Does perceived safety of light cigarettes encourage smokers to smoke more or to inhale more deeply?

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Summary

Objectives: This study investigated the effect of smoking light cigarettes and believing that light cigarettes are less of a health threat on the decision to smoke more light cigarettes or inhale more deeply in Taiwan.

Methods: Demographic and smoking characteristic data for 1,182 smokers who believe that smoking light cigarettes is relatively safe was obtained from the 2002 Survey of the Health Promotion Knowledge, Attitudes, and Behavior of Taiwan Citizens; this data was used to establish Logit models for the decision to smoke more light cigarettes or inhale more deeply.

Results: Respectively 5.64% and 4.76% of the light cigarette smokers were motivated to smoke more light cigarettes or inhale more deeply by their belief that light cigarettes are relatively safe. Light cigarette smokers, who believe that light cigarettes are relatively safe and who wish to quit smoking, and light smokers, are both likely to smoke more light cigarettes or inhale light cigarettes more deeply in comparison to ordinary cigarette smokers.

Conclusions: Government should attempt to reverse the tendency for light smokers to smoke more under the misconception that light cigarettes are relatively safe, and correct the erroneous belief among smokers who wish to quit that smoking light cigarettes is an intermediate stage on the path to quitting.

Keywords: Light cigarettes – Perceived safety – Smoking and inhaling – Tobacco control – Survey data.

Survey data published by the World Health Organization (WHO) indicates that smoking causes more than five million deaths each year worldwide, and that an estimated ten million people will die every year of smoking-related causes by the year 2020 if there is no progress in reducing smoking. Smoking is one of the biggest health risk factors facing people today. The government of Taiwan has consistently regarded the management of tobacco products and the control of smoking as important tasks since Taiwan’s accession to the World Trade Organization (WTO) on January 1, 2002. The relatively low price of cigarettes in Taiwan has led to a steady increase in the smoking population. According to statistics issued by the National Health Research Institute’s health care policy research section, there are more than five million smokers in Taiwan, which is equivalent to one smoker for every five persons.

According to the Taiwan Tobacco Control 2007 Annual Report, considerable achievements in Taiwan through many years promotion have been made in curtailing the smoking rates of adult, in enhance the anti-smoking consciousness for the public, and in setting non-smoking supporting environment. However, the prevalence of smoking remained around 55–64% for males, and 3–4% for females from 1968 to 1996. Noticeably after the implementation of the Tobacco Hazards Control Act in 1997 and the imposition of a health tax on tobacco in 2002, respectively, however the smoking rates dramatically decreased in males (down to 39.9% in 2005), while slightly increasing in females (4.8% in 2005).

The rate of cancer deaths has soared in Taiwan since 1982, putting cancer at the top of Taiwan’s ten leading causes of death. In addition, lung cancer – which is closely linked with smoking⁴–⁷ – is the second most common cause of cancer death in Taiwan. Chen et al.¹⁸ employed a large-scale co-
horth study to research the death rate in Taiwan attributable to smoking, and found that 20% of men’s deaths and 4% of women’s deaths were attributable to smoking. The most recent statistics issued by the Bureau of Health Promotion indicate that approximately 17,500 persons in Taiwan die of smoking-related causes annually (Bureau of Health Promotion, 2004). Apart from injuring health and taking lives, smoking accounts for more than NT$16.5 billion in medical expenses and over NT$50 billion in total economic and medical losses.19

A 2002 survey conducted by the Bureau of Health Promotion discovered that, among adults age 18 and over, 50.0% of men and 5.8% of women are daily or occasional smokers.19 In comparison with developed countries, the male smoking rate is quite high in Taiwan. The Bureau of Health Promotion’s 2004 and 2005 “Telephone Survey of Adult Smoking Behavior” found that, among adults age 18 and over, 42.78% of men and 4.54% of women were daily or occasional smokers in 2004 and 39.88% of men and 4.78% of women were daily or occasional smokers in 2005. This reveals that the male smoking rate has a significant falling trend, and although the female smoking rate is increasing, this rise is not statistically significant. This suggests the conclusion that Taiwan’s anti-smoking efforts are gradually effective.20 Light cigarette smokers account for more than 50% of Taiwan’s five million smokers.21

