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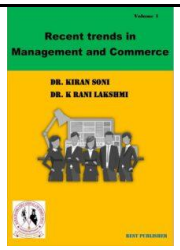

Comparison Study of Epidemiology of Lung Cancer in India Using TOPSIS Method

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Abstract

Lung cancer has different epidemiology geographical area. A trend in incidence between males and females, histology and globally significant changes in the event is non-smoking. Information about Lung cancer in Indian epidemiology is scanty. Tobacco smoking, both cigarettes and beedi are major risk factors Indian men for lung cancer; however, women among Indians do not interact with smoking heavily, suggest other risk factors include smoking. Although many are progressing diagnostic methods, molecular modifications, and in recent years results of therapeutic interventions in lung cancer patients have been poor; therefore, understanding risk factors will influence social status implemented in preventive measures. Markers cancers target many people. Including lung cancer, genetic alterations single nucleotide polymorphisms are a common feature of EGFR. Most commonly observed are lung cancers. Commonly available therapeutic drugs are gefitinib and erlotinib that are highly specific inhibitors EGFR. In recent times, the most common histological is adenocarcinoma Lung cancer type (LC) developed countries. Currently the study was conducted rating changing epidemic, something, LC's in North India. Among men in India, lung cancers rates vary across countries, which prompted a case- Control study examine risk factors. Current inappropriateness enrolled in a study involving hospital-based case-control subjects Tata Memorial Hospital from 1997-99.

Keywords: Epidermal growth factor, Lung cancer, Epidemiology, TOPSIS method.

Introduction

An important risk factor is growth Lung cancer is often associated with tobacco use and disease seen in smokers, however, in a significant number of patients no smoking history for lung cancer. Smokeless tobacco is relatively weak, with little evidence that it causes lung cancer in non smokers. Individual etiological factors revealed. Our current understanding of the change is the deficient trends in epidemiology Indian patients with lung cancer. A global trend though, adenocarcinoma appears parallel in India. In particular, we there is limited understanding is the influence of individual factors for our region, indoor air pollution, etc. Epidemic-like pathogens are mycobacterium tuberculosis. Tobacco smoking, cigarettes and beedi are both major risk factors for smoking is not common among Indian women stronger, it suggests that other risk factors may be current smoking. 12.7% of the 1.61 million new cancers were estimated to be new. Activation of protein kinase a somatic mutation or chromosomal translocation tumor formation of a common mechanism. Inhibition was activated using protein kinase small molecular targeting is drug. EGFR expression, thus opening up a wider opportunity for targeted therapy, especially in lung and colon cancers. Monoclonal antibodies based on the EGFR are cetuximab and biomab (Biocon, India) the hallmark of these specific treatment options. However, in some other cases, somatic mutations near the active site structure of the tyrosine kinase (TK) domain residues of EGFR leads to activation. Its auto-phosphorylation and there by tumorigenes is of this pathway. Recently times, there has been a relatively increased incidence is adenocarcinoma. In most developed countries, it dominates histological types of lung cancer. It continues to be common in some countries men and among women. However, developing countries are not far away and rates approaching those found in developed countries. The different types of transmission Lung cancer type geographic regions. Approximately 70% new cases occur in lung cancer developed countries worldwide.

Lung cancer

Lung cancer was initially considered very rare in India. There were a few attempts made at the correct frequency. Autopsies of the Chemist 1957. Sirsat (1958) discovered that lung cancer accounted for One percent of all cancers. Tata cancer hospital. Bronchial cancer after analysis of registries 15 teaching institutes in India in 10 years. It increased to 16.1 in 1950 and 26.9 per 1000 cancers in 1961. A 1966 study by Misra in Uttar Pradesh reported 4.2 and 2.1 percent per 10,000 hospital admissions malignancies. Different regions of the country from the hospital data also showed different patterns. Behra and Kashyap studied the malignancy admitted patients of PGIMER, Chandigarh since 1973-1982. They found 863 cases of lung cancer (0.38%) in 223,930 hospitalized patients. It is the fifth most common cancer after lung cancer, lymphoreticular malignancy, cervical cancer, oropharyngeal cancer, and breast cancer. The total number of lung cancer admissions has risen steadily since 1973. Patient consent for subsequent acquisition of stained slides. They are primarily adenocarcinoma or

