

# Hospital Based National Scenario of Oral Cancer in Nepal 2003-2017

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## Abstract

Oral cancer, also known as mouth cancer, is cancer of the lining of the lips, mouth, or upper throat. Oral cancer incidence doesn't mean that only one bodily cancer but it covers the lip, mouth, palate, gum, and above all the cavity along with the other & unspecified sides. The aim of this study is to determine the hospital based oral cancer incidence of and assess its trend in the Nepal for 2013-2017 A.D. This is a descriptive study based on secondary data derived from various hospitals of the nation where recorded new oral cancer every year since first January 2013 to last December 2017. Among the cases other and unspecified parts of tongue is the first leading cancer site followed by other and unspecified parts of mouth and gum for both sex. Though well organized awareness activities, HPV vaccination and screening programs are still needed to prevent and control the incidence of oral cancer in Nepal

**Key Words:** Hospital based, Oral cancer, National

## I. Introduction

Cancer one of the common and most important non-communicable disease increasing around the world with marked rise in the least developed parts of the world. Preventing cancer is an important scientific and public health goal of this century. Cancer is becoming a growing public health problem in our country too. The global cancer burden is estimated to have risen to 18.1 million new cases and 9.6 million deaths in 2018. Globally, about 1 in 6 deaths is due to cancer. Approximately 70% of deaths from cancer occur in low- and middle-income countries. (GLOBO CAN 2018).

Asia accounts for 60% of the world population and half the global burden of cancer. The incidence of cancer cases is estimated to increase from 6.1 million in 2008 to 10.6 million in 2030. According to WHO, India has a cancer mortality rate of 79 per 100,000 deaths and accounts for over 6 percent of total deaths. These numbers are very close to those of high-income countries. Oral cancer incidence doesn't mean that only one bodily cancer but it covers the lip, mouth, palate, gum, and above all the cavity along with the other unspecified sides. Cancer of the oral cavity (Oral cancer) is the 11<sup>th</sup> most common malignancy in the world. In recent days, the observation of the data of the oral cancer shows its increasing condition. Even in Nepal, the oral cancer is giving to increasing rapidly. According to the medical science, the tobacco use, poor hygiene, alcohol, HPV infection are its chief/major factors.

## II. Material and Methods

This is a retrospective study of head, oral cancer, collected from following hospitals. Collected data were coded based on ICD-O3<sup>rd</sup> and ICD -10, published by IARC/WHO and analysis is carried out by using SPSS 19.0.

### Sources of data

1. BP Koirala Memorial Cancer Hospital, Bharatpur, Chitwan
2. Bhaktapur Cancer Hospital, Bhaktapur
3. Bir Hospital , Mahaboudha, Kathmandu
4. Manipal Medical College, Pokhara, Kaski
5. TU Teaching Hospital, Maharajgunj, Kathmandu
6. Kanti Children's Hospital, Maharajgunj, Kathmandu
7. BP Koirala Institute of Health Sciences, Dharan, Sunsari
8. Shree Birendra Hospital, Kathmandu
9. Civil Service Hospital, Kathmandu
10. Patan Academic of Health Science, Lalitpur
11. Paropakar Maternity & Women Hospital, Kathmandu
12. Nepalgunj Medical College Teaching hospital Kohalpur Banke

## III. Limitation

A national level data base is very important for the study, plan and manage the oral cancer. We are presently incorporating the member hospital of the national cancer registry programme of Nepal.

## Results

Table 1

Total cancer cases by sex -2003							
ICD-10	Topography	Sex				Total	
		Male		Female			
		#	%	#	%	#	%
C00	Lip	8	0.54	4	0.23	12	0.37
C01	Base of tongue	0	0.00	1	0.06	1	0.03
C02	Other and unspecified parts of tongue	28	1.88	13	0.74	41	1.26
C03	Gum	12	0.81	2	0.11	14	0.43
C04	Floor of mouth	8	0.54	2	0.11	10	0.31
C05	Palate	7	0.47	5	0.28	12	0.37
C06	Other and unspecified parts of mouth	34	2.29	11	0.62	45	1.38
**	Sum of oral cancer (C00 – C06)	97	6.53	38	2.16	135	4.15
**	Other cancers	1391	93.61	1725	97.84	3116	95.85
Total		1488	100.13	1763	100.00	3251	100.00

