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AN AMBIDIRECTIONAL OBSERVATIONAL STUDY ON RISK FACTORS OF LUNG CANCER IN PERIPHERAL CANCER HOSPITAL

Pharmaceutical Science

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ABSTRACT

Introduction: Lung cancer is the most common form than all other cancers. In this study, an Ambidirectional observational study is done on lung cancer patients in peripheral cancer hospital. **Objectives:** Our study aims to identify the risk factors in primary lung cancer patients. **Methods:** The study was carried out in the Department of medical oncology including 71 individuals for a period of 6 months. **Results:** On analysing the demographics data it was found that males are most predominantly affected with lung cancer compared to females within the age groups of 41-70 years. Our results shown, there is significant association with smoking history in the development of lung cancer (p-value < 0.001). **Conclusion:** Our study concludes that predominant cause of lung cancer is Tobacco smoking, occupational exposure, pollution and also signifies, there is no significant association with family history in the development of lung cancer.

KEYWORDS

Epidemiology, Lung cancer, Risk factors, Smoking.

INTRODUCTION:

Lung cancer is becoming more common over the world [1]. According to the GLOBOCON, in 2012 lung cancers accounted for an estimated 1,24,2000 new cases among men, whereas in 2020, globally there were around 22,06,771 cases and India statistics for 2018, males had a higher incidence of lung cancer than females. Risk is more significantly connected with smoking in men, appearing in 71,788 cases compared to 26,490 cases in women [2]. It is critical to investigate the causes of lung cancer so that community-wide prevention strategies can be implemented. Tobacco use has been identified as a substantial risk factor for lung cancer in studies [3]. Other risk factors like Asbestos, radon exposure, air pollution, micronutrients, and occupational exposures are all mentioned in the literature [4]. The drop in male lung cancer mortality rates has persisted in recent years and is expected to continue in the future [5]. Female lung cancer mortality has been decreasing overall. Lung cancer mortality can be linked to distinct patterns of smoking prevention in persons from various countries [6-7]. The genetic predisposition, in conjunction with major risk factors such as smoking, may have a role in an earlier age of onset of lung cancer [8]. The current study seeks to identify the numerous risk factors for lung cancer about cigarette smoking, alcohol consumption, dietary, and occupation exposure.

METHODOLOGY:

An Ambidirectional observational study was done in the Department of medical oncology at a peripheral care hospital (Government general hospital, Guntur, Andhra Pradesh, India. In this study, a total of 71 patients were included who were admitted to the Department of medical oncology diagnosed with lung cancer, between the age groups of 18-80 years. After obtaining approval from the institutional ethical committee. The pre-designed and validated questionnaire was used to identify the risk factors. Patients who are not willing to participate in the study are excluded. Patients were interviewed with a pre-designed questionnaire which includes demographic details, Symptoms, Personal history, Family history, Lifestyle (History of smoking tobacco, drinking alcohol, substance abuse), Occupational status working in pollution areas, and dealing with asbestosis.

Table: 1 (Common Risk Factors)

Parameters	N (%)
Age groups	
18-25	0
26-40	5(7.04%))
41-70	60(84%)
>70	6(85%)
Sex /Gender	
Male	49(69.01%)
Female	22(30.09%)
Smokers	
Male	33(46.47%)
Female	1(1.41%)
Nonsmokers	
Male	16(22.53%)

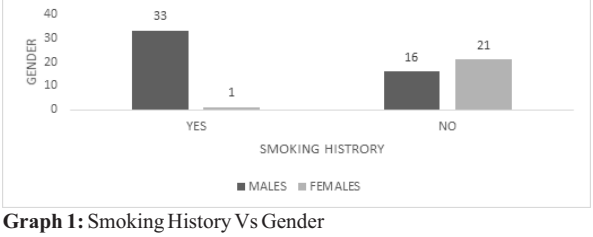
Female	21(29.57%)
Smoking period	
(1-10 years)	4(5.63%)
(11-20 years)	7(9.8%)
(21-30 years)	9(12.6%)
(31-40 years)	13(18.4%)
Alcohol history	
Male	24(33.81%)
Female	0
No alcohol history	
Males	25(35.22%)
Females	22(30.9%)
Confounding factors	
Males	21(29.58%)
Females	0
Non confounding factors	
Males	28(39.43%)
Females	22(30.9%)
Family history	
Males	3(4.22%)
Females	8(11.26%)
No family history	
Males	46(64.78%)
Females	14(19.71%)