carcinoma based on lung cancer initial cytological diagnosis. In this course, our main objectives are to study performance during lung cancer in Indian research Scopus database of publications based on the period 2005-14. Specifically, there reads the following objectives: (i) Development of global and publications and citation pattern for studying publications; (ii) Read global production share of top 15 producing countries and India's place in global production; (iii) Research share international collaboration Indian publications and contribution leading foreign co-production of India; (iv) Distributional study explore Indian research output and their growth and decline in broad subject areas; (v) Study on Indian lung cancer treatment regimens and publication by their distribution in geographical regions; (vi) Publication production (vii) read communication media; and (vii) Characteristics of highly cited papers to examine.

Epidemiology

Epidemiological studies describe the spread of disease and identify and measure factors that influence disease incidence and morbidity in a defined population. Cancer registries have in many countries, especially in many rich parts has a long history of lack of organization. However, to classify the global burden global rates. A small number are recognized problems for hematological malignancies. Acute and rapidly fatal presentations of some have resulted in fewer health service infrastructures in some countries; Even in well-developed countries, the intermittent and nonspecific nature of these interrelated symptoms poses problems for health care systems and cancer registry processes. Additionally, population-based data, a broad anatomically based leukemia, outlined for the reasons why laboratory data are needed to timely and systematically classify hematologic malignancies are consistently reported. Access to cancer registries is difficult. Disease transmission, diagnosis, treatment, management and potential control. By focusing in the first of these two is the goal of this article review a group of infectious lymphomas considered to be the malignancy of 3-4% of cancers worldwide. The issue of disease classification permeated—and touched upon—the entire debate upon before anyone considers the depth of their infection. The first is time, a hemorrhaging of consensus classification and lymphoid malignancies based on immune phenotype, genetic abnormalities, and clinical aspects. Until then, results between often competing classifications made meaningful comparisons Epidemiological studies are almost impossible. 2001 classification though the WHO almost uniformly accepted in clinical practice worldwide, this has had no immediate outcome population-based epidemiologic research. This is why cancers are unlike any other, hemorrhagic neoplasm's . Influencing role initiation signalling behavior epithelial Cells and Drivers Epithelial Cell tumorigenesis. Together, these receptors are an inclusive group of proteins. Including binding to multiple ligands and activating EGFR. The EGFR receptor results in ligand binding the cell surface at homo- or heterodimerization. Its phenomenon is clinically relevant in tumor cells levels of ionizing radiation lead immediately promotes cell proliferation. Those results indicate that the signalling effects are indistinguishable from those when EGFR is stimulated when the T tube binds to its cognate ligands. When repeatedly exposed to radiation (eg during radiation therapy), it leads to increased cell growth and promotes tumor clones. These can increase the ability of rapidly proliferating cells to repair DNA damage, and the compound can rapidly proliferate and resist DNA damage repair due to the toxic effects of radiation therapy.

TOPSIS Method

The technique for that is through sequence similarity of preference top solution (TOPSIS) compensation system. These types of methods allow different compromise criteria, a bad decision a criterion is offset a good result on another scale. The assumption that Topsis method each parameter increases or decreases steadily. Desire due to the scale modeling capability, there are compensatory methods including TOPSIS, which are of course multi-criteria widely used in various fields of decision-making. A short distance from positive best solution and a far away negative best solution. In this paper, we study the rank inversion phenomenon in the TOPSIS method, and we propose modifications to Hwang and Yoon's algorithm to solve the problem. Furthermore, we provide a general description of the proposed modifications to the algorithm and a numerical example to demonstrate these modifications.

TABLE 1. Data Set

	DATA SET		
	2005–09	2010–14	2005–14
Non-Small Cell Lung Cancer	247.00	808.00	1055.00
Small Cell Lung Cancer	164.00	565.00	729.00
Squamous Cell Carcinoma	72.00	242.00	314.00
Adenocarcinoma	86.00	334.00	420.00
Large Cell Carcinoma	31.00	63.00	94.00
Mesothelioma	39	70	197
Carcinoid Tumors	13	23	36
Total of the Country	**945**	**2,708**	**3,653**

Table 1. show that lung cancer in Non-small cell lung cancer, small cell lung cancer, squamous cell carcinoma, adenocarcinoma, large cell carcinoma, mesothelioma, carcinoid tumors in the years 2005-09, 2010-14, 2005-14.

