Chapter 3

Sites of cancer associated with the use of Tobacco

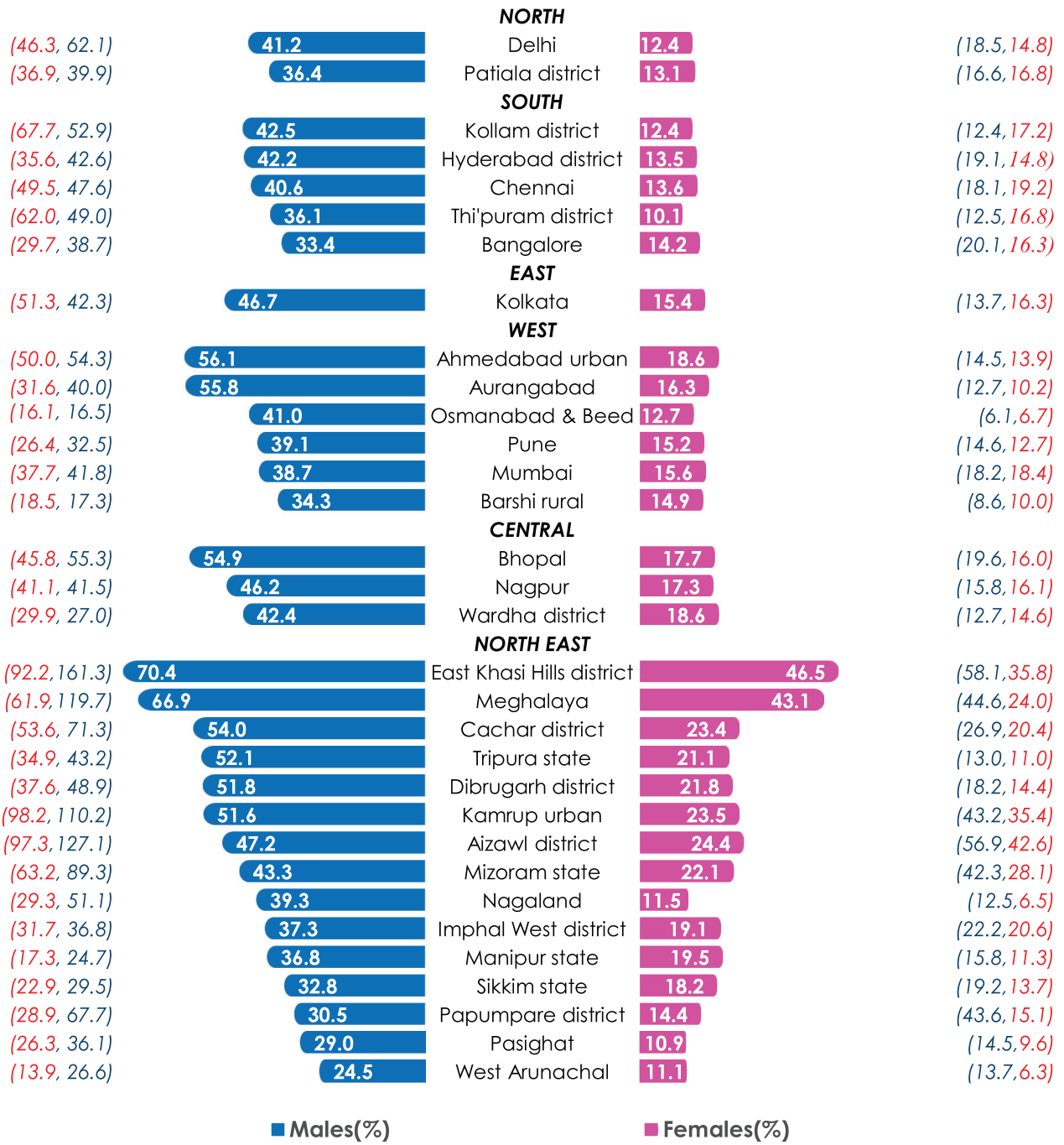
There are cancers of several anatomical sites known to be associated with the use of tobacco. The NCRP has been using the classification provided by the International Agency for Research on Cancer (IARC), World Health Organization monographs on overall evaluations of carcinogenicity (IARC, 1987). The recent Monographs of IARC have added more anatomical sites addressing their relationship between tobacco usage and cancer. However, In this report the earlier listing has been retained for comparison purposes. The list of anatomical sites of cancer (along with corresponding ICD-10 codes) considered known to be associated with the use of tobacco is given in Table 3.1.

Regional demarcation (North, South, East, West, Central and North East) of data from the 58 HBCRs indicate the pooled data of all HBCRs present in the region irrespective of the residential status of the patient.

Table 3.1 Sites of Cancer Associated with Use of Tobacco with ICD-codes

Anatomical Sites of Cancer	ICD-10 Codes
Lip	C00
Tongue	C01-C02
Mouth	C03-C06
Pharynx	C10 and C12-C14
Oesophagus	C15
Larynx	C32
Lung	C33-C34
Urinary Bladder	C67

Figure 3.1 Relative Proportion (%) of Cancer sites Associated with the Use of Tobacco Relative to All Sites of Cancer in 28 PBCRs under NCRP



CR and AAR given in parentheses

East Khasi Hills district of Meghalaya had the highest relative proportion of cancers associated with the use of tobacco with 70.4% and 46.5% of males and females, respectively. Among males, the lowest proportion of sites of cancers associated with use of tobacco was in West Arunachal (24.5%) whereas in females the lowest proportion was observed in Thiruvananthapuram district (10.1%). Higher proportion of females had cancers associated with use of tobacco in the north eastern states, followed by registries in the central and western regions in India.

