1	0.6	0.6	6.0	0.7
10-14	6.9	1.2	0.0	1.6	3.9	0.0	7.8	2.8	5.5	1.0	5.4	2.5	2.5	0.6	5.9	1.1
15-19	7.1	1.8	2.4	0.0	8.9	0.6	6.4	1.2	9.7	1.1	7.2	2.8	3.9	1.9	6.6	2.0
20-24	10.5	1.9	5.9	3.0	6.3	1.9	15.4	4.1	16.5	1.4	10.4	2.0	6.3	1.4	13.2	2.0
25-29	19.2	4.4	8.0	2.7	22.4	7.2	27.1	6.9	26.3	2.0	15.2	3.9	10.1	5.4	25.0	2.5
30-34	37.1	10.7	11.2	8.4	42.2	7.0	42.0	10.8	42.9	2.9	37.4	11.8	24.5	7.9	34.9	9.0
35-39	68.2	14.5	56.5	17.0	51.5	11.4	85.4	19.9	76.1	7.2	62.8	17.6	41.9	10.5	82.3	10.0
40-44	133.0	29.3	108.3	40.1	110.3	32.4	163.5	44.8	144.7	8.5	129.8	39.0	79.7	19.4	124.2	23.0
45-49	223.0	52.7	166.3	95.8	190.1	51.6	232.0	66.9	219.4	17.7	178.8	59.3	137.3	38.3	178.5	42.8
50-54	282.3	82.5	222.0	111.0	310.2	59.2	340.3	109.8	337.2	29.2	261.1	96.5	127.1	40.0	219.3	59.7
55-59	449.1	140.4	248.6	215.0	251.4	52.2	416.2	144.2	387.4	33.4	307.8	139.8	96.3	36.4	223.5	77.4
60-64	419.9	142.7	155.2	131.7	429.2	89.1	431.8	154.6	492.5	43.1	392.8	187.8	111.6	37.2	277.7	107.5
65-70	524.1	191.5	138.5	89.6	326.9	100.3	439.5	162.7	451.3	38.9	390.2	220.9	130.6	33.4	245.2	121.0
70-74	615.9	244.5	202.5	234.9	388.1	127.5	490.6	187.9	450.8	50.5	505.0	312.3	136.6	37.3	319.2	209.9
75+	567.2	299.4	68.4	189.9	383.5	111.0	356.7	171.7	358.6	48.2	586.0	477.3	108.5	40.2	182.1	243.3

\* Only 2005 data.

**Fig. 5.1(a): Average Annual Age Specific Cancer Mortality Rates per 100,000 persons  
All Sites of cancer for all PBCRs - Males**

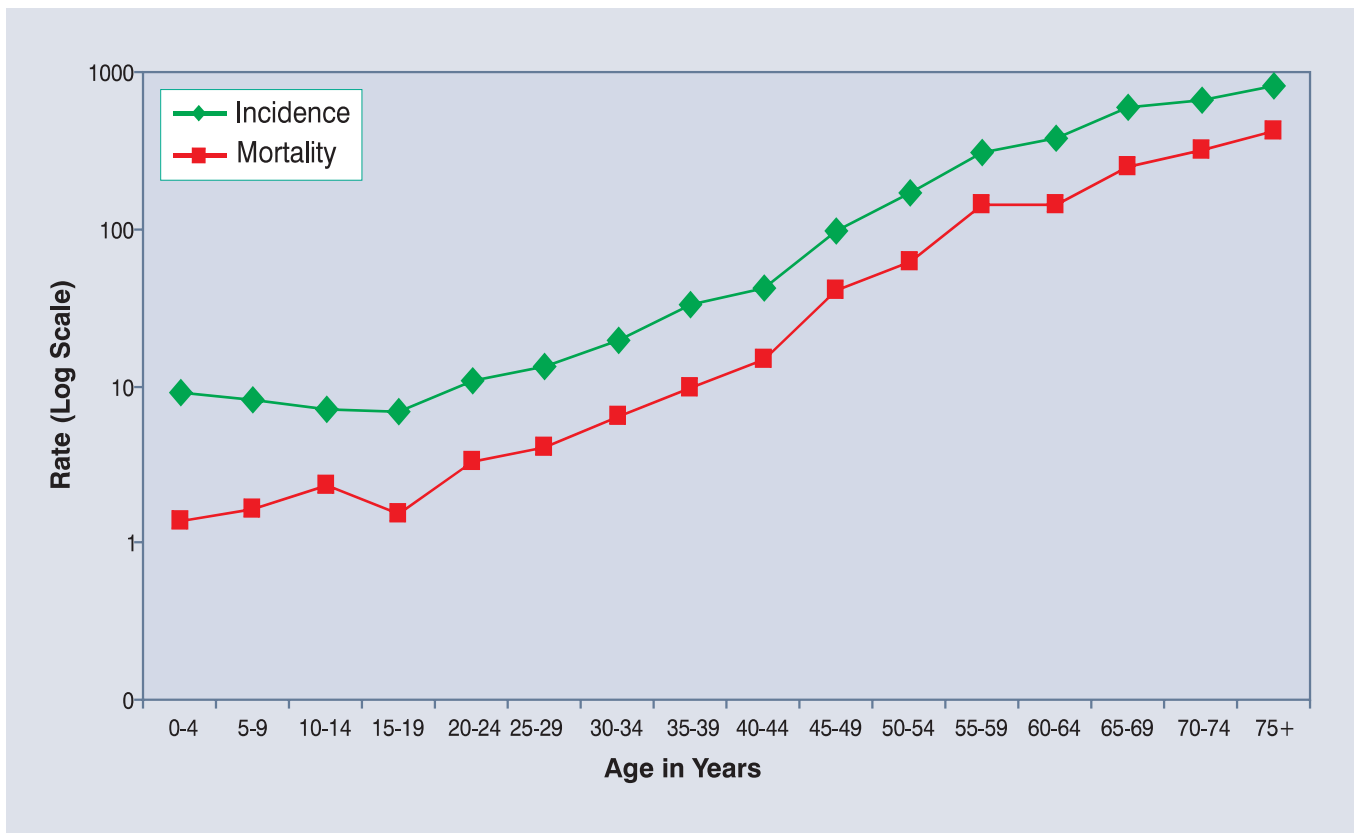


**Fig. 5.1(b): Average Annual Age Specific Cancer Mortality Rates per 100,000 persons  
All Sites of Cancer for all PBCRs - Females**

