

# Descriptive Analysis of Lung cancer Incidence in Nepal Evidence form Hospital Based Cancer Registry 2008

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Lung cancer, also known as lung carcinoma, is a malignant lung tumor characterized by uncontrolled cell growth in tissues of the lung. This was a descriptive study aims to determine the hospital based lung cancer incidence for 2008 by using the secondary data from hospital based cancer registry programme in Nepal from 1<sup>st</sup> January to 31<sup>th</sup> December. Most of the cases 88.9% were from Hindu community, total number of lung cancer (ICD-10 C 34) were 918 and first leading cancer among both sex. Whereas., Male 63.6% n=548, female 36.4% n=334 and pick age group of lung cancer was 60 to 64 years. First choice of treatment was 43.6% chemotherapy followed by 19.7 % radiotherapy & chemotherapy. The frequency of lung cancer was seen to be higher than other cancer and increasing day by day. A well organized awareness activity was recommended to control and prevent the lung cancer burden in Nepal.

**Key words:** Lung cancer, Hospital based, Incidence, Nepal

## I. Introduction

Cancer is the second leading cause of death globally, accounting for an estimated 9.6 million deaths, or one in six deaths, in 2018. Lung, prostate, colorectal, stomach and liver cancer are the most common types of cancer in men, while breast, colorectal, lung, cervical and thyroid cancer are the most common among women (GLOBO CAN 2018). Globally, about 1 in 6 deaths is due to cancer. Approximately 70% of deaths from cancer occur in low- and middle-income countries.

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. Various studies showed that lung cancer is increasing day by day and there are different yearly reports about the incidence of lung cancer. Therefore the aim of this study is to hit up on the national scenario of hospital based lung cancer and relevant details. 33

## II. Materials and Methods

This was a descriptive study with secondary data of new cancer that are recorded and collected in different data source institution since 1<sup>st</sup> January to 31<sup>th</sup> December 2008. The data were entry, edit, and coded based on ICD-O3<sup>rd</sup> and ICD -10, published by IARC/WHO. Whereas, analysis was carried out by using SPSS 19.0.

## III. Results

**Table 1**

Total cancer cases by reporting institute and sex -2008							
S.N.	Reporting institute	Sex				Total	
		Male		Female			
		#	%	#	%	#	%
1	B.P. Koirala Memorial Cancer Hospital, Bharatpur, Chitwan	1339	45.6	1597	54.4	2936	49.4
2	Bhaktapur Cancer Hospital, Bhaktapur	560	44.7	693	55.3	1253	21.1
3	Bir Hospital, Kathmandu	354	44.4	444	55.6	798	13.4
4	B.P. Koirala Institute of Health Science, Dharan	309	47.2	346	52.8	655	11.0
5	Manipal Teaching Hospitla, Pokhara	61	39.9	92	60.1	153	2.6
6	TU Teaching Hospitla, Kathmandu	42	66.7	21	33.3	63	1.1
7	Kanti Children Hospital, Kathmandu	37	40.7	54	59.3	91	1.5
Total		2702	45.4	3247	54.6	5949	100.0

**Table 2**

Total cancer cases by sites for both sex-2008				
S.N.	ICD -10	Topography	#	%
1	C 34	Bronchus&lung	918	15.4
2	C 53	Cervix uteri	732	12.3
3	C 50	Breast	507	8.5
4	C 16	Stomach	385	6.5
5	C 42	Hemtopoitic&endothelial system	299	5.0
6	C 77	Lymph node	227	3.8
7	C 23	Gall bladder	197	3.3
8	C 56	Ovary	167	2.8
9	C 15	Esophagus	158	2.7
10	C 67	Bladder	158	2.7
11	**	Other cancers	2201	36.9
Total			5949	100

