



Epidemic Situation and Dilemma Clinical Status on Lung Cancer for Henan Residents, China

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Abstract

To analyze the epidemic dynamic and the main reason for lung cancer for Henan residents. China According to clinical problem, to explore the countermeasure and strategy.

Method: Had collected the relevant information in cancer registration center of Henan province from 1974 to 2013, and applied ICD-9, ICD-10 disease classification and statistical methods, to analysis the lung cancer mortality rates and trends. These theses had investigated and comprehensive analyzed lung cancer cases status in the rural and urban smoking crowds and case in the past more than 30 years since the concerned tumor hospital was founded in Henan.

Results: In the last 40 years, it had significantly increased for lung cancer mortality. The main reason for that was high tobacco production, rising smoker rate, and smokers being younger age. Lung cancer mortality increased significantly in recent 40 years, Henan residents, Henan tobacco production and high rates of smoking and smoking age younger is the main reason. A large number of patients with advanced lung cancer went to hospital, and restricted the development of hospital improvement and hinder the hospital technological innovation.

Conclusion: Lung cancer is the main leading causes for the death toll. From 1974 to 2013, the epidemic trend was rising for lung cancer. It needs the restriction for the tobacco planting and selling, and set up corresponding laws and regulations system, and carry out to individuals at risk for lung cancer screening and early detection, then, been treated well. These methods could improve the survival rate and reduce mortality.

Keywords: Lung cancer; Mortality; Tobacco; Being early detected and early treated

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Received Date: 03 Jan 2018

Accepted Date: 15 Mar 2018

Published Date: 19 Apr 2018

Citation:

Yu-fei Lu. Epidemic Situation and Dilemma Clinical Status on Lung Cancer for Henan Residents, China. Clin Oncol. 2018; 3: 1446.

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Introduction

According to analysis data released by the international anti-cancer association, apart from few developed countries such as the United States, Canada, the UK, the lung cancer incidence and mortality declined, due to tobacco restriction, early detection and treatment for smokers in the last 30 to 40 years. Almost other countries, lung cancer morbidity and mortality remained high, and showed a significant increase trend [1-3]. In our country, there is one people died of cancer for every 3~5 deaths. There is one patient died of lung cancer [4] for every 3~4 in cancer patients. Lung cancer has become the "first killer" - our country's malignant tumor. In 2013, it had reported the tumor registration annual report data in Henan province [5], lung cancer has become the first cause of death in Henan residents, accounting 23.24% in total cancer death population. This thesis mainly explores the epidemic characteristics and control strategy.

Material and Method

Material

The files for 1970s was from the death cause review from 1974 to 1976; The files for 1980s was from 1/10 population, namely the residents in 15 cities and counties in the cause of death registration report; The files for 1990s was from 1/10 sampling death population and 15 cities and counties people death registration report from 1990~1992. For this thesis, the data is from tumor registration report of Henan residents.

Method

Had add the data of Retrospective review data in 1974 ~ 1976, retrospective review data of 1/10 sampling population in 1990 ~ 1992, and 15 cities' residents death registration in 1983~2013, then applied related statistical indicators and statistical calculation respectively. The outcomes of statistical indicators included: average mortality rate, age and gender and mortality, death

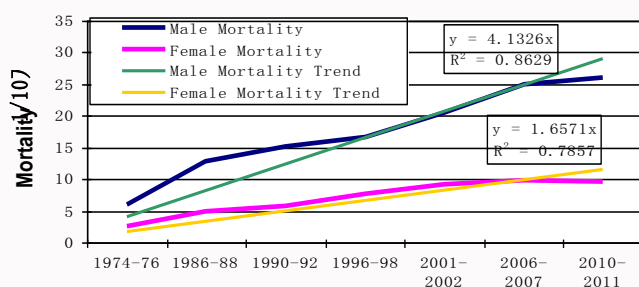


Figure 1: Henan resident's lung cancer trends.

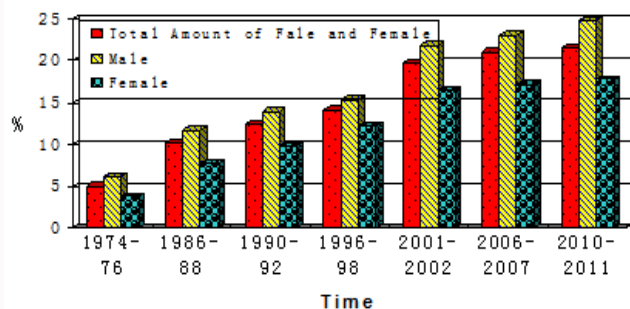


Figure 2: The change of the total death lung cancer death of cancer.

constitution rate and age-adjusted mortality rates, etc. This paper had settled the population census demographic of 1964 as standards, and calculated China population age adjusted mortality. For the dynamic changes of the lung cancer mortality, had applied the relevant models for trend test.