Table 2

Total cancer cases by sex -2004							
ICD-10	Topography	Sex				Total	
		Male		Female			
		#	%	#	%	#	%
C00	Lip	8	0.39	6	0.28	14	0.33
C01	Base of tongue	3	0.15	1	0.05	4	0.10
C02	Other and unspecified parts of tongue	44	2.17	18	0.83	62	1.48
C03	Gum	22	1.08	7	0.32	29	0.69
C04	Floor of mouth	5	0.25	0	0.00	5	0.12
C05	Palate	7	0.34	5	0.23	12	0.29
C06	Other and unspecified parts of mouth	44	2.17	13	0.60	57	1.36
**	Sum of oral cancer (C00 – C06)	133	6.55	50	2.30	183	4.36
**	Other cancers	1897	93.45	2121	97.70	4018	95.64
Total		2030	100.00	2171	100.00	4201	100.00

Table 3

Total cancer cases by sex -2005							
ICD-10	Topography	Sex				Total	
		Male		Female			
		#	%	#	%	#	%
C00	Lip	15	0.73	5	0.21	20	0.45
C01	Base of tongue	9	0.44	3	0.13	12	0.27
C02	Other and unspecified parts of tongue	52	2.53	20	0.85	72	1.64
C03	Gum	24	1.17	7	0.30	31	0.71
C04	Floor of mouth	13	0.63	3	0.13	16	0.36
C05	Palate	8	0.39	1	0.04	9	0.20
C06	Other and unspecified parts of mouth	41	1.99	13	0.56	54	1.23
**	Sum of oral cancer (C00 – C06)	162	7.88	52	2.22	214	4.87
**	Other cancers	1895	92.12	2288	97.78	4183	95.13
Total		2057	100.00	2340	100.00	4397	100.00

Table 4

Total cancer cases by sex -2006							
ICD-10	Topography	Sex				Total	
		Male		Female			
		#	%	#	%	#	%
C00	Lip	11	0.47	6	0.23	17	0.35
C01	Base of tongue	6	0.26	1	0.04	7	0.14
C02	Other and unspecified parts of tongue	58	2.49	24	0.93	82	1.67
C03	Gum	28	1.20	5	0.19	33	0.67
C04	Floor of mouth	13	0.56	1	0.04	14	0.29
C05	Palate	8	0.34	12	0.46	20	0.41
C06	Other and unspecified parts of mouth	53	2.28	27	1.05	80	1.63
**	Sum of oral cancer (C00 – C06)	177	7.61	76	2.94	253	5.15
**	Other cancers	2148	92.39	2507	97.06	4655	94.85
Total		2325	100.00	2583	100.00	4908	100.00

Table 5

Total cancer cases by sex -2007							
ICD-10	Topography	Sex				Total	
		Male		Female			
		#	%	#	%	#	%
C00	Lip	4	0.15	7	0.21	11	0.18
C01	Base of tongue	2	0.07	0	0.00	2	0.03
C02	Other and unspecified parts of tongue	24	0.87	86	2.62	110	1.82
C03	Gum	1	0.04	0	0.00	1	0.02
C04	Floor of mouth	4	0.15	3	0.09	7	0.12
C05	Palate	9	0.33	13	0.40	22	0.36
C06	Other and unspecified parts of mouth	50	1.81	67	2.04	117	1.94
**	Sum of oral cancer (C00 – C06)	94	3.41	176	5.37	270	4.47
**	Other cancers	2664	96.59	3101	94.63	5918	98.06
Total		2758	100.00	3277	100.00	6035	100.00

Table 6

Total cancer cases by sex -2008							
ICD-10	Topography	Sex				Total	
		Male		Female			
		#	%	#	%	#	%
C00	Lip	4	0.15	7	0.21	11	0.18
C01	Base of tongue	2	0.07	0	0.00	2	0.03
C02	Other and unspecified parts of tongue	24	0.87	86	2.62	110	1.82
C03	Gum	1	0.04	0	0.00	1	0.02
C04	Floor of mouth	4	0.15	3	0.09	7	0.12
C05	Palate	9	0.33	13	0.40	22	0.36
C06	Other and unspecified parts of mouth	50	1.81	67	2.04	117	1.94
**	Sum of oral cancer (C00 – C06)	94	3.41	176	5.37	270	4.47
**	Other cancers	2664	96.59	3101	94.63	5918	98.06
Total		2758	100.00	3277	100.00	6035	100.00