RESULTS:

71 patients were included in the study. The aim of the study was to study the effect of risk factors in primary lung cancer patients. Patients who satisfied the inclusion criteria were included in the study. Among the study population majority of the lung cancer patients lie within the age group of 41-70 years, where males (56%) are mostly affected compared to females (28.16%). According to gender distribution males are majorly affected (69.01%) compared to females (30.9%).

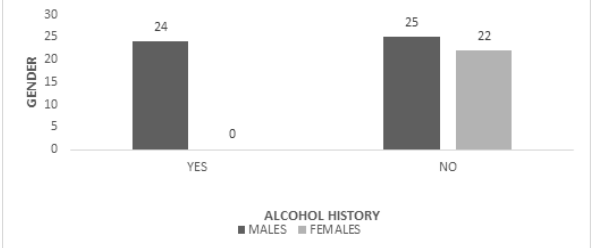
Information regarding the smoking period shows that the majority of patients were found within the smoking period of 31-40 years (0.13%) followed by 21-30 years (0.09%) 11-20 years (0.07%) and 1-10 years (0.04%).

Graph 1 shows Smoking history has Significant Association with the development of lung cancer p-value (<0.001)



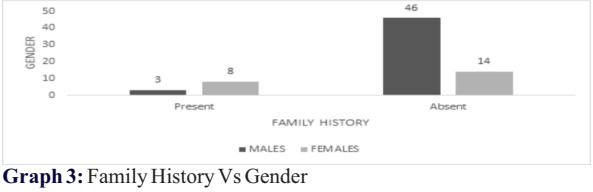
Graph 1: Smoking History Vs Gender

GRAPH 2 Shows alcohol history has no significant association in the development of lung cancer (p-value 0.004)



Graph 2 : Alcohol History Vs Gender

Graphs 3 shows family history has no association with the development of lung cancer (p-value 0.008).



Graph 3: Family History Vs Gender

DISCUSSION:

One of the main public health issues of the modern period is cancer. Exposure to tobacco chewing, smoking, average smoking duration and total consumption, steadily increases the risk of lung cancer. These results are in line with the established link between smoking and lung cancer, whose risk has been demonstrated to rise with the duration of smoking in each individual [11,12] The combustion of biomass fuels made from wood, dried crops, dung, or coal is the main cause of indoor air pollution. These emit smoke that is known to contain several carcinogens [13] Indoor pollution and passive smoking were discovered to be significant risk factors for lung cancer in earlier research on non-smokers who developed the disease.

The development of lung cancer is also influenced by occupational exposure, and these problems have been covered in various case-control studies [14,15] Our study, which mostly included participants from rural areas who were employed on a daily basis, revealed an increased risk for lung cancer in the textile and cooking industries. Although dietary factors have not been investigated by us, some studies indicate that they may contribute to an elevated risk of lung cancer [16,17] One such dietary component is a nutritional deficiency. This study found smoking to be the main risk factor for lung cancer in males, but not as strongly in women as previously thought. Another significant risk factor for the development of lung cancer in women is indoor air pollution and wood combustion. It will take several prospective studies to accurately establish the main risk variables.

CONCLUSION:

For lung cancer prevention cessation of smoking and avoiding occupational risk factors are the most important preventive measure. Smoking and Occupational exposure play an important role in increasing the risk of lung cancer. Based on the results obtained the adults and older adults particularly males are at more risk compared to other age groups and gender. Often Smokers are mostly affected by lung cancer. And occupational risk factors like exposing to pollutants indoors and outdoors leading to lung cancer eventually increased. From this study, we conclude that improving medication adherence along with lifestyle and dietary changes prevents individuals affected with lung cancer.