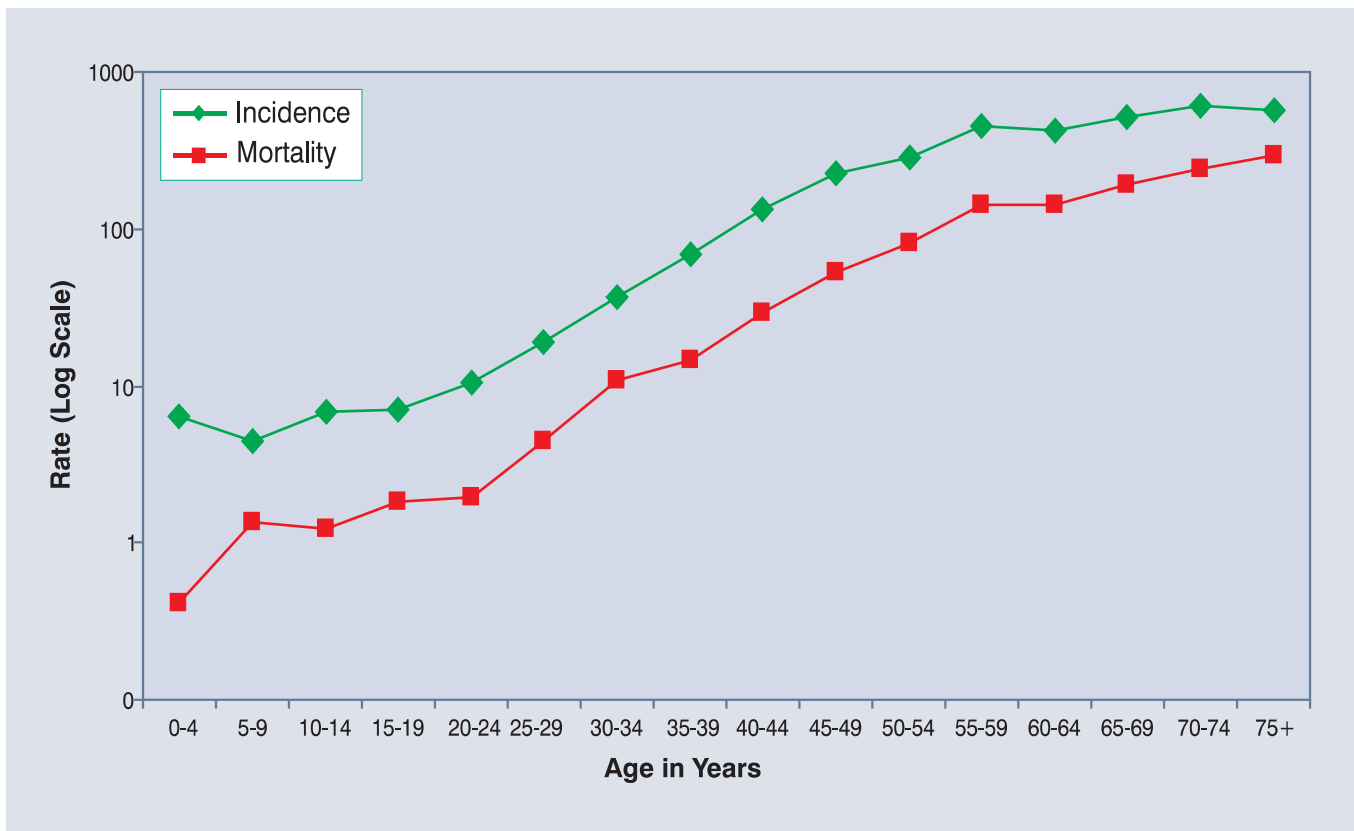


**Fig. 5.2(a): Average Annual Age Specific Incidence & Mortality Rates per 100,000 persons  
All Sites of Cancer – Bangalore (2004-2005)**