**Table 3**

<b>Total cancer cases by sites for male -2008</b>				
S.N.	ICD -10	Topography	#	%
1	C 34	Bronchus&lung	584	21.6
2	C 16	Stomach	238	8.8
3	C 42	Hematopoitic&endothelial system	173	6.4
4	C 77	Lymph node	130	4.8
5	C 32	Larynx	111	4.1
6	C 67	Bladder	111	4.1
7	C 15	esophagus	95	3.5
8	C 76	Other ill defined sites	91	3.4
9	C 23	Gall bladder	81	3.0
10	C 41	Bone joint & articular cartilage of other and unspecified sites	67	2.5
11	**	Other cancer	1021	37.7
Total			2702	100

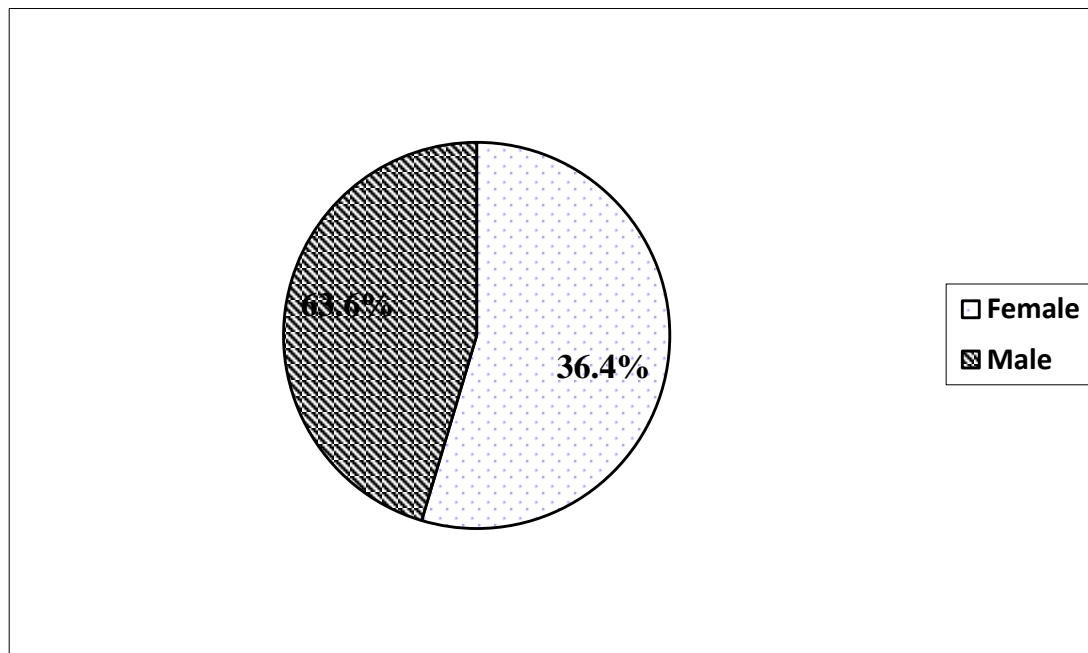
**Table 4**

<b>Total cancer cases sites for female-2008</b>				
S.N.	ICD -10	Topography	#	%
1	C 53	Cervix uteri	732	22.6
2	C 50	Breast	507	15.7
3	C 34	Bronchus &lungs	334	10.3
4	C 56	Ovary	167	5.2
5	C16	Stomach	147	4.6
6	C 42	Hematopoietic & reticuloendothelail system	126	3.8
7	C23	Gall bladder	116	3.5
8	C 77	Lymph node	97	2.9
9	C 20	Rectum	70	2.1
10	C15	Esophagus	63	1.9
11	**	Other cancers	888	27.4
Total			3247	100

**Table 5**

<b>Bronchus &amp; lung cancer cases by sex-2008</b>			
S.N.	Sex	Number	Percent
1	Male	584	63.6
2	Female	334	36.4
Total		918	100.0

**Figure 1: Distribution of cases by sex (2008)**



**Table 6**

<b>Bronchus &amp; lung cancer by religion</b>			
S.N.	Religion	Number	Percent
1	Buddhist	51	5.6
2	Christian	3	0.3
3	Hindu	816	88.9
4	Islam	22	2.4
5	Not Available	25	2.7
6	Others	1	0.1
	<b>Total</b>	<b>918</b>	<b>100.0</b>

