

## A Study on the Effect of National Anti-Smoking Policies in Korea

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### CONTENTS

<p>I. Introduction</p> <p>II. Theoretical Review on Policies that Have Effect on Policies on Prohibition and Prevention of Smoking</p>	<p>III. Status and Evaluation of Korea's No-Smoking Policies</p> <p>IV. Conclusion and Suggestions</p> <p>References</p> <p>Abstract</p>
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### I. Introduction

Smoking causes death and diseases in both smokers and others around them, and is seen as a risk factor threatening national health, and society and economy. Hence, Korea enacted National Health Promotion Act and created national health promotion funds in 1995, endeavoring to reduce its smoking rate and prevent smoking. Seven years after the enactment of the National Health Promotion Act, there is a need to evaluate the no-

smoking campaign policy and reshape future direction. Thus, this research sought to evaluate Korea's no-smoking policies to date and to develop improvement direction of no-smoking policies.

This research sought to evaluate Korea-implemented no-smoking policies in the respect of planning, processes, and results, and subsequently present a future improvement measure for no-smoking policies. The specific areas for evaluation include: the government-led no-smoking policies, such as the status of financial support for no-smoking-

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related acts and systems and no-smoking campaign; the extent to which the government-led no-smoking policies has been implemented; and what effect these no-smoking policies had on the country's no-smoking rate.

No-smoking policies were analyzed in accordance with processes ranging from tobacco manufacturing, tobacco selling, and cigarettes consumption. The stage of tobacco manufacturing included financial support for tobacco production farmers, encouraging them to produce alternative crops, regulation and disclosure of tobacco components, the design of cigarette packs, and the use of warning phrases. The stage of selling cigarettes included the pricing and taxing, regulations on illegal trading, and regulations on illegal sale to juveniles. The stage of cigarette consumption included regulations on indirect smoking and advertising, and education and publicity on no-smoking.

To achieve the purpose of this research, the author collected available data related to no-smoking, pertaining to the period since the enactment of Tobacco Monopoly Act in 1972, and reviewed Korea's tobacco-related acts and systems such as Tobacco Monopoly Act, Tobacco Business Act, and National Health Promotion Act. It likewise employed research and survey results from the Consumer Protection Board and the Korea Institute for Health and Social Affairs to review the status

of no-smoking policies implementation. The research used smoking survey results on adults and juveniles from the Korean National Tuberculosis Association and Korean Association for Smoking and Health to review smoking rates. However, this research has limitations in determining the effect of the government-led policies on lowering smoking rate because it was impossible take into account how much impact non-policy variables had on decrease in smoking rate.

## **II. Theoretical Review on Policies that Have Effect on Policies on Prohibition and Prevention of Smoking**

According to World Bank (1999), with the implementation of no-smoking policies, measures to regulate the production of cigarette packs, restrict smoking areas, regulate cigarette advertising, and conduct education and publicity on no smoking, have the effect of encouraging 2 to 10% of smokers to quit smoking. A 10% hike of cigarette prices may have the effect of reducing cigarette demand by 4 to 8%. The effect of lowering smoking rate is as follows.

### **1. Policies Related to the Process of Tobacco manufacturing**

The policies intervening in the process of manufacturing tobacco include the reduction

of tobacco output, regulation on cigarette components, standardization of cigarette packs and indication of warning phrases. For policies supporting the reduction of tobacco output, policies on tobacco supply regulation, alternative crops development, and lowering of tobacco prices, were implemented, thus lowering tobacco prices by 29% from 1985 to 1993 (Omar Shafey et al, 2003) However, prices of most other crops and daily necessities declined further by a great margin, leaving the policies to have little effect on reducing the tobacco production in the case of Canada (Health Canada <http://www.hc-sc.gc.ca>).