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REFERENCES :

1. Coleman, MP., Esteve, J., Damiecki, P., Arslan, A., Renard, H.(1993) Text book of Trends in cancer incidence and mortality, International Agency for Research on Cancer(IARC) – World Health Organisation(WHO). Scientific publication No: 121
2. Hyuna Sung., Jacques, F.(2021) Globocan estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries. National Institute of Health-Pubmed. 71(3), 201 – 249. doi:10.3322/caac.21660. Epub 2021 Feb 4.
3. C Koo, L., H Ho, J.(1990) Worldwide Epidemiological Patterns of Lung Cancer in sNonsmokers International Journal of Epidemiology. National Institute of Health-Pubmed. 19(1), S14–S23. doi: 10.1093/ije/19.supplement_1.s14.
4. Jisuk Bae, Jin Gwack.(2007) Cigarette smoking, alcohol consumption, tuberculosis and risk of lung cancer: the Korean multi-center cancer cohort study Journal of preventive medicine and public health. National Institute of Health-Pubmed. 40(4),321-328. doi: 10.3961/jpmph.2007.40.4.321.
5. Matteo, M., Cristina, B.(2013) Lung cancer mortality in European men: Trends and predictions. National Institute of Health-Pubmed. 80(2),138-45. doi: 10.1016/j.lungcan.2013.01.020. Epub 2013 Feb 20.
6. Graham, H.(1996) Smoking prevalence among women in the European community 1950-1990. National Institute of Health- Pubmed. 43(2), 243-254. doi: 10.1016/0277-9536(95)00369-x.
7. Franceschi, S., Naett, C.(1995) Trends in smoking in Europe, European Journal of Cancer Prevention. National Institute of Health-Pubmed. 4(4), 271-84.doi: 10.1097/00008469-199508000-00002.
8. Kreuzer, M., Kreienbrock, L.(1998) Risk factors for lung cancer in Young Adults, American Journal of Epidemology. National Institute of Health-Pubmed. 1;147(11), 1028-37.doi: 10.1093/oxfordjournals.aje.a009396.
9. Ganesh, B., Sushama, S., Monika, S., Suvarna, P.(2011) A case-control study of risk factors for lung cancer in Mumbai, India. National Institute of Health-Pubmed. 12(2):357-62.
10. Tobacco and Cancer, American Cancer Society - https://www.cancer.org/cancer/risk-prevention/cancer-causes/tobacco-and-cancer.html.
11. Loeb, LA., Ernster, VL., Warner, KE., Abbotts, J., Laszlo, J.(1984) Smoking and Lung cancer: an overview. Cancer Research . 44: 5940 – 58.
12. Doll, R., Peto, R. Cigarette Smoking and Bronchial carcinoma : Dose and time relationships among regular smokers and life- long non- smokers.(1978) Epidemiol Community Health. 32: 303 – 13
13. De Koning, HW., Smith, KR., Last, JM.(1985) Biomass fuel and Combustion health. Bull world health organ. 63: 11-26
14. Ronco, G., Ciccone, G., Mirabelli, D., Troia, B., Vincis, P. Occupation and lung cancer in two industrialized areas of northern Italy. Int J Cancer. 41: 354-8
15. Lerchen, ML., Wiggins, CL., Samet, JM.(1987) Lung cancer and occupation in new Mexico. J Natl Cancer Inst . 79: 639-45

16. Byers, TE., Graham, S., Haughey, BP., Marshall, JR., Swanson, MK.(1987) Diet and Lung cancer risk: Findings from the western New York Diet study. 125: 351 – 63
17. Kvale, G., Bjelke, E., Gart, JJ.(1983) Dietary habits and Lung cancer. Int J Cancer. 31: 397-405.