

## Lung Cancer Scenario of NICRH: A Cross Sectional View

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### ABSTRACT

**Introduction:** Lung cancer alone and in coalition can deactivate life-wheel. But a very little attention had been paid to address the riddle. This effort is to candle the light on the lung cancer disease.

**Objective:** This study was conducted to delineate the sociodemographic factors and clinical conditions of lung cancer patients. To determine some associations of SD variables and clinical conditions.

**Methods & Materials:** This cross sectional study was conducted in NICRH from July 2017 to June 2018 among 167 LC patients. Data were collected by interview using semi-structured questionnaire and reviewing of check list. Data were checked thoroughly, edited, coded, categorized, cleaned and analyzed using software (SPSS version 23).

**Results:** This study revealed that mean age of the patients was  $56.16 \pm SD 9.88$ . Among which 80.2% were male and 19.8% female. Majority had primary 51.1% education, Secondary were 26.4%. Regarding occupation, farmer were 37.1%, businessmen were 20.4% and homemaker were 15.6. The mean income was Tk. 17163  $\pm$  SD Tk. 10587. Most had nuclear family 89.2%. Rural inhabitants were 61.1%. In describing cancer type, 81.5% had NSCC and 16.8% had SCC. Regarding clinical condition, 70% had poor, 7.8% had average and 22.2% had severe clinical condition. The residential areas are significantly ( $\chi^2$ ,  $p < .05$ ) associated with clinical conditions. Staging of lung cancer is significantly ( $\chi^2$ ,  $p < .05$ ) associated with clinical conditions.

**Conclusion:** Socioeconomic factors like age, family income, education, residential condition may affect clinical condition.

**Keywords:** Lung cancer, Socioeconomic factors.

### Introduction

Cancer is a leading cause of death worldwide, accounting for 8.8 million deaths globally in 2015, nearly 1 in 6 deaths is due to cancer. The most common cause of cancer death is lung cancer (1.69 million deaths). Approximately 70% of deaths from cancer occur in low- and middle-income countries<sup>1</sup>.

Fatigue is one of the most prevalent symptoms experienced by cancer patients. CRF has been accepted as a diagnosis in the International Classification of Diseases, Tenth Revision and clinical practice guidelines for its management have been formulated by the Institutes of Health and the National Comprehensive Cancer Network<sup>2</sup>.

There are 13 to 15 lakh cancer patients in Bangladesh, with about 2 lakh patients newly diagnosed with cancer each year<sup>3</sup>. Policy interventions that target additional resources to improving access to the poor would be more affordable in the short term than solving the overall problem of high out-of-pocket spending<sup>4</sup>.

According to the latest WHO data published in April Lung Cancers Deaths in Bangladesh reached 18,124 or 1.89% of total deaths. The age adjusted death rate is 20.29 per 100,000 of population ranks Bangladesh # 59 in the world<sup>5</sup>.

According National Institute of Cancer Research & Hospital, Dhaka, Bangladesh, the occurrence of lung

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cancer is 16.7% of all cancers and the most common cancer (25%) among the male cancer patients,<sup>6</sup> 1:1 male female ratio. Approximately 95 percent of all lung cancers are classified as either small cell lung cancer (SCLC) or non-small cell lung cancer (NSCLC). This distinction is essential for staging, treatment, and prognosis.

Cancer and its treatment results in the loss of resources and opportunities for patients, families, employers, and society overall. Death from cancer worldwide are projected to continue a rise to over 13.1 million by 20306.

About 70% of all cancer death occurs in low and middle income countries. 1.37 million Death annually, which comprises 17% of total new cancer cases and 23% of total cancer death. Bangladesh harbours 162 million people, is the 9th most populous country in the world<sup>7</sup>.

There are 13 to 15 lakh cancer patients in Bangladesh, with about 2 lakh patients newly diagnosed with cancer each year<sup>8</sup>.

