

The Smoking Experience of Pupils up to and Including Senior High School Age: a Survey of Non-medical University Students in Heilongjiang Prefecture, China.

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ABSTRACT

The present study was conducted to investigate the smoking experiences of pupils in China. Non-medical university students answered a self-administered questionnaire on their own smoking experience from elementary school-onwards. The results revealed that 46 (33.8%) of 136 students up to 3rd grade of junior high school had the experience of smoking. Most students were offered smoking by friends (73.7%). However, 10.5% were offered by siblings

and 5.3% by parents. 16.2% of the students were current smokers and 86% thought that smoking was harmful for health. Among 22 current smokers, 14 students (63.6%) continued smoking even through they thought that smoking was harmful for their health. As the smoking habit is difficult to break, an anti-smoking educational program should be promoted from elementary school.

Key words : Smoking, Tobacco, Cancer, Pupil, Health Education

INTRODUCTION

There are many reports that showed smoking was harmful for the health^{1,2,3,4,5}. Chronic inhalation of cigarette smoke is a major risk factor in the development of lung cancer^{2,3,4,5,6} and many other cancers (e.g., esophagus, stomach, colon, rectum, pancreas, prostate, kidney, and bladder cancer)^{2,4,5}. Smoking is also a major risk factor of cardiovascular diseases^{2,4}.

In 1970, the World Health Association (WHA) decided to make a global proclamation about the adverse effect of smoking⁶. A smoking free society is the ideal goal for the prevention of lung cancer and smoking related diseases. According to the World Health Organization (WHO) 4 million people die each year as a result of smoking³. Forward projections suggested that smoking will kill 10 million people a

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year in 2030⁹.

China is one of the largest tobacco consumers in the world⁷. 35 million cartons of cigarettes are sold annually. In China, 67% of males and 4% of females aged 15 and over are smokers⁷. The number of Chinese smokers is over 320 million, which is one-third of all smokers in the world⁷. The average daily consumption of tobacco per person rose from one cigarette in 1952 to 10 cigarette in 1990⁷. In China, lung cancer death was 15.1/100 thousands a year in the 1990s³. Two-thirds of smoking related deaths in China are due to lung cancer, chronic obstructive pulmonary disease (COPD) and pulmonary tuberculosis⁷. Smoking kills over 1 million people a year in China⁷. Therefore, it is very important to substantially reduce the rate of current smokers in China.

As adolescent smoking has increased worldwide⁸, health education programs have been designed with the aim of prevention. To investigate the actual status of young Chinese as regards smoking, we designed a self-administered questionnaire for 150 university students in Harbin City, Heilongjiang Prefecture, China.

MATERIAL AND METHODS

SUBJECTS

University students of Harbin Institute of Technology took part in our study. In September, 2003, 150 students were asked to answer a self-administered questionnaire. From among these 150 students, there were 136(90.7%) respondents. They were 114 boys, 18 girls and 4 'no answers' with the average (\pm SD) age of 21.7(\pm 0.9).

QUESTIONNAIRE

All students were questioned about the experience of smoking in elementary school, junior high school, senior high school and university as well as current smoking status. Other questions were 1) who offered smoking, and 2) the ideas of harmful effect of smoking.

RESULTS

As shown in Fig 1, 72 students (52.9%) had experienced smoking and 22 students(16.2%) were current smokers. 65 boys (57.0%) had ever smoked and 20 boys (17.5%)were current smokers. On the other hand, 3 girls (16.7%) had experienced smoking but none of girls were current smokers.

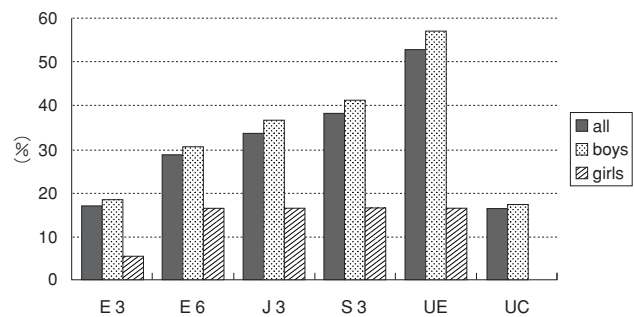


Fig. 1: The rate of smoking experience in each school age and the rate of current smokers among university students.

E 3: up to 3rd grade of elementary school

E 6: up to 6th grade of elementary school

J 3: up to 3rd grade of junior high school

S 3: up to 3rd grade of senior high school

U E: university students with smoking experience.

U C: current smokers among university students.

The rates of students who had the experience of smoking increased as the grade of school age advanced; 23 students (16.9%) had smoked up to 3rd grade of elementary school, 39 students (28.7%) up to 6th grade of elementary school, 46 students (33.8%) up to 3rd grade of junior high school and 52 students (38.2%) up to 3rd grade of senior high school.

As shown in Fig 2, 19 of 72 students who had the experience of smoking answered that they were offered smoking by others (friends: 14 (73.7%), siblings: 2(10.5%), parents: 1(5.3%), no answer: 2(10.5)).

As shown in Fig 3, 1 student (0.7%) did not think that smoking was harmful for health, 16

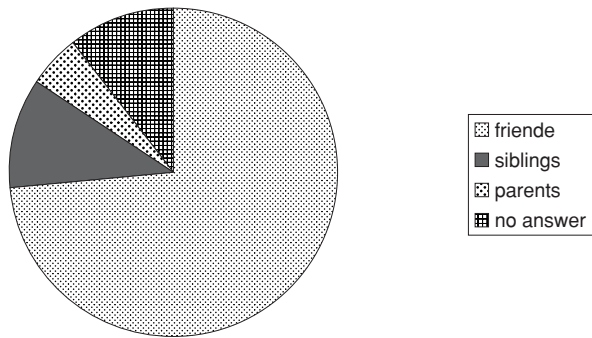


Fig. 2: Persons who offered smoking.

