

Section I

C. Cancer in Sites Associated with Tobacco Use

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Tobacco use is associated with cancers of several anatomical sites, and due to its adverse impact and carcinogenicity, it has become a global threat including India. According to the recent report on cancer in sites associated with tobacco use of 2021, the projected number of cancers in the sites associated with tobacco use in 2025 would be 427273 (313646 in males; 113627 in females) [8]. These cancers would contribute to 27.2% of India's total projected cancer cases.

The National Noncommunicable Disease Monitoring Survey (NNMS) 2017-2018 reported that 32.8% of adults between 18-69 years used either smoked or smokeless forms of tobacco, and 28% used tobacco daily [9]. The average age of initiation of tobacco use was 21 years, which is a contributory factor to the increased burden of cancers associated with tobacco use in India. Tobacco contains at least 69 carcinogenic agents, including various kinds of hydrocarbons, amines, aldehydes, organic, inorganic and phenolic compounds[10].

The NCRP has been using the classification provided by the International Agency for Research on Cancer (IARC) for identifying the anatomical sites associated with tobacco usage [11]. Although the recent updates of IARC reports have added more anatomical sites, we continue to use the original classification in our reports for comparison purposes with our earlier data[12].

Number and proportion of cancers associated with use of tobacco according to geographic region

Cancers associated with tobacco use comprised of 48.7% of all cancers among males and 16.5% among females, respectively. Of all the cancers reported in the hospital-based cancer registry, irrespective of gender, such cancers associated with tobacco use constituted 33.3% of all cancers (Table C.1).

Table C.1 Number (n) and relative proportion (%) of cancers associated with use of tobacco according to geographic region

Region	Males			Females			Total		
	All Cases	n	%	All Cases	n	%	All Cases	n	%
Central	13963	8895	63.7	13342	2577	19.3	27305	11472	42.0
East	27036	10314	38.1	27198	3402	12.5	54234	13716	25.3
North	74700	35215	47.1	60512	9274	15.3	135212	44489	32.9
North East	28677	18972	66.2	21274	6228	29.3	49951	25200	50.4
South	102641	45210	44.0	114205	16719	14.6	216846	61929	28.6
West	72081	36699	50.9	54455	9937	18.2	126536	46636	36.9
Total	319098	155305	48.7	290986	48137	16.5	610084	203442	33.3

Distribution of cancers in sites associated with tobacco use:

The sites of cancer used along with their ICD-10 codes for our reports are given in Table C.2. Among cancers associated with tobacco use which was reported from all HBCRs, the highest among males was mouth cancer (24.4%) followed by lung cancer (22.4%) and tongue cancer (16.6%). The highest among females was mouth cancer (26.4%) followed by lung cancer (22.9%) and oesophageal cancer (20.8%) (Table C.2).

Table C.2 Number (n) and proportion (%) of specific sites of cancer associated with tobacco use

Site of Cancer (ICD-10 codes)	Males		Females	
	n	%	n	%
Lip (C00)	1723	1.1	688	1.4
Tongue (C01-C02)	25721	16.6	7149	14.9
Mouth (C03-C06)	37972	24.4	12722	26.4
Oropharynx (C10)	5122	3.3	654	1.4
Hypopharynx (C12-C13)	12856	8.3	3092	6.4
Pharynx Unspecified (C14)	1019	0.7	243	0.5
Oesophagus (C15)	16853	10.9	10029	20.8
Larynx (C32)	14466	9.3	1507	3.1
Lung etc. (C33-C34)	34832	22.4	11026	22.9
Urinary Bladder (C67)	4741	3.1	1027	2.1
Total	155305	100.0	48137	100.0

Age distribution of cancers in sites associated with tobacco use

According to the age group, the highest number of new cases of cancers in sites associated with tobacco use were seen in 60-64 years among both males (16.3%) and females (15.3%). Close to a half of such cancers occur after 60 years among males (44.6%) and females (42.7%) (Table C.3).

Table C.3 Number (n) and proportion (%) of cancers in sites associated with tobacco use by five-year age groups

Age Groups	Males		Females	
	n	%	n	%
<20	230	0.1	122	0.2
20-24	536	0.3	226	0.5
25-29	1946	1.3	594	1.2
30-34	4870	3.1	1258	2.6
35-39	8313	5.4	2502	5.2
40-44	11501	7.4	3792	7.9
45-49	15988	10.3	5864	12.2
50-54	20179	13.0	6546	13.6
55-59	22608	14.6	6671	13.9
60-64	25291	16.3	7343	15.3
65-69	19967	12.9	5936	12.3
70-74	13321	8.6	3894	8.1
75+	10540	6.8	3386	7.0
All ages*	155305	100.0	48137	100.0

*Includes cases with Unknown Age