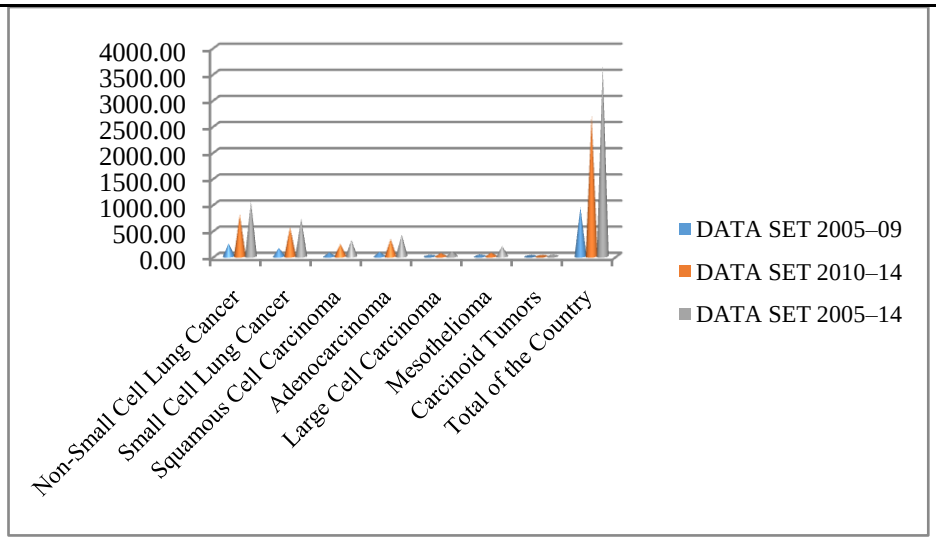

Figure 1 show that lung cancer in Non-small cell lung cancer, small cell lung cancer, squamous cell carcinoma, adenocarcinoma, large cell carcinoma, mesothelioma, carcinoid tumors in the years 2005-09, 2010-14, 2005-14.

TABLE 2. Normalized Data

Normalized Data			
	2005–09	2010–14	2005–14
Non-Small Cell Lung Cancer	0.7755	2.5368	3.3123
Small Cell Lung Cancer	0.5149	1.7739	2.2888
Squamous Cell Carcinoma	0.2261	0.7598	0.9859
Adenocarcinoma	0.2700	1.0486	1.3187
Large Cell Carcinoma	0.0973	0.1978	0.2951
Mesothelioma	0.1224	0.2198	0.6185
Carcinoid Tumors	0.0408	0.0722	0.1130
Total of the Country	2.9670	8.5022	11.4692

Table 2. show that Normalized data in Non-small cell lung cancer, small cell lung cancer, squamous cell carcinoma, adenocarcinoma, large cell carcinoma, mesothelioma, carcinoid tumors in the years 2005-09, 2010-14, 2005-14 obtained to gave a values. These values are calculated using by formula.