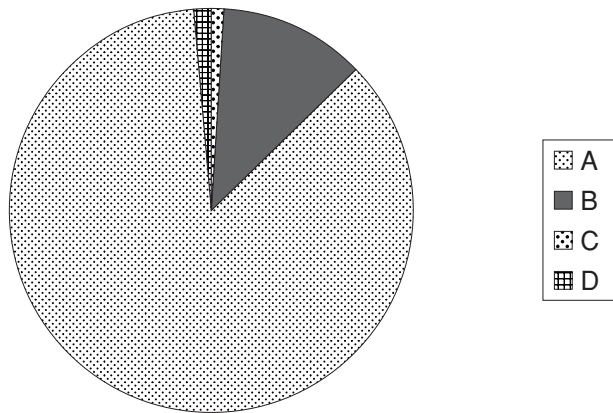


Fig. 3: The ideas of the harmful effects of smoking among all students.

- A: I don't think that smoking is harmful for health.
- B: Smoking is somewhat harmful but not so seriously bad for health
- C: Smoking is harmful for health
- D: I don't know whether smoking is harmful for health, or not.

students (11.8%) thought that smoking was somewhat harmful but not so seriously bad for health, 117 students (86.0%) thought that smoking was harmful for health, and 2 students (1.5%) answered that they didn't know.

Fig 4 shows the ideas of the harmful effects of smoking among the current smokers. 1 student (4.5%) did not think that smoking was harmful for health, 6 students (27.3%) thought that smoking was somewhat harmful but not so

seriously bad for health, 14 students (63.6%) thought that smoking was harmful for health, and 1 student (4.5%) answered that he/she didn't know.

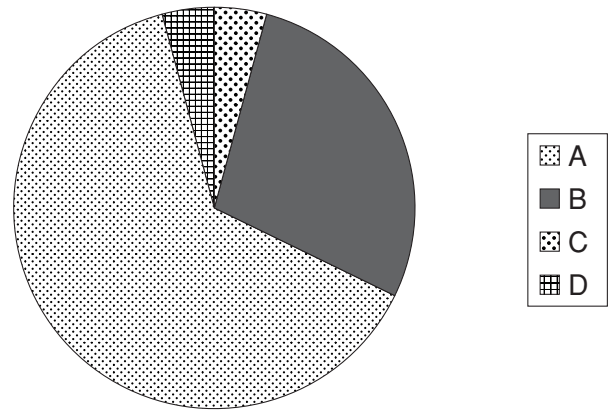


Fig. 4: The ideas of the harmful effects of smoking among current smokers.

- A: I don't think that smoking is harmful for health.
- B: Smoking is somewhat harmful but not so seriously bad for health
- C: Smoking is harmful for health
- D: I don't know whether smoking is harmful for health, or not.

DISCUSSION

Smoking-related disease is recognized as one of the major health problems of contemporary society^{2,3}. Smoking is a major risk factor not only for cancers but also for other chronic diseases such as cardiovascular diseases^{2,3}. Smoking kills 4 million people a year in the world, which is more than the combined number of deaths from malaria, tuberculosis, AIDS, and several major maternal and childhood conditions³. Therefore, it is very important to educate pupils not to start smoking.

In the present study, 46 (33.8%) of the 136 students had experienced smoking up to 3rd grade of junior high school. Surprisingly, 39 students (28.7%) had the experience of smoking up to the 6th grade of elementary school. This rate is much higher than the rate in our previous

study conducted in Japan (8.3%)⁹.

Zhu *et al*¹⁰ reported that the rate of smoking habits among senior high school students was 21.0% in China¹⁰. The rates in other studies were as follows: 25.5% in Japan¹¹, 28% in USA¹², and 27% in Australia¹³. These rates are between the smoking rate of university students (16.2%) and the smoking experience rate of senior high school students (38.2%) in the present study.

Since those who start smoking in youth have a greater risk of lung cancer than those who start smoking in middle-age², it is very important to prevent smoking among adolescents. A health education program with the explicit aim of preventing smoking among elementary school and junior high school students should be initiated immediately.

Most students were offered smoking by friends (73.7%). However, 10.5% were offered by siblings and 5.3% by parents. In our previous study⁹, in Japan, 95.5% of pupils were invited to smoke by friends while only 4.5% by family members (i.e. siblings; 2.3% and parents; 2.3%). Therefore, in China, a health education program not only for pupils but also for family members should be more strongly recommended.

In the present study, 16.2% of university students were current smokers and 86% thought that smoking was harmful for health. Among the 22 current smokers, 14 students (63.6%) continued smoking even though they thought that smoking was harmful for health. In our previous study¹⁴, the rate of smokers among Japanese senior high school students increased from 6.3% in the first grade to 15.5% in the third grade although 96.6% of them despite the fact that smoking was harmful for health and 91.6% knew that smoking was a risk factor for lung cancer. These findings may be partly explained by the addictive nature of smoking^{2,15}. As smoking is a difficult habit to break^{2,15}, the Chinese Government and local governments should find way to help smokers to quit smoking and should promote an anti-smoking education for pupils.

Smoking poses one of the greatest health

problems at school. Since young people have a poor understanding of the addictive nature of smoking¹⁵, an anti-smoking educational program is urgently required in all elementary and junior high schools. It may be too late to start anti-smoking education in senior high school.

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