Table 7

Total cancer cases by sex -2009							
ICD-10	Topography	Sex				Total	
		Male		Female			
		#	%	#	%	#	%
C00	Lip	12	0.40	5	0.15	17	0.27
C01	Base of tongue	6	0.20	0	0.00	6	0.10
C02	Other and unspecified parts of tongue	72	2.42	33	1.02	105	1.69
C03	Gum	9	0.30	1	0.03	10	0.16
C04	Floor of mouth	7	0.24	4	0.12	11	0.18
C05	Palate	13	0.44	6	0.19	19	0.31
C06	Other and unspecified parts of mouth	30	1.01	13	0.40	43	0.69
**	Sum of oral cancer (C00 – C06)	149	5.02	62	1.92	211	3.40
**	Other cancers	2821	94.98	3167	98.08	5988	96.60
Total		2970	100.00	3229	100.00	6199	100.00

Table 8

Total cancer cases by sex -2010							
ICD-10	Topography	Sex				Total	
		Male		Female			
		#	%	#	%	#	%
C00	Lip	12	0.38	9	0.25	21	0.31
C01	Base of tongue	9	0.28	2	0.06	11	0.16
C02	Other and unspecified parts of tongue	66	2.07	45	1.26	111	1.64
C03	Gum	19	0.60	7	0.20	26	0.38
C04	Floor of mouth	17	0.53	3	0.08	20	0.30
C05	Palate	9	0.28	8	0.22	17	0.25
C06	Other and unspecified parts of mouth	101	3.16	34	0.95	135	1.99
**	Sum of oral cancer (C00 – C06)	233	7.30	108	3.02	341	5.03
**	Other cancers	2959	92.70	3471	96.93	6432	94.97
Total		3192	100.00	3581	100.00	6773	100.00

Table 9

Total cancer cases by sex -2011							
ICD-10	Topography	Sex				Total	
		Male		Female			
		#	%	#	%	#	%
C00	Lip	14	0.42	3	0.08	17	0.24
C01	Base of tongue	2	0.06	2	0.05	4	0.06
C02	Other and unspecified parts of tongue	97	2.94	51	1.34	148	2.09
C03	Gum	26	0.79	11	0.29	37	0.52
C04	Floor of mouth	3	0.09	2	0.05	5	0.07
C05	Palate	14	0.42	14	0.37	28	0.40
C06	Other and unspecified parts of mouth	112	3.40	43	1.13	155	2.19

**	Sum of oral cancer (C00 – C06)	268	8.13	126	3.32	394	5.56
**	Other cancers	3027	91.87	3667	96.68	6694	94.44
Total		3295	100.00	3793	100.00	7088	100.00

Table 10

Total cancer cases by sex -2012							
ICD-10	Topography	Sex				Total	
		Male		Female			
		#	%	#	%	#	%
C00	Lip	17	0.53	4	0.10	21	0.29
C01	Base of tongue	8	0.25	1	0.03	9	0.12
C02	Other and unspecified parts of tongue	78	2.42	37	0.94	115	1.59
C03	Gum	13	0.40	3	0.08	16	0.22
C04	Floor of mouth	14	0.43	3	0.08	17	0.24
C05	Palate	12	0.37	8	0.20	20	0.28
C06	Other and unspecified parts of mouth	123	3.82	55	1.40	178	2.47
**	Sum of oral cancer (C00 – C06)	265	8.23	111	2.83	376	5.21
**	Other cancers	2954	91.77	3810	97.17	6836	94.79
Total		3219	100.00	3921	100.00	7212	100.00

Table 11

Total cancer cases by sex -2013							
ICD-10	Topography	Sex				Total	
		Male		Female			
		#	%	#	%	#	%
C00	Lip	27	0.67	8	0.17	35	0.40
C01	Base of tongue	7	0.17	1	0.02	8	0.09
C02	Other and unspecified parts of tongue	107	2.67	51	1.08	158	1.81
C03	Gum	17	0.42	8	0.17	25	0.29
C04	Floor of mouth	26	0.65	8	0.17	34	0.39
C05	Palate	22	0.55	8	0.17	30	0.34
C06	Other and unspecified parts of mouth	136	3.39	29	0.61	165	1.89
**	Sum of oral cancer (C00 – C06)	342	8.53	113	2.40	455	5.21
**	Other cancers	3669	91.47	4605	97.60	8274	94.79
Total		4011	100.00	4718	100.00	8729	100.00