Results

Lung cancer mortality trends

Since middle of 1970s, the male lung cancer rose by 335.74%, female lung cancer rose by 278.97%. Lung cancer deaths accounted for 23.24% of its overall cancer death, has become the first death cause among all cancer for Henan residents (Table 1) (Figure 1). Lung cancer deaths in the 1970s, Henan resident lung cancer accounts for 5.09% of the total population of cancer death, and it has been to more than 20% nowadays (Figure 2).

Tobacco production and consumption

Henan province cigarette output in 1970s was 13.3 times that of the nation establishment, 24 times than that of the early 1980s, and 18 times than that of 1990s. In new century, It still remained above 10 times (Figure 3). According to national statistics of 1992, the national cigarette output was 32.79 million cases, accounting for 98.2% of the cigarette production. For the tobacco, 95% of it was consumed by smokers.

Residents smoking situation investigation

In the 1990s, we had investigated some village in Henan province, found that the people aging 20 years old and above the smoking rate were 44.11%, and the men were still more than 60%. What worth to point out was that people aging 20 years or less was more obvious in teenage, 8.95% for people aging 20 to 39 years old, and 40 to 49 years old group was 5.70%, 2.33% for people aging 50 to 59 years old and 4.77% for people aging 60 to 74 years old. Especially in the young men, were 12.84%, 8.11%, 3.21% and 12.84% respectively. It was obvious that rural young men started smoking earlier than its predecessors.

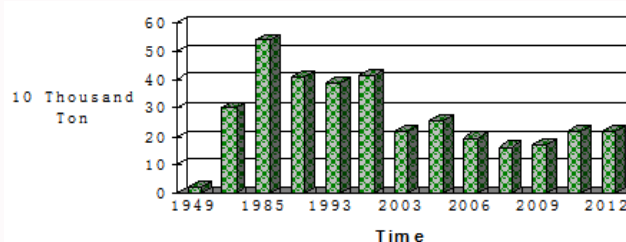


Figure 3: Henan Province Cigarette Production Annually.

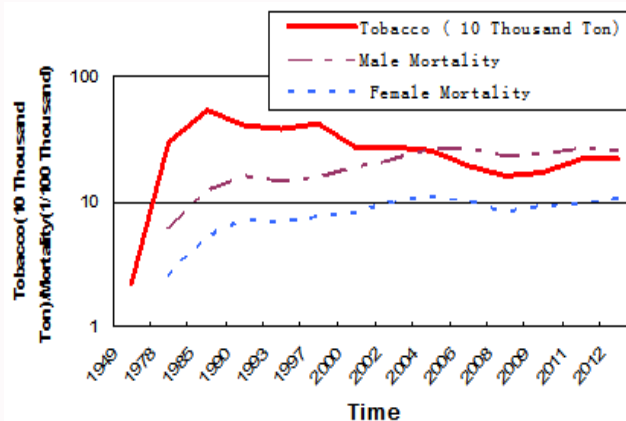


Figure 4: Henan Tobacco Consumption and the Relationship between Lung Cancer Mortality.

Table 1: Lung cancer mortality (1/10 million) level in different decades and its proportion (%).

Time	Male & Female		Male		Female	
	Mortality	%	Mortality	%	Mortality	%
1974-1976	4.15	5.09	5.96	6.11	2.52	3.76
1986-1988	8.55	10.15	12.84	11.73	4.81	7.74
1990-1992	10.21	12.37	15.21	13.93	5.67	9.8
1996-1998	12.13	14.09	16.58	15.28	7.78	12.25
2001-2002	14.73	19.67	20.59	21.83	9.25	16.44
2006-2007	17.11	20.91	25.04	23.02	9.77	17.24
2010-2011	22.85	21.56	25.97	24.78	9.55	17.77

The population sampling survey of smoking status in a city of Henan showed that total smoking rate was 37.15%, the crowd now smoking rates of 34.92%. And male smoking rates up to 70.18% and 4.24% for female, average age of starting smoking was 21.82 years old.

The Relativity analysis of tobacco production, consumption and rising lung cancer mortality

It had been correlative analysed for annual production of tobacco consumption and lung cancer mortality trend (Figure 4).

The Status quo of diagnosis and treatment of lung cancer

This paper had investigated the 10 years of hospitalized patients with lung cancer from 1987 to 1996, lung cancer patients accounted for 6.84% of all hospitalized patients during this period, in the early 5 years, the rate was 6.46%, next 5 years, the rate was 7.33%. The rate in next 5 years had increased almost 1% than the previous five years. The male patients were 2157 cases, accounting for 83.25% of all lung cancer patients during this period. This paper had made the survey

for the same hospital, from 2004 to 2013, the first five years were 5927 cases of lung cancer patients, and 11825 case of patients with lung cancer in the next five years, and increased the double amount accounting to 99.51% than the first 5 years.

From the patient's age distribution, 71% of patients were the ages of 50 to 69 years old, 21.92% in 30 to 49 years old age. According to the pathological data statistics in 1991 to 1993, about half of the patients of squamous carcinoma, 29.78% for adenocarcinoma, 18.02% for anaplastic carcinoma, and 2.57% for other cancer. Treatment status quo analysis showed that 5927 cases of patients were with lung cancer in 2004 to 2008, 28.19% were treated with surgery, 22.24% for radiotherapy and chemotherapy, 42.67% for other treatment, and 6.90% for other treatment. 11825 cases of patients were with lung cancer in 2009 to 2013, the proportion of the above treatment were 23.29%, 16.65%, 48.42% and 23.29% respectively.