## OBJECTIVES

### General Objective:

To find out the sociodemographic and clinical conditions of lung cancer patients

### Specific Objectives:

- To see the age, gender, education, occupation, residential distribution of LC patients.
- To find out the lung involved, type and staging of LC.

## METHODS AND MATERIALS

This cross sectional study was conducted to find out the sociodemographic and clinical conditions of lung cancer patients, study was conducted in National Institute of Cancer Research and Hospital to see the age, gender, education, occupation, residential distribution of LC patients and to find out the lung involved, type and staging of LC. The duration of study period was from July 2017 to June 2018. Initially research protocol was developed and

approved by local ethical committee of NIPSOM, Mohakhali, Dhaka, pre testing in DMCH and data were collected from 1st February to 30 April in NICRH.

## RESULTS

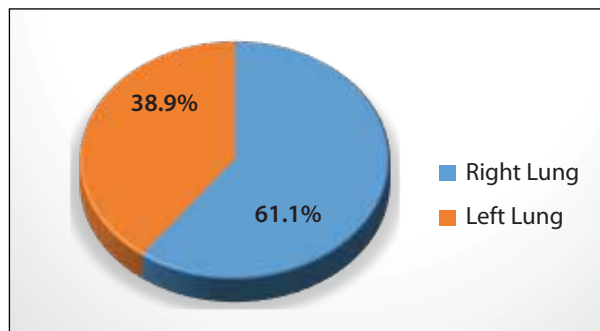
**Table-1:** Sociodemographic characteristics of patients (n=167)

Among the respondents, 71.9% had age more than 50 yrs. Male predominant,80.2%. 51.1% were primary educated, 37.1% were in the occupation of farming, 53.1% had income  $\leq$  10,000, 89% had nuclear family and 38.9% were living in semi-pucca house.

	Variables	Frequency f (%)
<b>Age(Years)</b>	$\leq$ 50	47(28.1)
	51 – 65	93(55.7)
	$\geq$ 66	27(16.2)
	Mean $\pm$ SD Age	56.16 $\pm$ 09.88
<b>Sex</b>	Male	134(80.2)
	Female	33(19.8)
<b>Education</b>	Primary	87(51.1)
	Up to SSC	44(26.4)
	HSC and above	14(8.4)
	Illiterate	22(13.2)
<b>Occupation</b>	Service Holder	15(9.0)
	Retired	11(6.6)
	Business	34(20.4)
	Farming	62(37.1)
	Homemaker	26(15.6)
	Others	19(11.4)
<b>Monthly</b>	$\leq$ 10,000	90(53.9)
<b>Family</b>	10,001 - 30,000	67(40.1)
<b>Income (Taka)</b>	30,00 and above	10(406)
	Mean $\pm$ SD Income	
<b>Residential Area</b>	Urban	25(15.0)
	Rural	102(61.1)
	Sub-Urban	40(24.0)
<b>Family Type</b>	Nuclear	149(89.2)
	Joint	27(10.8)
<b>Type of House</b>	Pucca	32(19.2)
	Semi-pucca	65(38.9)
	<b>Kancha</b>	70(41.9)

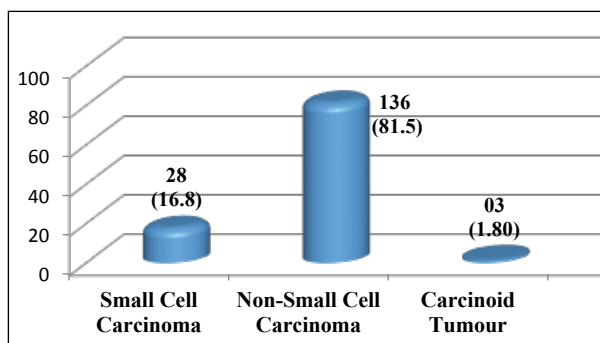
**Fig-1:** Distribution of respondents by Lung Involved (n=167)

Among the respondents 102(61.1%) had been suffering from right lung and rest 65(38.9%) had been suffering from left lung.