Table 12

Total cancer cases by sex -2014							
ICD-10	Topography	Sex				Total	
		Male		Female			
		#	%	#	%	#	%
C00	Lip	18	0.45	7	0.14	25	0.28
C01	Base of tongue	3	0.07	0	0.00	3	0.03
C02	Other and unspecified parts of tongue	134	3.34	64	1.27	198	2.19
C03	Gum	37	0.92	18	0.36	55	0.61
C04	Floor of mouth	17	0.42	6	0.12	23	0.25
C05	Palate	15	0.37	11	0.22	26	0.29
C06	Other and unspecified parts of mouth	124	3.09	46	0.92	170	1.88
**	Sum of oral cancer (C00 – C06)	348	8.67	152	3.03	500	5.53
**	Other cancers	3666	91.33	4870	96.97	8536	94.47
Total		4014	100.00	5022	100.00	9036	100.00

Table 13

Total cancer cases by sex -2015							
ICD-10	Topography	Sex				Total	
		Male		Female			
		#	%	#	%	#	%
C00	Lip	27	0.60	9	0.17	36	0.37
C01	Base of tongue	2	0.04	0	0.00	2	0.02
C02	Other and unspecified parts of tongue	119	2.65	53	1.01	172	1.77
C03	Gum	66	1.47	13	0.25	79	0.81
C04	Floor of mouth	13	0.29	4	0.08	17	0.17
C05	Palate	12	0.27	4	0.08	16	0.16
C06	Other and unspecified parts of mouth	118	2.63	31	0.59	149	1.53
**	Sum of oral cancer (C00 – C06)	357	7.96	114	2.18	471	4.85
**	Other cancers	4126	92.04	5121	97.82	9247	95.15
Total		4483	100.00	5235	100.00	9718	100.00

Table 14

Registered cancer cases by sex -2016							
ICD-10	Topography	Sex				Total	
		Male		Female			
		#	%	#	%	#	%
C00	Lip	23	0.49	9	0.17	32	0.32
C01	Base of tongue	4	0.09	0	0.00	4	0.04
C02	Other and unspecified parts of tongue	139	2.96	70	1.29	209	2.07
C03	Gum	42	0.89	18	0.33	60	0.59
C04	Floor of mouth	14	0.30	6	0.11	20	0.20
C05	Palate	17	0.36	6	0.11	23	0.23
C06	Other and unspecified parts of mouth	129	2.75	43	0.79	172	1.70
C06	Other and unspecified parts of mouth	118	2.51	31	0.57	149	1.47
**	Sum of oral cancer (C00 – C06)	486	10.35	183	3.38	669	6.61
**	Other cancers	4211	89.65	5237	96.62	9448	93.39
Total		4697	100.00	5420	100.00	10117	100.00

Table 15

Total cancer cases by sex -2017							
ICD-10	Topography	Sex				Total	
		Male		Female			
		#	%	#	%	#	%
C00	Lip	18	0.36	9	0.16	27	1.78
C01	Base of tongue	1	0.02	0	0.00	1	0.07
C02	Other and unspecified parts of tongue	162	3.28	48	0.86	210	13.85
C03	Gum	56	1.13	14	0.25	70	4.62
C04	Floor of mouth	11	0.22	4	0.07	15	0.99
C05	Palate	20	0.40	9	0.16	29	1.91
C06	Other and unspecified parts of mouth	153	3.10	61	1.09	214	14.12
**	Sum of oral cancer (C00 – C06)	421	8.52	145	2.60	566	37.34
**	Other cancers	4518	91.48	5432	97.40	9950	656.33
Total		4939	100.00	5577	100.00	10516	693.67

Table 16

Total cancer cases by sex (2003-2017)							
ICD-10	Topography	Sex				Total	
		Male		Female			
		#	%	#	%	#	%
C00	Lip	233	6.48	105	6.61	338	6.52
C01	Base of tongue	70	1.95	14	0.88	84	1.62
C02	Other and unspecified parts of tongue	1209	33.62	644	40.53	1853	35.74
C03	Gum	368	10.23	111	6.99	479	9.24
C04	Floor of mouth	174	4.84	54	3.40	228	4.40
C05	Palate	229	6.37	130	8.18	359	6.92
C06	Other and unspecified parts of mouth	1313	36.51	531	33.42	1844	35.56
**	Sum of oral cancer (C00 – C06)	3596	100.00	1589	100.00	5185	100.00