**Males**

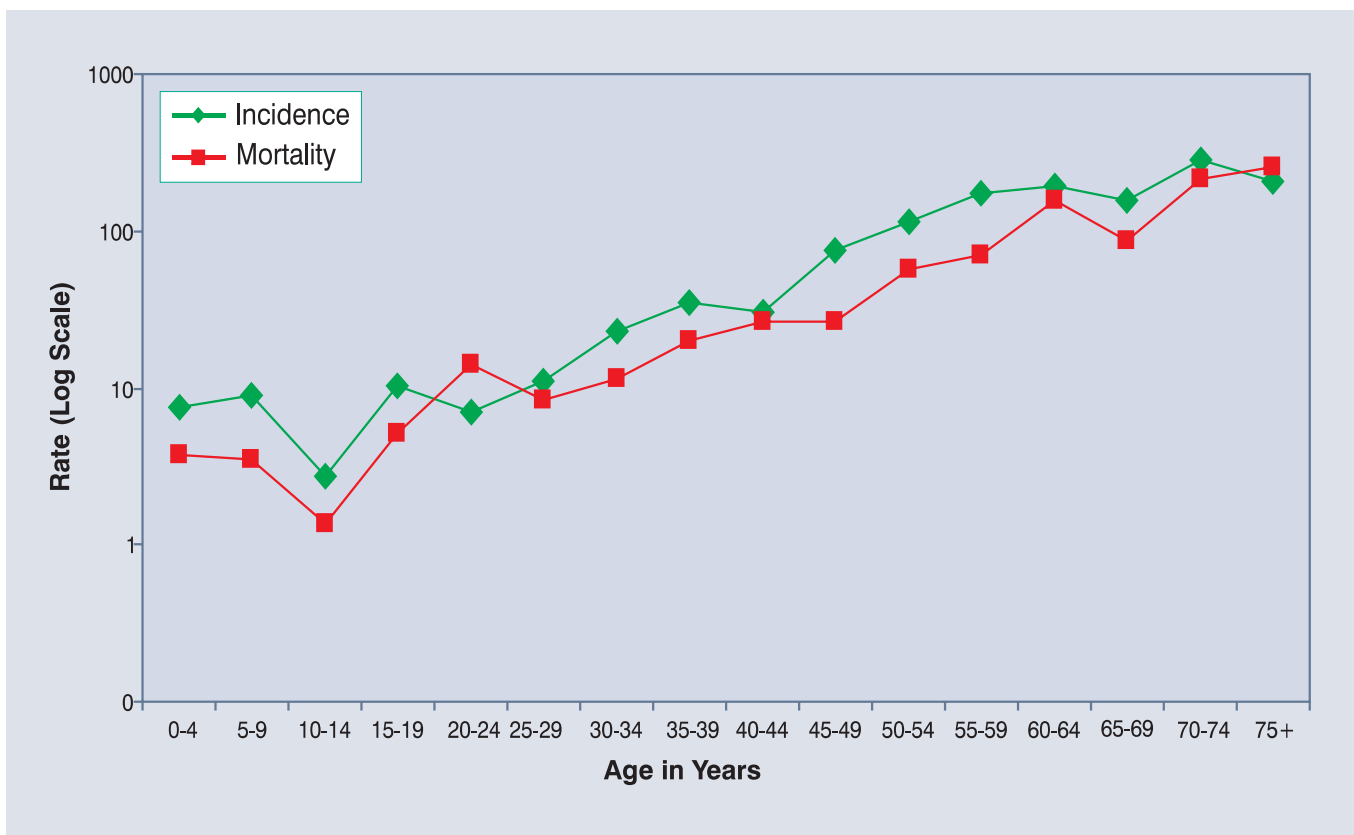


**Females**

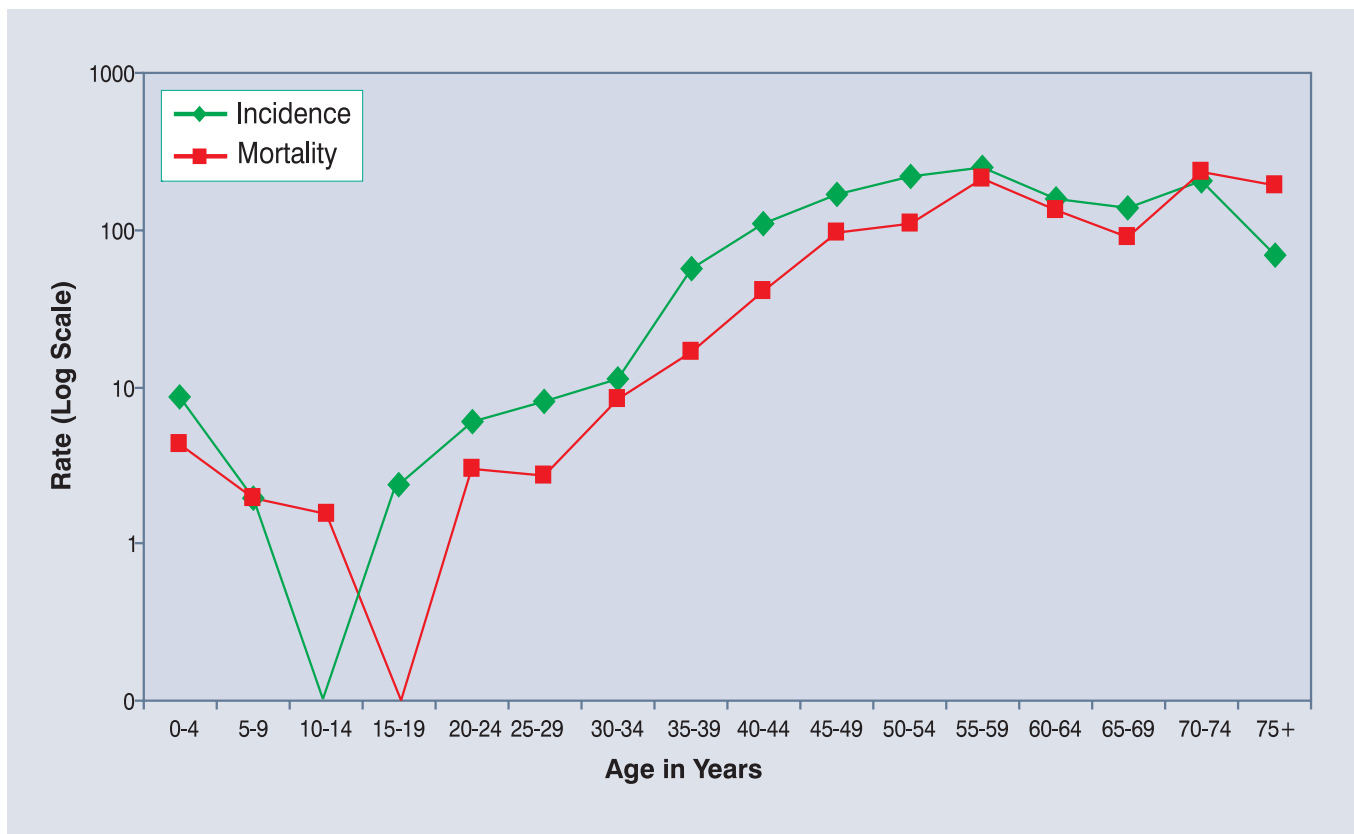


**Fig. 5.2(b): Average Annual Age Specific Incidence & Mortality Rates per 100,000 persons  
All Sites of Cancer – Barshi (2004-2005)**