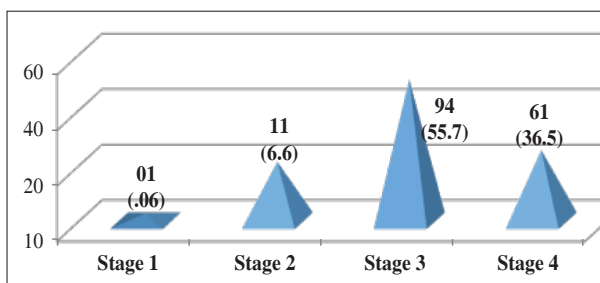
**Fig- 2:** Distribution of respondents by type of Lung Cancer (n= 167)

Among the respondents 136(81.5%) had been suffering from NSCS, 28(16.8%) had been suffering from SCC and 3(1.8%) from carcinoid tumour.



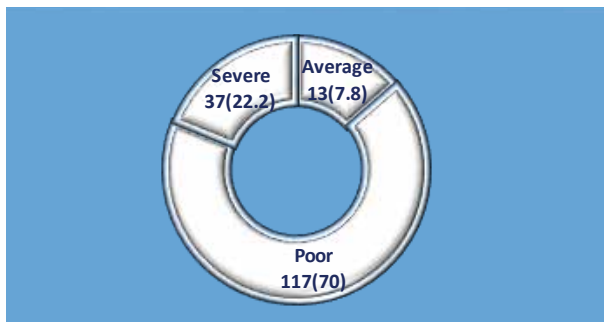
**Fig-3:** Distribution of respondents by Staging of LC (n=167)

Among the respondents 01(.06%) had been diagnosed in Stage-1, 11(6.6%) had been diagnosed in Stage-2, 94(55.7%) had been diagnosed in Stage-3 and rest 61(36.5%) had been diagnosed in Stage-4.



**Fig- 4:** Distribution of respondents by clinical conditions (n=167)

Among the respondents 13(7.8%) had been diagnosed as average clinical condition, 117(70%) had been diagnosed in poor clinical condition, 37(22.2%) had been diagnosed in severe clinical condition.



**Table- 2:** Association of staging by clinical conditions (n=167)

Staging of Lung Cancer	Clinical condition of lung cancer			Total
	Average	Poor	Severe	
Up to stage 2	2(16.66)	8(66.68)	2(16.66)	12(100)
Stage 3	7(7.44)	72(76.59)	15(15.95)	94(100)
Stage 4	4(6.55)	37(60.65)	20(32.78)	61(100)
Total	13(7.78)	117(70.05)	37(22.15)	167(100)

In consideration of staging up to Stage-2, 02(16.66) had average clinical condition, 08(68.66) had poor and 02(16.66) had severe condition. In Stage-3, 07(7.44) had average clinical condition, 72(76.59) had poor and 15(15.95) had severe clinical condition. Among Stage-4, 04(6.55) had average, 37(60.65) had poor and 20(32.78) had severe clinical condition. Chi-square test done but difference was not statistically significant. ( $\chi^2 = 8.66$ ;  $df = 4$ ;  $p < .06$ ).

**Table- 3:** Association of residential area by clinical conditions (n=167)

Residential Area	Clinical condition of lung cancer			Total
	Average	Poor	Severe	
Urban	1(4)	22(88)	2(8)	25(100)
Rural	11(10.8)	69(67.6)	22(21.6)	102(100)
Sub-Urban	1(2.5)	26(65.0)	13(32.5)	40(100)
Total	13(7.78)	117(70.05)	37(22.15)	167(100)

In consideration of residential area, from Urban, 1(04) had average clinical condition, 22(88) had poor and 02(08) had severe condition. Among Rural, 11(10.8) had average, 69(67.6) had poor and 22(21.6) had severe clinical condition. Among Sub-Urban, 01(2.5) had average, 26(65.0) had poor and 13(32.5) had severe clinical condition. Chi-square test done but difference was not statistically significant. ( $\chi^2 = 8.66$ ;  $df = 4$ ;  $p < .06$ ).