Table 3.2 Number (n) and Relative Proportion (%) of Specific Sites of Cancers Associated with the Use of Tobacco by Region (Patients treated only at 58 Reporting HBCRs under NCRP)

NORTH

Anatomical Sites of Cancer	Males		Females	
	n	%	n	%
Lip (C00)	207	1.1	60	1.1
Tongue (C01-C02)	2735	14.3	588	10.7
Mouth (C03-C06)	3072	16.0	614	11.2
Oth. Oropharynx (C10)	706	3.7	114	2.1
Hypopharynx (C12-C13)	857	4.5	160	2.9
Pharynx Unspecified (C14)	67	0.3	17	0.3
Oesophagus (C15)	2551	13.3	1766	32.3
Larynx (C32)	2224	11.6	240	4.4
Lung (C33-C34)	5945	31.0	1769	32.3
Urinary Bladder (C67)	817	4.3	145	2.6
Total	**19181**	**100.0**	**5473**	**100.0**

EAST

Anatomical Sites of Cancer	Males		Females	
	n	%	n	%
Lip (C00)	25	1.1	17	2.3
Tongue (C01-C02)	303	13.3	97	13.1
Mouth (C03-C06)	584	25.6	273	37.0
Oth. Oropharynx (C10)	46	2.0	9	1.2
Hypopharynx (C12-C13)	93	4.1	22	3.0
Pharynx Unspecified (C14)	7	0.3	2	0.3
Oesophagus (C15)	165	7.2	62	8.4
Larynx (C32)	156	6.8	14	1.9
Lung (C33-C34)	772	33.8	218	29.5
Urinary Bladder (C67)	131	5.7	24	3.3
Total	**2282**	**100.0**	**738**	**100.0**

WEST

Anatomical Sites of Cancer	Males		Females	
	n	%	n	%
Lip (C00)	229	1.4	67	1.6
Tongue (C01-C02)	3076	19.1	791	18.5
Mouth (C03-C06)	5578	34.6	1258	29.5
Oth. Oropharynx (C10)	305	1.9	33	0.8
Hypopharynx (C12-C13)	982	6.1	251	5.9
Pharynx Unspecified (C14)	179	1.1	31	0.7
Oesophagus (C15)	1301	8.1	748	17.5
Larynx (C32)	1051	6.5	98	2.3
Lung (C33-C34)	2975	18.5	910	21.3
Urinary Bladder (C67)	436	2.7	83	1.9
Total	**16112**	**100.0**	**4270**	**100.0**

SOUTH

Anatomical Sites of Cancer	Males		Females	
	n	%	n	%
Lip (C00)	149	0.6	131	1.4
Tongue (C01-C02)	3897	16.0	1417	15.5
Mouth (C03-C06)	4747	19.5	3106	33.9
Oth. Oropharynx (C10)	1088	4.5	103	1.1
Hypopharynx (C12-C13)	1906	7.8	667	7.3
Pharynx Unspecified (C14)	94	0.4	35	0.4
Oesophagus (C15)	2453	10.1	1538	16.8
Larynx (C32)	2914	12.0	248	2.7
Lung (C33-C34)	6352	26.1	1763	19.2
Urinary Bladder (C67)	717	2.9	155	1.7
Total	**24317**	**100.0**	**9163**	**100.0**

CENTRAL

Anatomical Sites of Cancer	Males		Females	
	n	%	n	%
Lip (C00)	90	1.6	41	2.5
Tongue (C01-C02)	1243	21.6	309	18.8
Mouth (C03-C06)	2593	45.0	735	44.8
Oth. Oropharynx (C10)	75	1.3	6	0.4
Hypopharynx (C12-C13)	231	4.0	61	3.7
Pharynx Unspecified (C14)	42	0.7	15	0.9
Oesophagus (C15)	388	6.7	197	12.0
Larynx (C32)	471	8.2	57	3.5
Lung (C33-C34)	527	9.2	193	11.8
Urinary Bladder (C67)	97	1.7	27	1.6
Total	**5757**	**100.0**	**1641**	**100.0**

NORTH EAST

Anatomical Sites of Cancer	Males		Females	
	n	%	n	%
Lip (C00)	105	1.0	43	1.2
Tongue (C01-C02)	1290	12.1	334	9.7
Mouth (C03-C06)	1360	12.7	717	20.7
Oth. Oropharynx (C10)	351	3.3	58	1.7
Hypopharynx (C12-C13)	2835	26.5	401	11.6
Pharynx Unspecified (C14)	133	1.2	26	0.8
Oesophagus (C15)	2397	22.4	1179	34.1
Larynx (C32)	864	8.1	160	4.6
Lung (C33-C34)	1262	11.8	525	15.2
Urinary Bladder (C67)	103	1.0	18	0.5
Total	**10700**	**100.0**	**3461**	**100.0**

Males: Lung was the most common site of cancer associated with use of tobacco in the east (33.8%), north (31.0%), and south (26.1%) regions. Cancer mouth had the highest proportion among the cancers associated with use of tobacco in central (45.0%) and western (34.6%) regions whereas cancer hypopharynx was common in the north eastern region (26.5%).

Females: Mouth was the most common site of cancer associated with use of tobacco in the central (44.8%), eastern (37.0%), southern (33.9%) and western (29.5%) regions. Cancer oesophagus and cancer lung had the highest proportion among the cancers associated with use of tobacco in north (32.3%) whereas cancer oesophagus was common in the north eastern region (34.1%).