**Males**



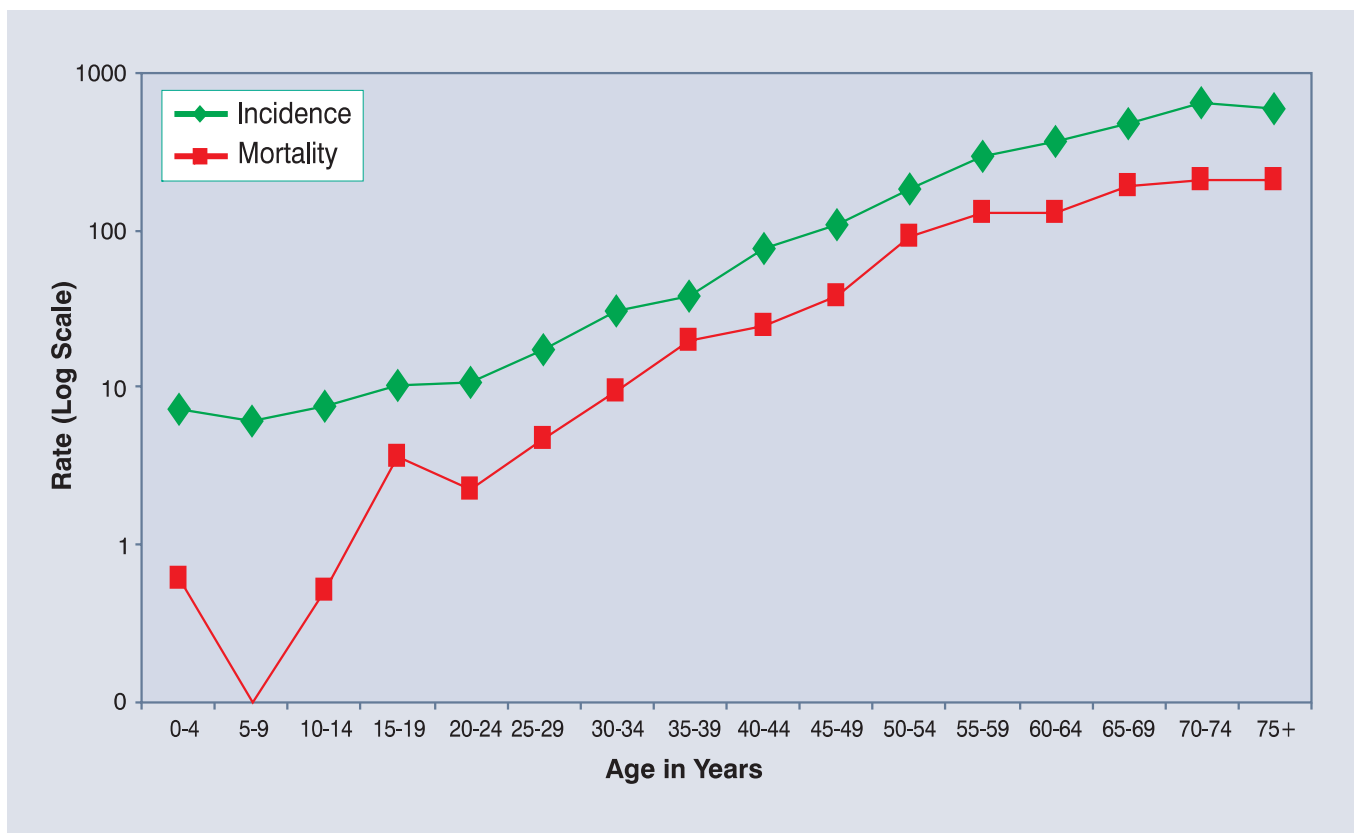
**Females**



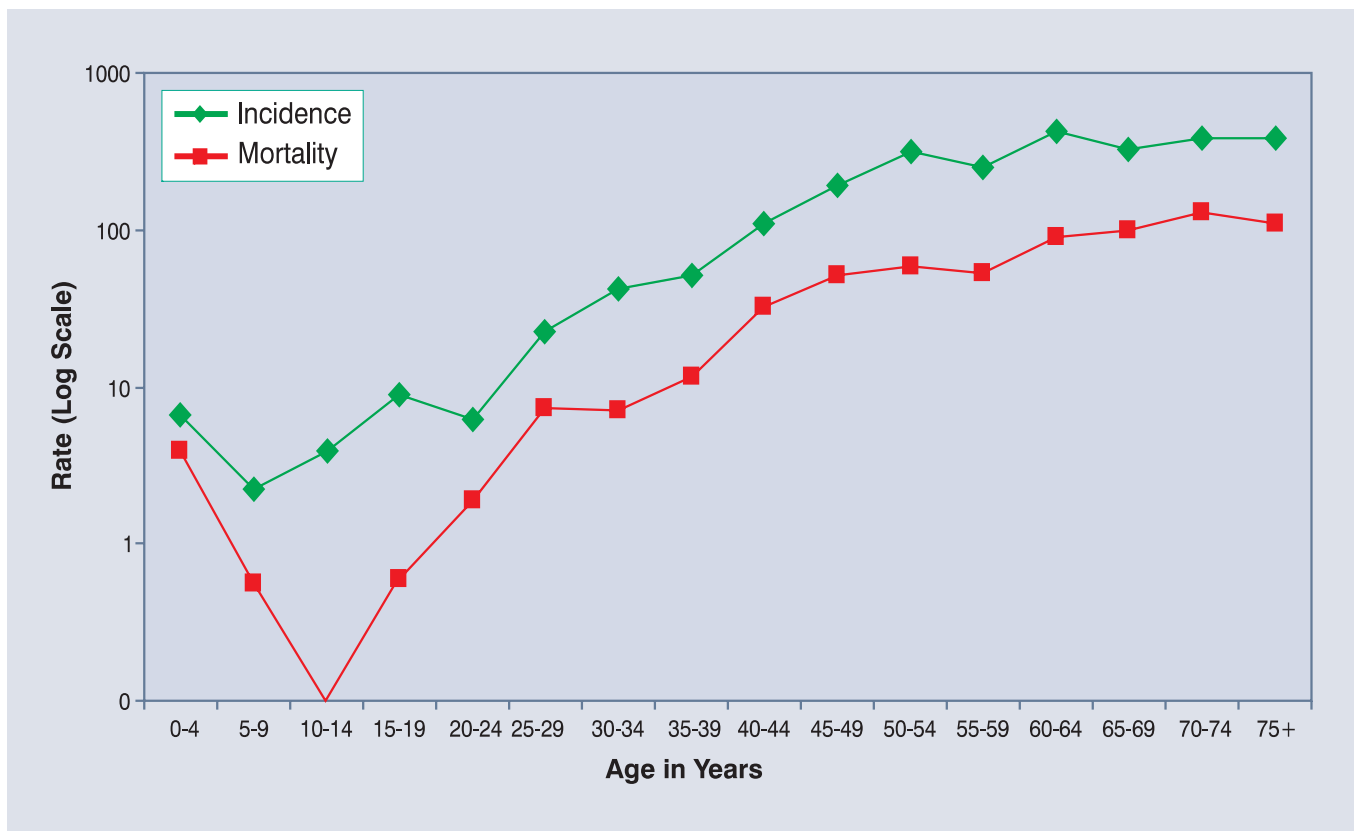


**Fig. 5.2(c): Average Annual Age Specific Incidence & Mortality Rates per 100,000 persons  
All Sites of Cancer – Bhopal (2004-2005)**