Under the influence of the tobacco companies’ promotional efforts, more and more smokers wrongly assume that light cigarettes are relatively harmless, and as a result light cigarettes have gradually become a mainstream cigarette type in recent years. Light cigarettes invariably boast lower tar and nicotine content, which makes them an attractive alternative for smokers who want to quit or hope for health benefits. In Taiwan, Lin (2004)22 indicates that there is near to 30% of light cigarette smokers who do not intend to quit smoking now, compared with that of 13.8% for regular smokers. However, the ratio of heavy smokers who intend to quit smoking now is 34.5%, that more than 13.8% of light cigarette smokers. Moreover, Lee et al. (2007)23 exhibits that 43.1% of the enrolled light cigarette smokers regarded “light cigarettes” as less harmful to their health in comparison with regular cigarettes. Among those with the perception of less harmful to health, 4.63% and 81.22% responders tend to inhale deeper and draw the smoke into their lungs, respectively.

Even through many smokers aren’t ready to give up smoking, they still want to avoid the health hazards of cigarettes. These smokers therefore prefer to use cigarettes that are less hazardous or less irritating to the throat.24 In addition, smokers who prefer to low tar/nicotine cigarettes actually received about the same amount of tar and nicotine compared with smokers who consume regular brands.25–27 Benowitz et al.28 found that smokers of light cigarettes inhale the same amounts of tar/nicotine as smokers of regular cigarettes. Subsequent research has shown that, in order to take in the same amount of tar/nicotine, persons who smoke light cigarettes may inhale more deeply every puff, take more puffs per cigarette, smoke more cigarettes, hold the smoke in their lungs longer, or use their lips or finger to block the holes of the filter and render the filter ineffective.29–31

Most past research on the smoking of light cigarettes consisted of case-control or cohort studies. In addition, some other studies have used cross-sectional survey data or time series data from longitudinal surveys to analyze light cigarette smoking behavior.32–33 Kelbsch et al.24 have shown that, despite their false impression of being safer, light cigarettes encourage smokers to draw deeper and inhale the smoke into their lungs. This study also discovered that light cigarettes tend to give smokers an erroneous impression of less health risk, and that women are especially susceptible to this misconception. This mistaken belief may also influence whether smokers are able to quit successfully. A survey of the smoking behavior of 8,582 California smokers performed by Gilpin et al.34 in 1996 verified that it gives smokers an excuse to delay quitting when they consider cigarettes sold as light and ultra-light cigarettes to be healthier. This study found that 60% of smokers felt that cigarettes marked light and ultra-light implied low tar/nicotine cigarettes, and otherwise felt that this implied health claims. Those smokers of regular cigarettes who cannot quit successfully may weigh the relative benefits of not smoking and smoking relatively safe cigarettes; among these smokers, the greater their level of addiction, the more likely they are to consider switching to light cigarettes. This shows that certain smokers perceive smoking low tar/nicotine cigarettes as a short-term strategy for reducing health risk. It also implies that marking cigarettes as light or ultra-light misleads smokers, and that administrative agencies should regulate this type of marking.

Tindle (2006)35 found in a study of low tar and low nicotine or “light” cigarettes that smokers who smoke light cigarettes are more than 50% less likely to quit smoking than are smokers who smoke ordinary cigarettes, which suggests that light cigarettes may make it even harder for smokers to kick the habit. This effect seems to become stronger with age: Smokers of light cigarettes over 65 years of age are 76% less likely to quit smoking than are smokers of ordinary cigarettes. Tindle’s results indicate that the more than 30 million light cigarettes smokers in the US who have the mistaken belief that smoking light cigarettes can reduce health risk are in fact increasing their health risk by continuing to smoke and not quitting. Consequently, giving smokers of light cigarettes the message