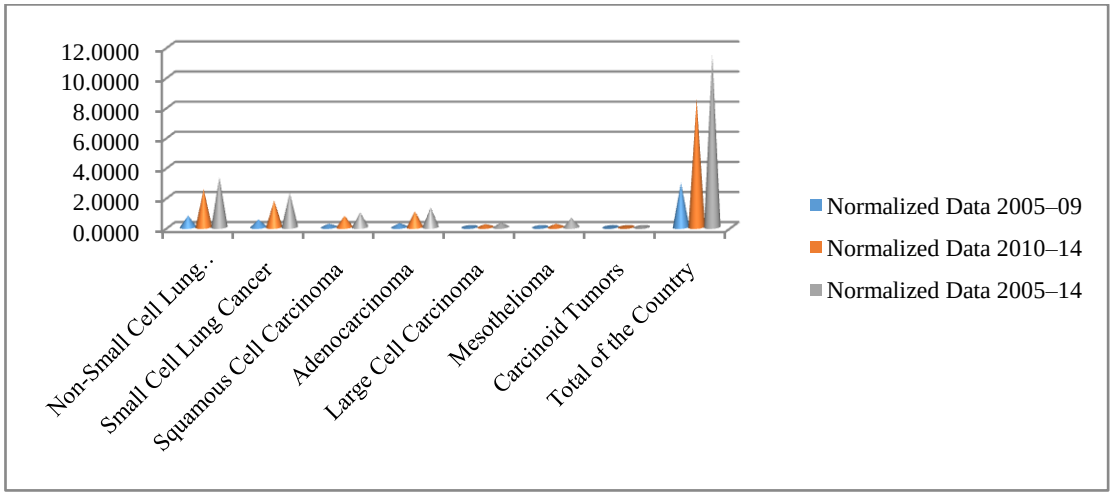

Figure 2

Figure 2. show that Normalized data in Non-small cell lung cancer, small cell lung cancer, squamous cell carcinoma, adenocarcinoma, large cell carcinoma, mesothelioma, carcinoid tumors in the years 2005-09, 2010-14, 2005-14 obtained to gave a values. These values are calculated using by formulas.

TABLE 3. WEIGHT

Weight			
Non-Small Cell Lung Cancer	0.25	0.25	0.25
Small Cell Lung Cancer	0.25	0.25	0.25
Squamous Cell Carcinoma	0.25	0.25	0.25
Adenocarcinoma	0.25	0.25	0.25
Large Cell Carcinoma	0.25	0.25	0.25
Mesothelioma	0.25	0.25	0.25
Carcinoid Tumors	0.25	0.25	0.25
Total of the Country	0.25	0.25	0.25

Table 3. Weight in Non-small cell lung cancer, small cell lung cancer, squamous cell carcinoma, adenocarcinoma, large cell carcinoma, mesothelioma, carcinoid tumors in the years 2005-09, 2010-14, 2005-14 are same weight

TABLE 4. Weighted normalized decision matrix

Weighted normalized decision matrix			
Non-Small Cell Lung Cancer	0.1939	0.6342	0.8281
Small Cell Lung Cancer	0.1287	0.4435	0.5722
Squamous Cell Carcinoma	0.0565	0.1899	0.2465
Adenocarcinoma	0.0675	0.2622	0.3297
Large Cell Carcinoma	0.0243	0.0494	0.0738
Mesothelioma	0.0306	0.0549	0.1546
Carcinoid Tumors	0.0102	0.0181	0.0283
Total of the Country	0.7417	2.1255	2.8673

Table 4. shown that the value about the Weighted normalized decision matrix for given data set, these values are calculated using by the various methods of formulas, and then the values are shown in the tabulation.

TABLE 5. Positive Matrix

Positive Matrix			
Non-Small Cell Lung Cancer	0.1939	0.6342	0.6342
Small Cell Lung Cancer	0.1939	0.6342	0.6342
Squamous Cell Carcinoma	0.1939	0.6342	0.6342
Adenocarcinoma	0.1939	0.6342	0.6342
Large Cell Carcinoma	0.1939	0.6342	0.6342
Mesothelioma	0.1939	0.1939	0.1939
Carcinoid Tumors	0.1939	0.1939	0.1939
Total of the Country	0.1939	0.1939	0.1939

Table 5. show that positive matrix in value. These values are calculated using by formulas.

TABLE 6. NEGATIVE MATRIX

Negetive matrix			
Non-Small Cell Lung Cancer	0.0102	0.0181	0.0181
Small Cell Lung Cancer	0.0243	0.0494	0.0181
Squamous Cell Carcinoma	0.0243	0.0494	0.0181
Adenocarcinoma	0.0243	0.0494	0.0181
Large Cell Carcinoma	0.0243	0.0181	0.0181
Mesothelioma	0.0243	0.0243	0.0181
Carcinoid Tumors	0.0243	0.0243	0.0181
Total of the Country	0.0243	0.0243	0.0181

Table 6. show that negative matrix in value. These values are calculated using by formulas.

TABLE 7. SI plus

SI Plus	
Non-Small Cell Lung Cancer	0.1939
Small Cell Lung Cancer	0.2109
Squamous Cell Carcinoma	0.6055
Adenocarcinoma	0.4971
Large Cell Carcinoma	0.8275
Mesothelioma	0.2179
Carcinoid Tumors	0.3034
Total of the Country	3.3435

Table7. show that si plus are values**.** These values are calculated using by formulas.