**Males**

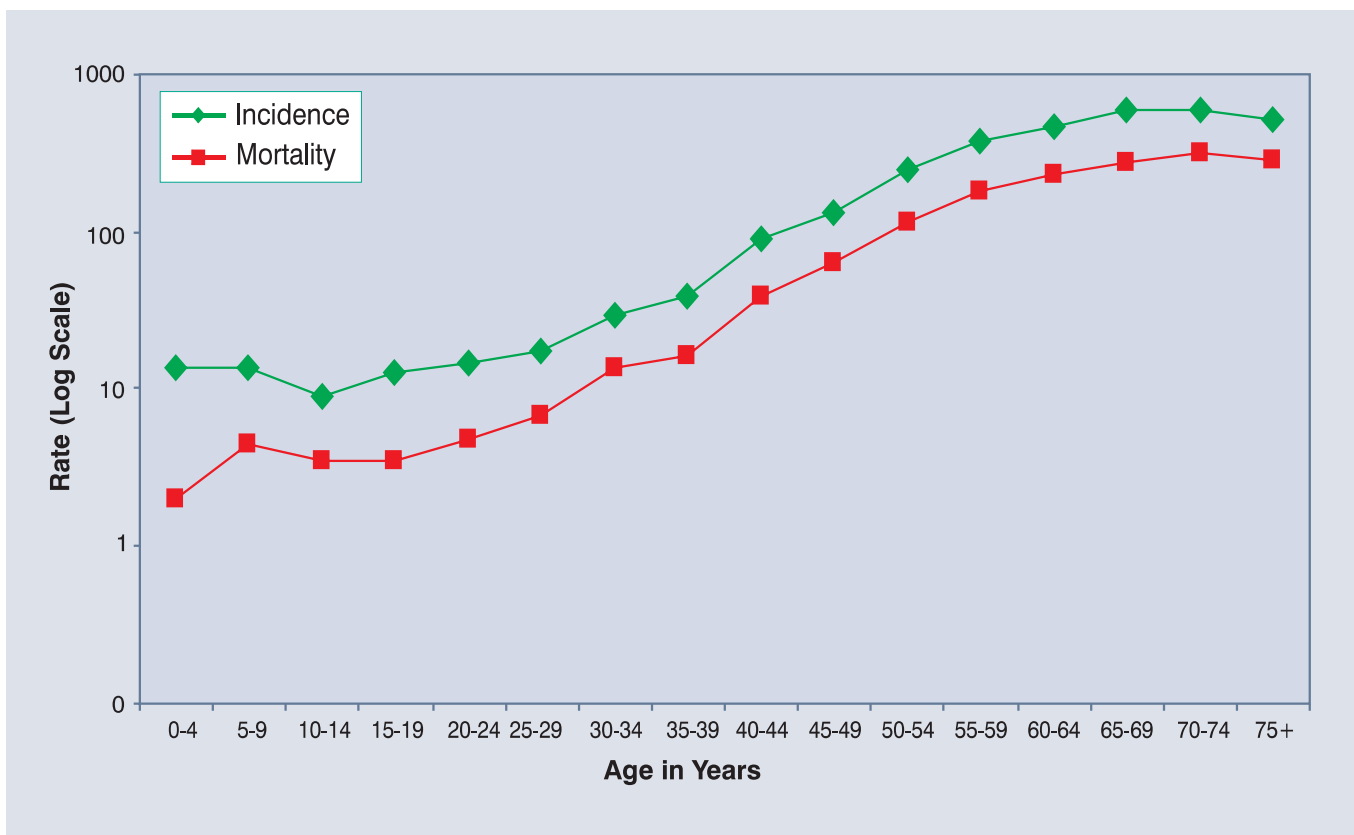


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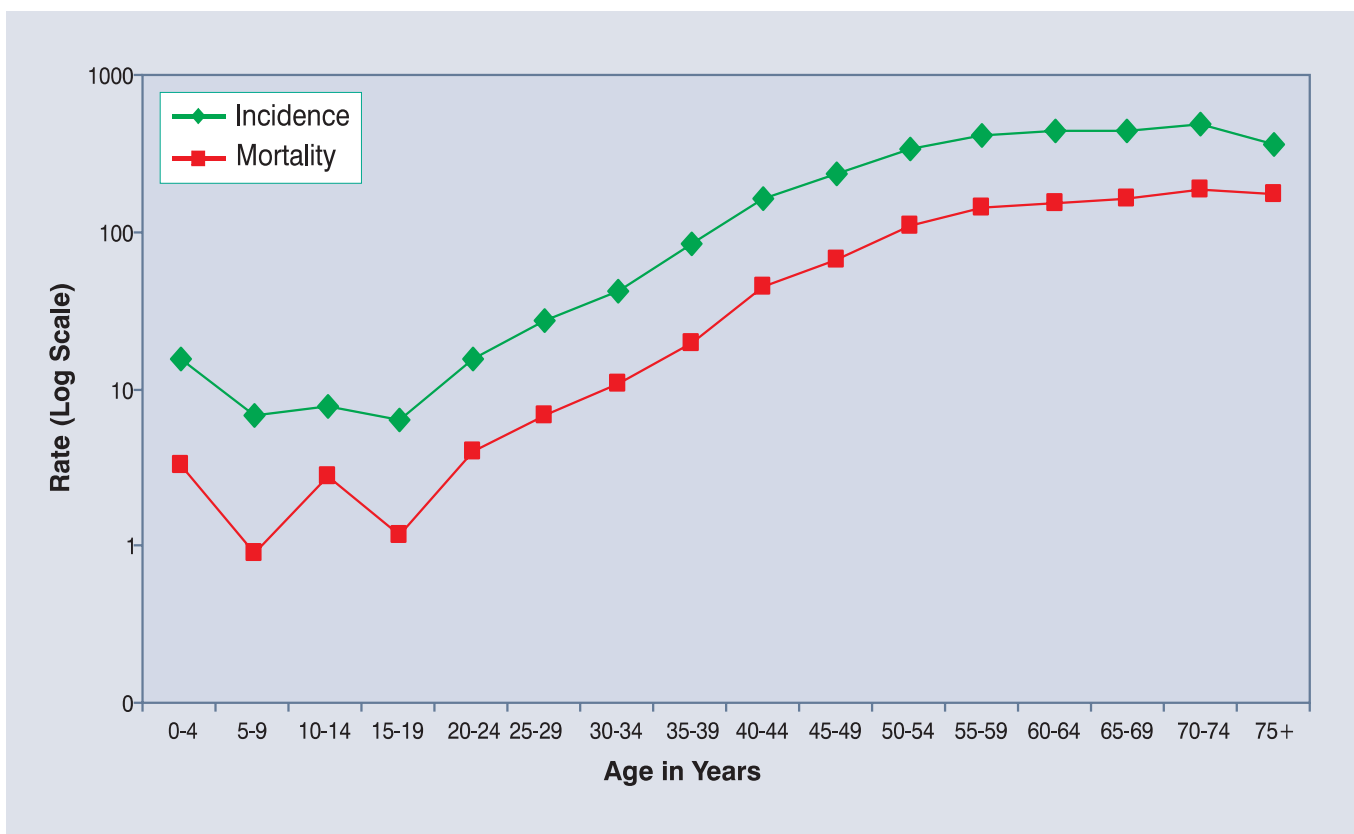


**Fig. 5.2(d): Average Annual Age Specific Incidence & Mortality Rates per 100,000 persons  
All Sites of Cancer – Chennai (2004-2005)**

