

Burden of lung diseases in mainland China

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Lung diseases are the most common disorders in mainland China, affecting millions and millions of people. According to the data provided by The Health Ministry of People's Republic of China, lung diseases were the fourth most common cause of mortality in cities and the third most common cause of mortality in rural areas in people of mainland China in 2006. Because most people in mainland China are still living in rural areas, it is not surprising that the mortality from respiratory diseases in the whole population of the mainland China occupied the third position among all the leading causes of deaths in 2006. The economic burden related both directly and indirectly to respiratory diseases is also very huge.

Tuberculosis (TB) remains, as WHO stated correctly, a significant public health problem in mainland China. WHO estimates that mainland China has 1.4 million new cases of TB each year, more than any country except India. The fourth-time Chinese national survey in 2000 identified 375599 eligible individuals at 257 investigation points chosen from all 31 mainland provinces by stratified random sampling. Prevalences of pulmonary, culture-positive, and smear-positive TB were 367 (95% CI 340-397), 160 (95% CI 144-177), and 122 (95% CI 110-137) per 100,000 population, respectively. Although the prevalences in 2000 were significantly lower than the numbers obtained in the third-time Chinese national survey in mainland China performed in 1990 when the prevalences of pulmonary, culture-positive, and smear-positive TB were 523, 177 and 134 per 100,000 population, respectively, they were still many times higher than the prevalences in developed countries. It is estimated that there are about 4.4 million cases of TB in mainland China and about 67,000 deaths each year are caused by it. The calculated loss in life-expectancy is 0.135 year for male, 0.077 year for female and 0.11 year for the population as a whole. The results of a small-scale survey showed that the average family disease financial burden for TB was as follows: for initial treatment cases, 2,103.7 yuan (309.4 USD, 6.8 yuan = 1 USD) for drug-sensitive TB and 3,061.5 yuan (450.2 USD) for drug-resistant TB; for re-treatment cases, 6,798.1 yuan (999.7 USD) for drug-sensitive TB and 8,414 yuan (1,237.4 USD) for drug-resistant TB. The same survey showed that the average social disease financial burden for TB was 5740.68 yuan (844.2 USD) for drug-sensitive disease and 14,655.3 yuan (2,155.2 USD) for drug-resistant disease.

Lung cancer is very common in mainland China. A survey performed in Shanghai in 1995 showed that the incidence of lung cancer for male population was 52.2 per 100,000 which was on the top of the list of all malignant tumors; it was 18.9 per 100,000 in female population and was the second most common malignant tumor, led only by breast cancer. For male population the mortality rate of lung cancer was 44.3 per 100,000 and for female it was 16.1 per 100,000 and both were the most common cause of deaths among all malignant tumors. A research work in Kunming

City showed that the years of life lost (YLL) caused by lung cancer was 6.28 per 1,000 people and was much higher than those of other malignant tumors. Lung cancer is also a very expensive disease in mainland China. Some researchers reported that the average cost for the last-time hospitalization of a group of end-stage lung cancer patients was as high as 43,154 yuan (6346 UAD) which was about 2.5 times of the per capita GDP of mainland China in 2007.

A recently published survey work led by Professor Zhong reported that the prevalence of chronic obstructive pulmonary disease (COPD) was 8.2% in people aged 40 years or above in mainland China. It has been firmly established that COPD is a disorder closely related to cigarette smoking as well as to the aging process of the whole population. In mainland China, cigarette smoking is very common. WHO estimates that there are about 350 millions of smokers in mainland China. On the other hand, the life-expectancy in mainland China has experienced a gradual prolongation in last several decades, reaching 73 years. It is therefore quite reasonable to speculate that the prevalence of COPD will continue to increase in the near future in mainland China. The mortality of COPD in mainland China is rather high. A limited survey showed that from 1991 to 2000 the annual mortality rates of COPD in mainland China fluctuated between 35.9 to 53.7 per 100,000 population in males and 25.6 to 38.7 per 100,000 population in females, respectively. These numbers were much higher than the numbers in Hong Kong which were 11.8 to 18.9 per 100,000 population in males and 3.1 to 6.7 per 100,000 population in females, respectively. COPD is also a very expensive disease. A recently finished multi-center survey collected data from 723 COPD patients living in urban areas of mainland China and found that the average annual direct cost of COPD was as high as 11,744 yuan (1,727 USD) for each patient and this number did not include any indirect cost.

In mainland China, we still do not have a sophisticated and reliable system for accurate diseases-related data-collection and data-analysis. Nevertheless, based on the limited and unsystematic data we have obtained, it is indisputable that lung diseases impose heavy burden to the people in mainland China. The burden of lung diseases in mainland China is even more astonishing when we take into account the fact that mainland China is still a developing country with a population of more than 1.3 billion and a per capita GDP only of 2,400 USD in 2007. More attention should be paid to lung diseases by the society and the people as well as the health care workers and more resources should be allocated for the fighting against lung diseases in order to reduce the morbidity and mortality and to reduce the direct and indirect economic burden related to the respiratory diseases in mainland China.