

Trends of Smoking-Attributable Mortality in Korea

Sung Lim Yoo, Kong Hyun Kim (Graduate School of Public Health, Inje University)
Kwang Kee Kim (Inje University Center for Alcohol Studies)
Jeoung Hee Kim (Department of Environmental Health, Kwangju Women's University)

The purpose of this study was to obtain basic data for antismoking policy by analyzing the trend of the smoking-attributable mortality among Korean adults with the change of times.

The levels of smoking-related deaths and mortality rates were estimated in addition to the degrees and changes of the potential life lost to life expectancy by using of the report on the cause of death statistics published by Korea National Statistical Office at an interval of three years from 1992 to 2001, and then the trend of change was compared by sex, age, occupation and educational level.

The results showed that the total smoking-attributable deaths were 16,104.1 in 1992, 18,728.4 in 1995, 19,299.5 in 1998, and 22,191.5 in 2001. In men the cancers such as bronchus and lung, liver, rectum, and colon, and ischemic heart disease, aortic aneurysm represented the increasing trend of the smoking-attributable deaths, whereas in women hypertensive heart disease and other heart disease showed the increasing trend. And the highly increasing trend of the chronic obstructive lung disease was observed in both sexes. And in occasion of other heart disease, hypertensive heart disease, and atherosclerosis the continuous decreasing trend of the smoking-attributable deaths was observed.

Standardization of the smoking-attributable mortality ratios indicated that for men the mortality ratios were increased till 1998, and then they were decreased at some period, but they were increased again. But, in women they were increased till 2001, and then they were decreased.

For occupational groups, in specialist and professional technicians the trend of results was decreasing result, but in the rests such as students, housewives, unemployed person, and soldiers it was increasing. According to educational groups, in a group above high school and college graduate the trend of smoking-attributable mortality ratios were increasing, so it could be assumed that in persons with high academic background the smoking-attributable mortality ratios would be increasing. Negative relationships were observed between standardized mortalities attributable to smoking and gradient of education levels and occupation levels.

Key words : Smoking Related Diseases, Smoking-Attributable Fraction, Smoking-Attributable Deaths, Trend of Mortality Attributable to Smoking

Prediction for smoking prevalence and smoking attributable death according to tobacco control policy

Sung Il Cho (Seoul National University and Korea Management Center for Health Promotion)

Research Objectives

Tobacco control policies are examined through a simulation model projecting smoking prevalence and associated future premature mortality.

Contents and Scope

In this study, Korea SimSmoke computer simulation was developed by applying Korea data and modified parameter to established SimSmoke model. To validate the model, we compared smoking prevalence rates predicted by the model to actual prevalence rates from survey data.

We estimated the effect of specific policies implemented between 1995 and 2006. And we considered the projected trends in smoking prevalence and smoking-attributable deaths assuming no change of current policies. We then considered the effect of new policies which can be implemented in the future, including those that are consistent with the FCTC. We considered the effect of seven types of policies (taxes, clean air, mass media, advertising bans, warning labels, cessation treatment, and youth access policies) independently and as a package on smoking rates and on deaths attributable to smoking. The changes of smoking rate are calculated in percentage terms relative to the STATUS QUO in the same year $[(SR_{p,t} - SR_{Status\ quo, t})/SR_{Status\ quo, t}]$; where $SR_{p,t}$ is the smoking rate in year t with policy p].

Results

According to validation results, the model for males tracks adult smoking rates quit well over the entire 1995-2005 period, but the rate for female did not.

The model predicts the effect of specific policies implemented. It indicates that about 17% of the decline in smoking prevalence was due to tobacco control policies enacted between 1995 and 2006. And the model predictions indicate that price increases account for a majority of the effect (54%),

followed by media campaigns (33%), clean air laws (9%), and cessation policies (3.8%).

Strengthening tobacco control policies such as implementation of a sizable increase in taxes, stricter clean air laws, a strict marketing ban, stronger health warnings, and a comprehensive cessation treatment program is all predicted to have a large impact on smoking rates. By 2027, increasing the cigarette tax to 1,000 won can reduce smoking prevalence of male by 7%, and stricter clean air laws with enforcement and publicity can reduce smoking prevalence by 6%. Advertising bans and a comprehensive cessation policies program also have the potential to have impacts, reducing smoking rates by about 7% and 6% respectively. Our projections also indicate that with a comprehensive set of policies, smoking prevalence will drop by about 30% and smoking attributable deaths will decrease by about 20,000.

Utilization of Research Results

Korea SimSmoke model projects future smoking prevalence and smoking-attributable deaths and evaluates tobacco control policy. The model will help to establish the tobacco control policy and allocate the limited resources for implementing policies.

Effectiveness of Health Outcome in Health Plan 2010

Young-Ho Jeoung (Korea Institute for Health and Social Affairs and
Korea Health Promotion Foundation)

The Korean national vision of health promotion, the third Health Plan 2020, was published. It aims to provide a longer term vision and strategy for healthy life expectancy.

In this study, we derived health-adjusted life expectancy (HALE) using a measure of health-related quality of life. HALE provides an estimate of the number of expected years of life equivalent to years lived in full health. Life expectancy (LE) at birth in Korea in 2009 was 80.67 years and health-adjusted life expectancy (HALE) was 72.63 years. The gap of LE and HALE was analyzed 8.04 years. Health-adjusted life expectancy at birth was 71.38 years for males and 73.37 years for females.

Life table analysis was applied to estimate the cause-deleted health-adjusted life expectancy. Results represented that for Korea without diabetes, life expectancy was 81.08 years and health-adjusted life expectancy was 73.21 years. When the cardiovascular disease was deleted, life expectancy was 78.78 years for males, 84.74 for females and health-adjusted life expectancy was 73.69 years for males, 75.56 for females.

To analyze the health-adjusted life expectancy, the multi-state simulation was used. The HALE at age 30 years for men with obesity (BMI \geq 30) was 5.05 years less than for man with normal weight. HALE estimated for women at age 30 years with normal weight compared to obesity would extend by 3.61 years.

The life expectancy at age 40 years for smoking men was 6.41 years less than for nonsmoking men. The Life expectancy at age 60 years for smoking men was 4.97 years less than for nonsmoking men.

The lifetime years with cancer at age 40 years were 6.64, 6.34 years for males and females. At age 60, the estimated lifetime years with cancer were 5.70 and those without cancer were 14.19 for men.

The life expectancy of the Korean was remarkably stretched in a short period of time, but the healthy life with good quality was not followed. The prevalence of chronic health conditions increases with age. These show a task that needs to be tackled by the policy-makers.