**Males**

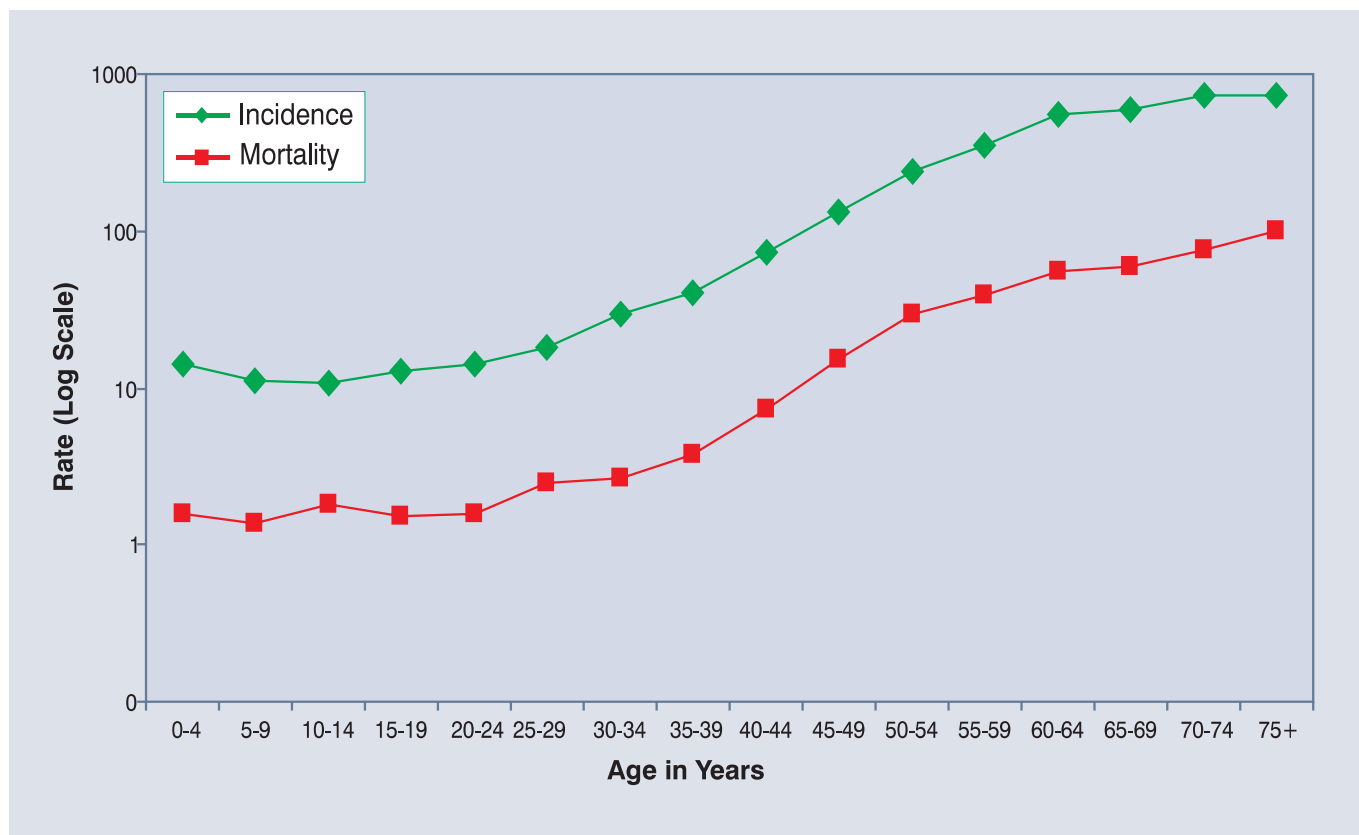


**Females**

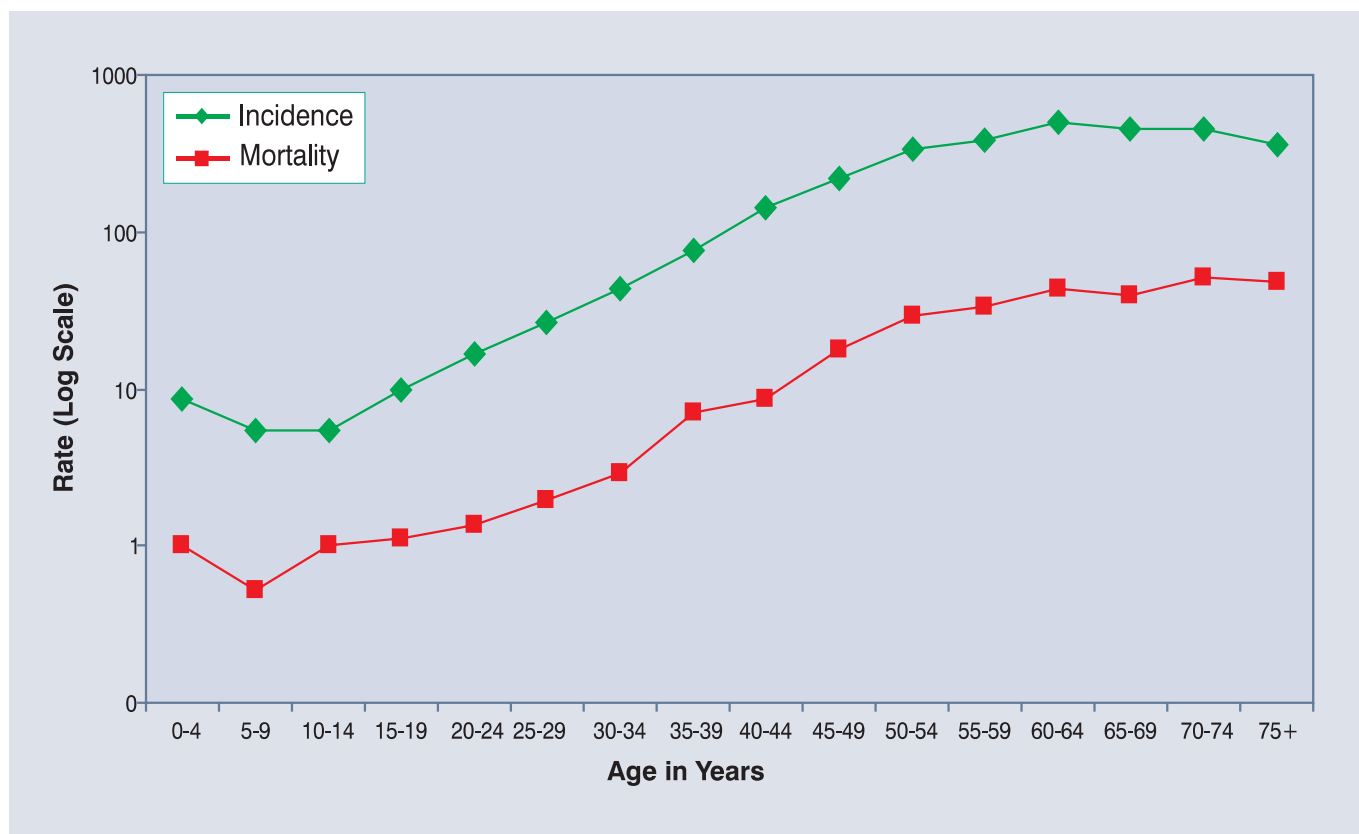


**Fig. 5.2(e): Average Annual Age Specific Incidence & Mortality Rates per 100,000 persons  
All Sites of Cancer – Delhi (2004-2005)**