Discussion

This assay had analysed cancer surveillance in henan province, lung cancer was the momentum of most malignant tumors and rose fastest in last 40 years. It has various reasons, such as population aging, environmental pollution, bad behavior and lifestyle and so on, being the main factor to the rising lung cancer [6-8]. Since the 1980s, it had dramatic rose for tobacco production in Henan province, the tobacco production was 13 times than that in the early establishment of our nation, 24 times that that in the 1980s, and 18 times than that in 1990s. In the century, it still remained above 10 times. Secondly, smoking rates were still high, either rural area or urban area, male adults smoking rates remained above 60%. And the men started smoking tend to be a younger age. Therefore, it is very necessary to control of tobacco production and strengthen the propaganda education quitting smoking [9]. National Cancer Registry had released the "2012 China tumor registration report" [10], the new cancer cases rose about 3.12 million cases annually, accounting 8,550 people in one day on average, and six people were diagnosed with malignant tumor every minute nationally. There was 22% of our country residents suffered from cancer. This was mainly due to population aging in our country, and became the highest mortality rate of lung cancer both for men and women. In fact, bad living habits, not only smoking, but also bad life style, both were the main reason leading to lung cancer. According to the study investigation, there were 70% of male patients with lung cancer deaths associated with smoking, only 18% of women patients with lung cancer caused by smoking or passive smoking for long time; In non-smoking female lung cancer risk factors, more than 60% of women had been long-term exposed to the kitchen lampblack. Cooking smoke often have irritated eyes and throat; 32% of the women liked cooking in high oil temperature while frying food, with kitchen door closed at the same time, it made the small kitchen lampblack polluted [11]. And 25% of women, kitchen attached to the bedroom, rarely open the window for cooking in winter, high temperature cooking air lasted for long time; even when sleeping in the suction, the toxic smoke seriously damaged the respiratory tissues. At present, the tobacco production in many countries were reduced year by year, while in our country, it were still rising for tobacco growing area, cigarette production, tobacco taxes or consumption quantity, smokers, smoking, the death toll. Henan resident's tobacco production, high rates of smoking, and adolescent smoking increased year by year, lung cancer aging younger become more and more obvious. Therefore, it was particularly important to accelerate the legislative process in indoor smoking forbidden in

public places, building indoor smoke-free environment because lung cancer primary prevention was not a good job, leading to clinical pressure. In a concerned tumor hospital, in the last 30 years, the first ranking for the amount of cancer patients, had shifted from esophageal cancer to lung cancer, most were advanced cancer patients. Surgery, radiation therapy reduced year by year, chemotherapy rate rose the same time. On one hand, the tumor molecular targeted drugs clinical applications. On another side, it reflected the passive situation of tumor prevention and treatment. For example, in Japan, early stage lung cancer accounted 47.7% of the total number of patients with lung cancer in 1994, 51.8% in 1994, 59.4% in 1999, and more than 85% in 2009. From organization credit classification, adenocarcinomas 5-year survival rate was 47.2%, squamous carcinoma survival rate was 50.8% [12]. The increase of 5-year lung cancer survival rate in Japan was contributed by the improvement of early lung cancer diagnosis [13,14]. Situation become revised in our province, more than 80% of patients with lung cancer diagnosis has been in the middle-late and lost the opportunity for radical surgical treatment, and the 5-year survival rate less than 15%. To break the clinical dilemma, first of all, it needs to control tobacco production scale, and strength education, especially for teenagers, it is the main measures to reduce the lung cancer. Secondly, in people at high risk for lung cancer screening, early detection, early diagnosis, early treatment can improve the patient's survival rate, reduce mortality. The reality had told us that the prevention of lung cancer must change concept, should pay attention to the early discovery, early diagnosis and early treatment. In the diagnosis of lung cancer, early detection is key important for diagnosis. One is the physical, namely census on a regular basis. For the majority of peripheral lung cancer have no symptoms, needs to find normal physical examination every year. We know that lung cancer is doubling time increased, don't say a few weeks, grant changes occurred within a few months. Do a medical check-up every year, it is needed. For heavy smokers, about 55 years or older, with smoking more than 30 years, it proposes check-up 1 time in six months, after 2 times normal results, can do the check-up very year. Thirdly, it needs to pay attention to some of the early symptoms. The habit of change, such as cough or irritating cough, with blood in phlegm, some people do not have any reason even start of tobacco; For central type lung cancer, the changing nature of the emphasis on cough, attaches great importance to the blood, phlegm, can be detected early. For lung cancer, surgery, chemotherapy and radiotherapy is still a classic "three big weapon", but it still cannot be ignored for the biological treatment, psychological therapy and lifestyle intervention methods. And according to the clinical characteristics of treats, and the implementation of comprehensive, it could get the best curative effect [15].

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