## DISCUSSION

This cross-sectional study was carried out on lung cancer patients at NICRH Dhaka to find out the sociodemographic characteristics and clinical conditions.

The mean age of the lung cancer patients were  $56.16 \pm SD 9.88$ , in this study aged people are the victim of lung cancer. Another study where mean age was 62 years, age range was 25 years to 95 years, which is near to similar to this study findings<sup>9</sup>. A further study conducted in Bangladesh, showed the mean age of the patients was 56.99 years, which is almost similar to present study<sup>10</sup>.

In present study most of the lung cancer patients i.e. 80.2% were male and 19.8% were female. The findings were similar with the study conducted by NICR&H where feature like 80% were male and 20% were female. It coincides with a study where 81% were male and 19% were female<sup>9</sup>. Due to more exposure in risk factors of lung cancer, male patients were more in number. But now a days increase more number of female patients due to more exposure in risk factors of lung cancer. American Cancer Society said that culminated by mid-century lung cancer becoming the leading cause of cancer death among men.

In this study, majority of lung cancer patients i.e. 51.1% had primary education while 26.4% passed SSC, 8.4% had HSC and above and illiterate were 13.2%. In respect of occupation, the present study findings are, 37.1% having farming occupation while 20.1% are businessman, retired persons are 6.6%, homemaker are 15.6% and 9% are service holder. This study findings are almost similar with the study conducted in Bangladesh where, farmers were 25.0%, businessmen were 34.30%, service holder were 10.60%<sup>9</sup>.

It is seen that average monthly income of the lung cancer patients TK.  $17163 \pm SD 10587$  with minimum, TK. 5000 and maximum TK. 100000. Among the respondents 53.9% had income TK. 5000-10000, 40.1% had income Tk. 10001-30000, and 6% had income Tk. (30001-50000).

The present study reveals that, 89.2% belongs to nuclear family and 10.8% belongs to joint family.

In the present study, 61% are rural inhabitants, 24% are sub-urban and 15% are urban. According to demographic profile, the percentage of urban population is 35.811.

Among the respondents 38.9% are living in semi pucca houses, 19.2% are living in pucca houses and 41.9% are living in kancha houses. The first epidemiologic study of lung cancer in Nepal on "socio-economic status and lung cancer in Nepal reveals 84.1% rural and 15.9% urban population, this is due to different sociodemographic and cultural trends of the neighboring state<sup>12</sup>.

Among the respondents 38.9% are living in semi pucca houses, 19.2% are living in pucca houses and 41.9% are living in kancha houses.

Among the respondents 16.8% had small cell carcinoma, 81.5% had non-small cell carcinoma and 1.8% had carcinoid tumour.

Among the respondents 6.6% are diagnosed as stage I cases, 55.7% are diagnosed as stage cases and 36.5% are diagnosed as stage cases.

Among the respondents 7.8% had average lineal condition, 70% were in poor clinical condition and 22.2% were in severe clinical condition.

## Conclusion

End of life is the most deleterious outcome of lung cancer but a little attention had been paid to alleviate the problem in context of the burden. This cross sectional study was conducted to find out the sociodemographic characteristics and clinical outcome of lung cancer patients. In this study, aged people were the main victim, male predominance, majority had primary education, and farming was the top of the list as occupation. More than four-fifth of

the patients had nuclear family, near to half of the patients were rural inhabitants. More than four-fifth cases were non-small cell carcinoma. Most of the cases were diagnosed in late stage with poor and severe clinical condition, this study revealed, clinical condition had significant relationship with residential area and staging. Effective interventions to improve QOL and was to relieve some of the inimical burden that a diagnosis of a cancer can bring.