TABLE 8. SI negative

Si Negative	
Non-Small Cell Lung Cancer	1.0342
Small Cell Lung Cancer	0.6879
Squamous Cell Carcinoma	0.2701
Adenocarcinoma	0.3798
Large Cell Carcinoma	0.0640
Mesothelioma	0.1401
Carcinoid Tumors	0.0185
Total of the Country	3.6122

Table 8. show that si negative are values. These values are calculated using by formulas.

TABLE 9. CI value

Ci	
Non-Small Cell Lung Cancer	0.8421
Small Cell Lung Cancer	0.7654
Squamous Cell Carcinoma	0.3085
Adenocarcinoma	0.4331
Large Cell Carcinoma	0.0718
Mesothelioma	0.3913
Carcinoid Tumors	0.0575
Total of the Country	0.5193

Table 9. show that ci are values. These values are calculated using by formulas.

TABLE 10. Rank

Rank	
Non-Small Cell Lung Cancer	1
Small Cell Lung Cancer	2
Squamous Cell Carcinoma	6
Adenocarcinoma	4
Large Cell Carcinoma	7
Mesothelioma	5
Carcinoid Tumors	8
Total of the Country	3

Table 10. Non-small cell lung cancer, small cell lung cancer, squamous cell carcinoma, adenocarcinoma, large cell carcinoma, mesothelioma, carcinoid tumors show that rank.

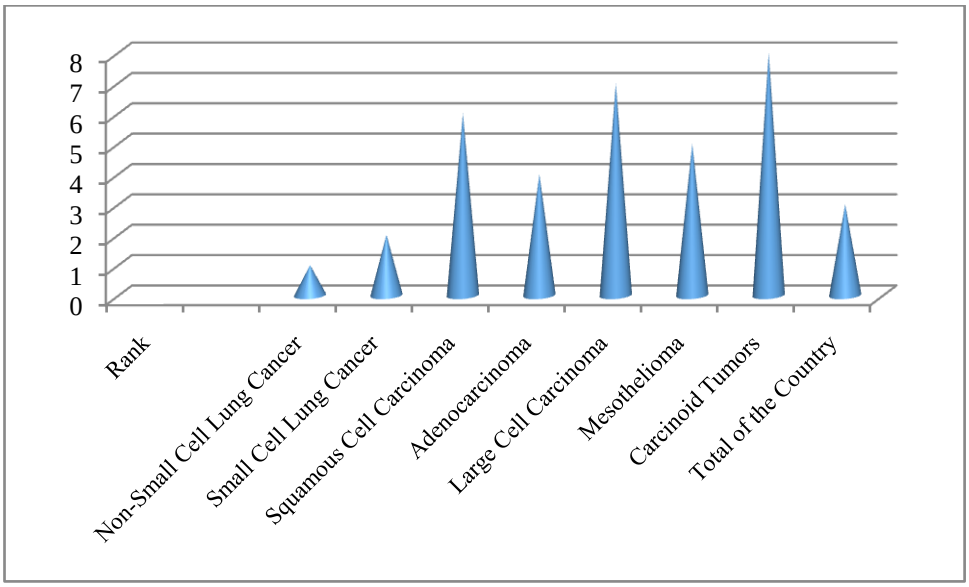

Figure 3 graph is shows in ranking

Conclusions

The most common histology is in contrast to previous Indian studies of squamous carcinoma. These observations need to be confirmed to a large extent, priority is based on population, similar studies. Such studies will help clinicians better understand policymakers' direction and support for the lung cancer epidemic. Maharashtra accounts for the largest production share (16.07%), followed by Delhi (15.93%) and Karnataka (8.65%). Chandigarh (6.65%), Telangana (6.10%), Tamil Nadu (4.38%), Kerala (4.35%), West Bengal (2.87%), Uttar Pradesh (2.52%), Punjab (2.35%), Haryana (2.24%), and Rajasthan (2.08%) in 2005-14. Indian institutes and 15 authors contributed 33.71 and 11.27%, respectively. The 15 most effective journals published during 2005–14 contributed 20.23% of the total journal publication in lung cancer.

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