**Males**

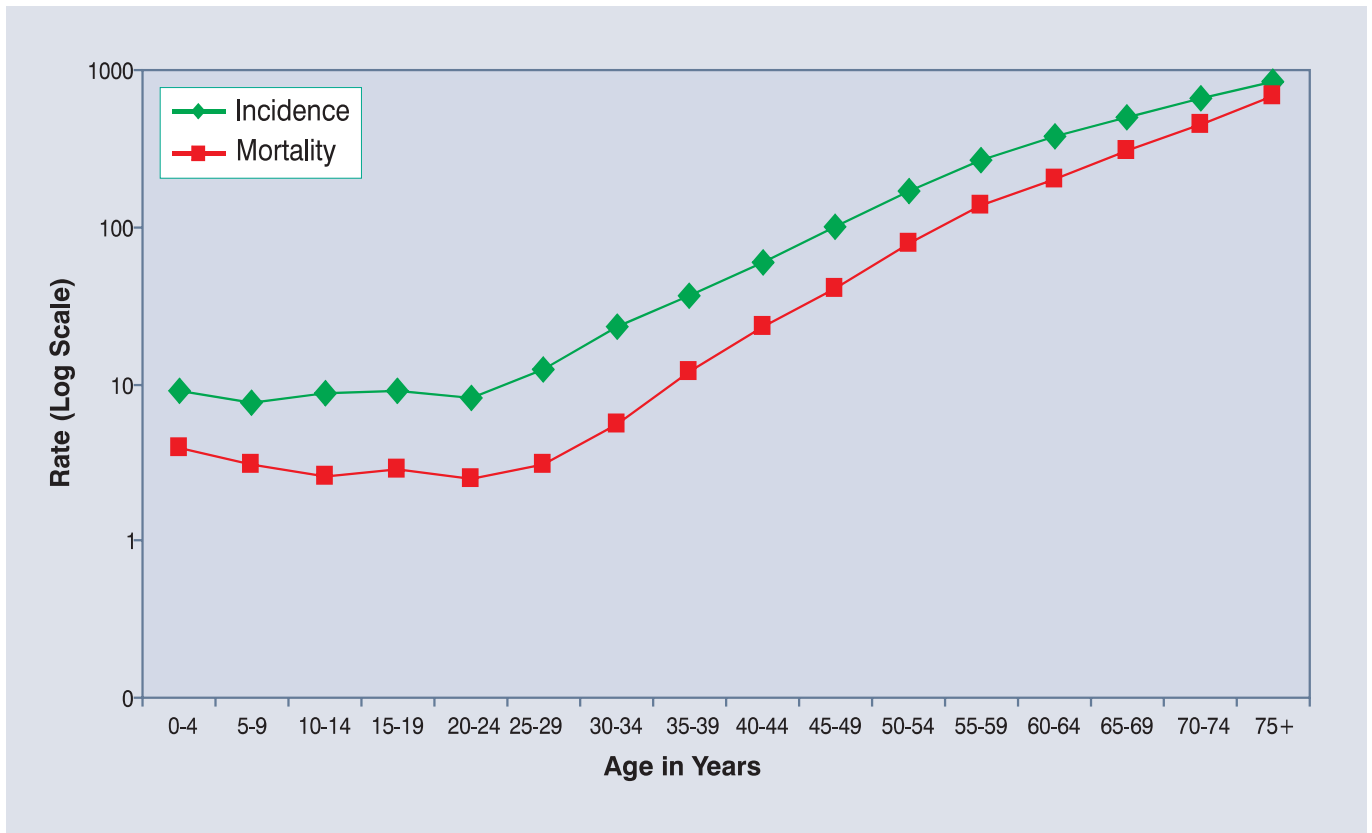


**Females**

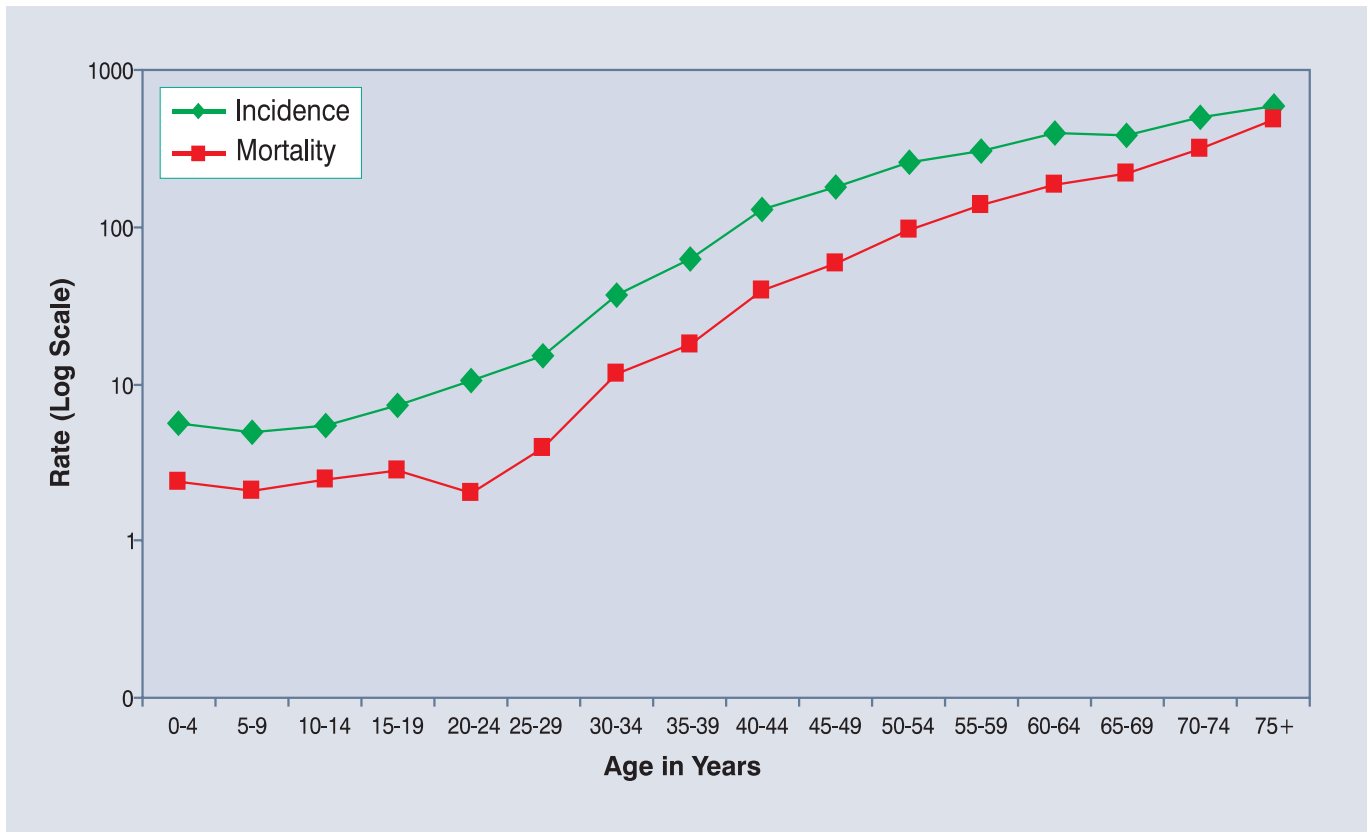


**Fig. 5.2(f): Average Annual Age Specific Incidence & Mortality Rates per 100,000 persons  
All Sites of Cancer – Mumbai (2004-2005)**