### Recommendations

- ❖ On the basis of study findings, following recommendations are put forward for consideration of policy makers, health administrators, public health specialists and future researchers:
- ❖ To attend socio-demographic status: To improve socio-demographic status, Political, bureaucratic, professionals have to work hand in hand and the nation is well advance in this way.
- ❖ To improve clinical condition: Best possible treatment has to be ensured within the capacity of both end because clinical improvement improves fatigue level and QOL bilaterally.
- ❖ To attend personality traits: Lung cancer is an old age, gender inclined disease so, character traits and risk factors of lung cancer has to be attended in well advance to reduce the disease incidence.
- ❖ To halt the disease process: Early diagnosis of lung cancer should be ensured by screening program at primary level of health system focusing on cause and remedy so, early diagnosis and prompt treatment and proper rehabilitation is required.
- ❖ To develop community awareness: About possible risk factors responsible for development and consequence of lung cancer. Awareness programme should be initiated using mass media and social network to create nationwide cognizance amid the population.
- ❖ To enhance professional excellency: Comprehensive wide scale research work should be carried out to focus on pragmatic scenario of lung cancer and to undertake doable and effectual ascendancy accordingly.

**Conflict of interest:** None.

### References

1. BGD. (2015)Global Burden of Diseases. (2015). [Online] Available at: [https://doi.org/10.1016/S0140-6736\(16\)31679-8](https://doi.org/10.1016/S0140-6736(16)31679-8).
2. Maarten, H., Julie, L., Ryan, C., Figueroa, M., Pascal, J. and Gary, M. Cancer-Related Fatigue: The Scale of the Problem. *The Oncologist* 2007; 12, No. (1):4–10.
3. Hussain S. (2013). Comprehensive update on cancer scenario of Bangladesh. *South Asian Journal of Cancer*. [Online]. Available at: <https://www.researchgate.net/publication/259880428> [Accessed on 20 May 2018]
4. Bangladesh Bureau of Statistics (BBS). (2011). Income and Expenditure Survey [Online] Available at: [www.statssa.gov.za/publications/P0100/P01002011](http://www.statssa.gov.za/publications/P0100/P01002011) [Accessed on 10th December 2011]
5. Bangladesh Bureau of Statistics (BBS). (2011). Income and Expenditure Survey [Online] Available at: [www.statssa.gov.za/publications/P0100/P01002011](http://www.statssa.gov.za/publications/P0100/P01002011) [Accessed on 10th December 2017]
6. World health organization. (2017). Cancer. [Online]. Available at: <http://www.who.int/mediacentre/fact-sheet/fs297/en/> [Accessed on 28 Mar. 2018]
7. Wilson, J. and Jungner, G. (1968). Principles and Practice of Screening for Disease. [Publication] WHO Library, Public Health Paper, 36, Geneva.
8. Uddin, A., Khan, J., Islam, J. and Mahmud, M. Cancer care scenario in Bangladesh. *South Asian J Cancer* 2013; 2(2):102-4.
9. Parveen A., Zafor M., Mohammad A.,Maksuda B. Profile of Lung Cancer: A One Year Study. *J Medicine* 2011;12:115-119.
10. Roushney, M., Pratul, S., Abdullah, E., Farzana, A, Iqbal, I., Anyanna, M., Sabina, Y. Score Based Risk Assessment of Lung Cancer and its Evaluation for Bangladeshi People. *Asian Pacific Journal of Cancer Prevention* 2014;15:7021-7029.
11. Bangladesh Demographic Profile (2018). Report on BD sample vital statistics (2015).
12. Hasibe M, Siwakoti B, Thakur BK, Pun CB. Socioeconomic Status and Lung Cancer Risk in Nepal. *Asian Pac J Cancer Prev*. 2011; 12(4): 1083-8.