**Table 7**

<b>Bronchus &amp; lung cancer by marital status</b>			
S.N.	Religion	Number	Percent
1	Divorced	3	0.3
2	Married	818	89.1
3	Not Available	25	2.7
4	Separated	1	0.1
5	Unmarried	41	4.5
6	Widow	30	3.3
7	Not Applicable	0	0.0
	<b>Total</b>	<b>918</b>	<b>100.0</b>

Table 8

Bronchus & lung cancer by education			
S.N.	Education	Number	Percent
1	Illiterate	442	48.1
2	Literate	413	45.0
3	Not Available	63	6.9
	Total	918	100.0

Table 9

Bronchus & lung cancer cases by occupation			
S.N.	occupation	Number	Percent
1	Agriculture	486	52.9
2	Business	11	1.2
4	Housework	300	32.7
5	Not Available	10	1.1
6	Office Work	51	5.6
7	Others	60	6.5
	Total	918	100.0

Table 10

Bronchus & lung cancer cases by treatment received			
S.N.	Treatment received	Number	Percent
1	Chemotherapy	400	43.6
2	Radiotherapy	61	6.6
3	Radiotherapy Chemotherapy	181	19.7
4	Supportive	58	6.3
5	Surgery	31	3.4
6	Surgery Chemotherapy	99	10.8
7	Surgery+Radiotherapy	19	2.1
8	Surgery+Radiotherapy+Chemotherapy	35	3.8
9	Symptomatic	16	1.8
10	Not available	18	1.9
	Total	918	100.0

Table 11

Bronchus & lung cancer cases by diagnostic method			
S.N.	Method of diagnosis	Number	Percent
1	Microscopy	874	95.2
2	Non -microscopy	18	2.0
3	Not Available	26	2.8
	Total	918	100.0

Table 12

Bronchus & lung cancer cases by age group and sex							
S.N.	Age group	SEX				Total	
		Male		Female			
		#	%	#	%	#	%
1	0-4 yrs	0	0.0	0	0.0	0	0.0
2	5-9 yrs	0	0.0	0	0.0	0	0.0
3	10-14 yrs	0	0.0	0	0.0	0	0.0
4	15-19 yrs	3	0.5	1	0.3	4	0.4
5	20-24 yrs	1	0.2	0	0.0	1	0.1
6	25-29 yrs	4	0.7	4	1.2	8	0.9
7	30-34 yrs	2	0.3	5	1.5	7	0.8
8	35-39 yrs	15	2.7	6	1.8	22	2.4
9	40-44 yrs	25	4.3	11	3.3	36	3.9
10	45-49 yrs	40	6.8	35	10.5	75	8.2
11	50-54 yrs	56	9.6	52	15.6	108	11.8
12	55-59 yrs	70	12.0	36	10.8	106	11.5
13	60-64 yrs	140	24.0	72	21.6	212	23.1
14	65-69 yrs	97	16.6	49	14.7	146	15.9
15	70-74 yrs	69	11.8	43	12.9	112	12.2
16	75-79 yrs	47	8.0	12	3.6	59	6.4
17	80 + yrs	14	2.4	8	2.4	22	2.4
	Total	584	100.0	334	100.0	918	100.0

#### IV. Discussion

Cancer cases of 2008 were collected from seven major hospitals. Collected data were entry, edit and coded according to international classification disease oncology, ICD- 03 and ICD- 10, double entries were deleted verified by name, age, sex and address. Indian cases were excluded and only 5949 Nepali cases were included for analysis. Among the cases bronchus & lung cancer 918 ranked as a first leasing cancer site for both sex. Most of the cases from hindu community. Only bronchus & lung cancer cases were separated out of 5949 and proceed for descriptive analysis of bronchus and lung cancer. Whereas., Male 63.6% n=548, female 36.4%. Most of the cases 88.9% were from Hindu community. First choice of treatment 43.6% was chemotherapy followed by 19.7 %radiotherapy & chemotherapy

## V. Conclusion

Lung cancer cases were most prevalent (23.1% ) in age group of (60-64) years for both sex (male: 24.0% and female: 21.6%.)

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