**Males**

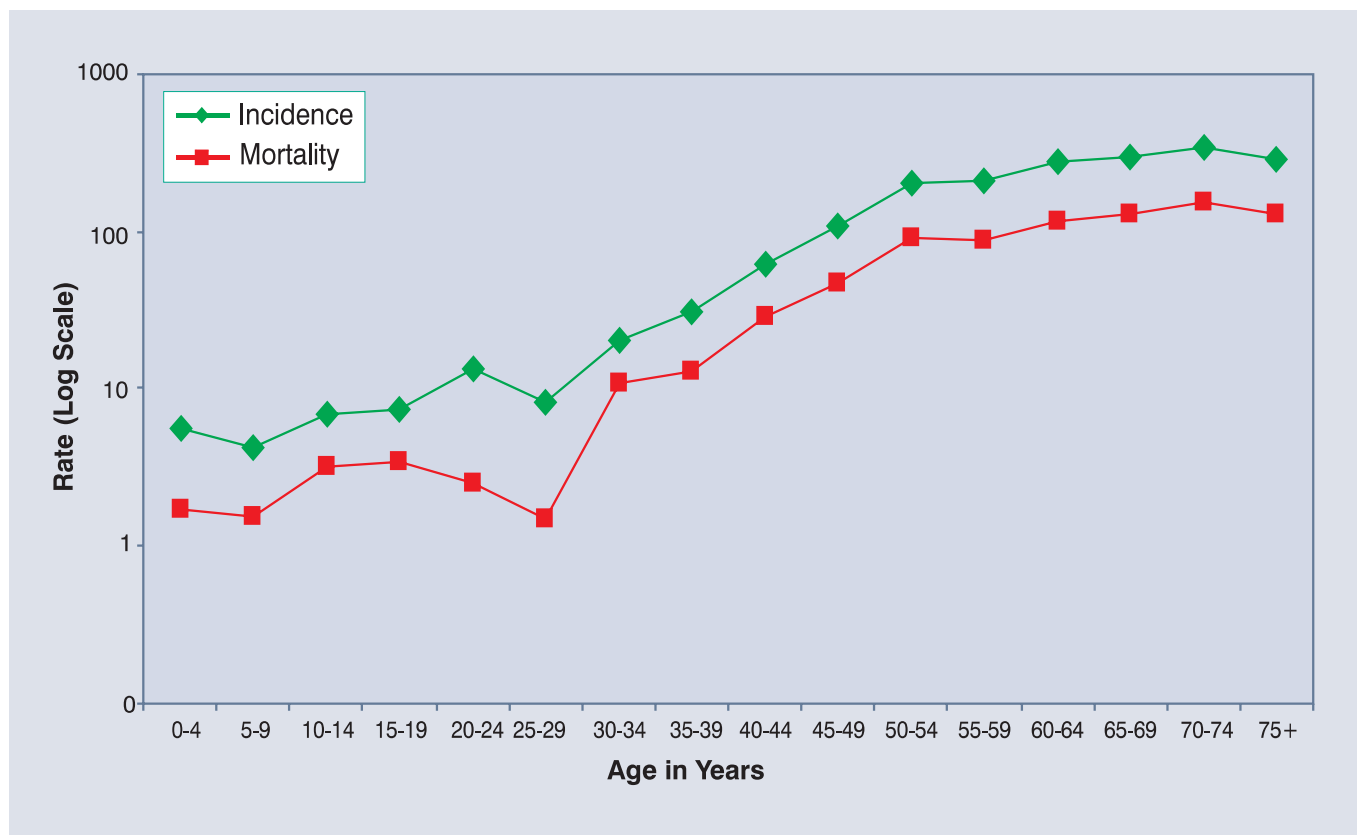


**Females**

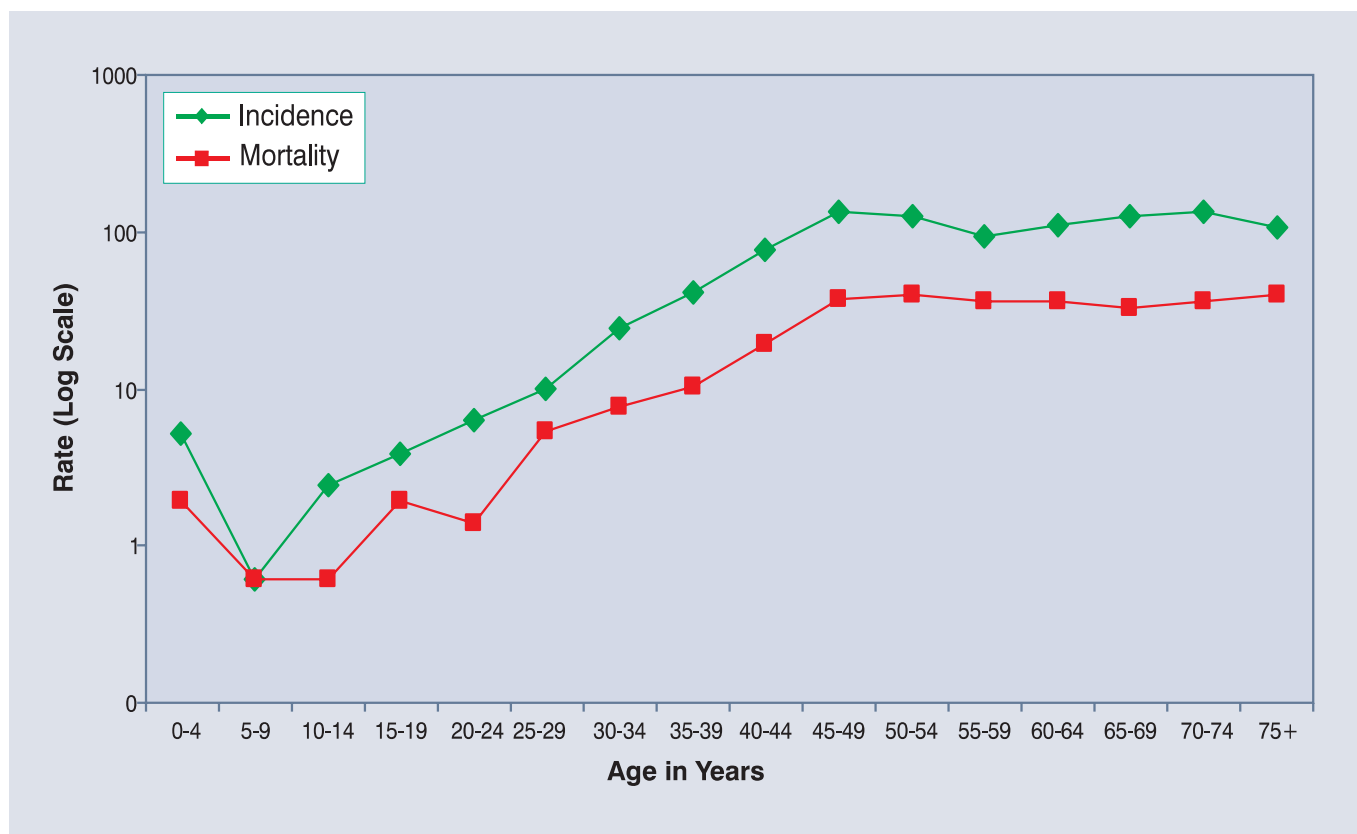


**Fig. 5.2(g): Annual Age Specific Incidence & Mortality Rates per 100,000 persons All Sites of Cancer – Ahmedabad district (other than Ahmedabad urban) (2004-2005)**

**Males**

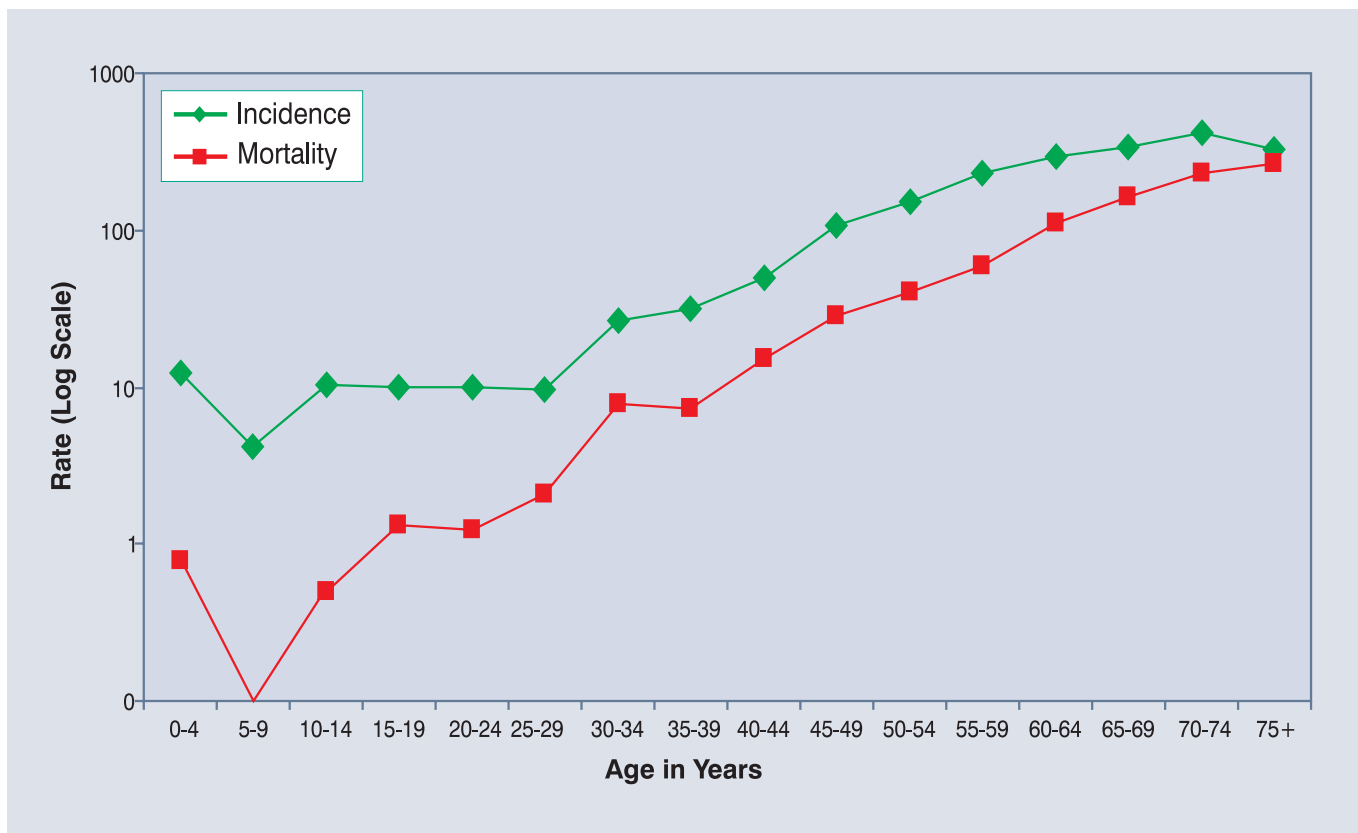


**Females**



**Fig. 5.2(h): Average Annual Age specific Incidence and Mortality rates per 100,000 persons  
All sites of cancer – Kolkata (2005)**

**Males**



**Females**