Policies to mandate the indication of warning phrases and pictures on cigarette packs reading that smoking is harmful, aimed at reducing cigarettes consumption, were reported to be very effective. In particular, warning pictures are more effective than warning phrases. In the United States, the Federal Cigarette Labelling and Advertising Act mandated in 1965 that health warning phrases are indicated on cigarette packs, and this policy had a significant effect on the reduction of cigarettes consumption (Son Yong-yeop, 2002). In Turkey, after the indication of warning phrases on cigarette packs was mandated, the smoking rate declined by 8% six years later (World Bank 1999). In Canada, after the indication of warning phrases on cigarette packs was mandated, the

Canadian Cancer Association conducted surveys on the effect of warning pictures targeted at 2,031 Canadian adults including 633 smokers. Subsequently, it found that 44% of smokers were motivated to quit smoking, and 38% of those who were stimulated into stopping smoking, due to picture warning. Also, 21% of smokers who wanted to smoke refrained from smoking due to the warning picture (Korea Anti- Smoking Association, 2002)

## **2. Policies Related to the Process of Tobacco Sales**

Increasing cigarette prices is seen as a policy that is very effective in lowering smoking rate. However, a small increase in cigarette prices has a minimal effect on the reduction of cigarette consumption. A survey targeted at 2,420 Japanese smokers found that if the current 250-yen cigarette pack rises to 1,000 yen (about 10,000 won), 63% of them said they will quit smoking. However, only 16% would stop smoking if a pack rises to 300 yen (Maeil Business Newspaper, 2002.9.3). Also, with differences varying according to economic levels, the price elasticity of cigarette consumption was high for developing nations, compared to advanced nations. It is -0.4 and -0.8 for advanced nations and developing nations, respectively (World Bank, 1999). Also, by age, prices have more effect on juveniles than

on adults. Lewit and Coate (1982) measured the cigarette price elasticity of adults smoking rate at -0.26, and Chaloupka and Grossman (1996) measured the cigarette price elasticity of juveniles smoking rate at - 0.68, higher compared to adults, thus disclosing that when cigarette prices rise, the smoking rate of juveniles declines by 0.68%, further compared to that of adults.

### **3. Policies Related to the Process of Tobacco Consumption**

Policies to restrict the consumption of cigarettes include restriction of smoking areas, regulation of advertising by cigarette companies, and education and publicity on no smoking. Policies to restrict smoking areas are launched to protect non-smokers from indirect smoking-caused harm, and have an effect on reducing the smoking rate of smokers. Workplaces that implement complete no-smoking policy within their premises find the density of nicotine decline by about a half from 2~6 $\mu$ g/m<sup>3</sup> to under 1 $\mu$ g/m<sup>3</sup> (Hammond, 1999). However, even with smoking areas restricted, if the restriction is not observed well, or no separate smoking areas are provided, areas like toilets and corridors see no big difference in nicotine content between smokers and non-smokers (Baek Nam-won, 2002). Studies on the correlation between smoking rate and smoking regulation in 60 nations revealed that regulation on smoking

in public places aimed at protecting non-smokers had a significant effect on lowering the smoking rate of over 15-year-old males (Jung Ae-suk et al., 2001). In the case of United States, the survey found that the consumption of cigarettes was reduced by 4 to 10% by regulating smoking in workplaces and public places (The World Bank 1999), and a recent survey in Korea also found that workers reduced smoking by 57.5% after their workplaces regulated smoking (Kim Han-jung, 2000).

In buying cigarettes, ordinary people are influenced by cigarettes advertising. The probability of buying cigarettes increases by 21% after one sees an cigarette advertising in a magazine, and the probability of buying cigarettes rises by 38% after one sees a cigarette ad in a tobacco shop or participates in or sees an event by a tobacco company for promoting cigarette sales (Caroline Schooler et al., 1996). In Korea, too, after Marlboro Dynasty Cup soccer match was held in 1990, and Marlboro tennis championship was held in Seoul at the end of October 1990, the company's cigarette sales posted a distinct growth (Lee Yun-gyu and Lee Byeong-cheol, 1992). Also, bans on cigarettes advertising tend to reduce the demand. Observations in 33 nations between 1970 and 1986 indicated that the degree of restriction on cigarettes ads has a correlation with a decline in cigarettes consumption (Lynch BS, Bonnie R J, 1994).

Also, smoking scenes on TV shown to large audiences prompt juveniles to smoke. Lee Sang-uk et al. (2003) revealed in their study that after seeing scenes of smoking on TV, 25.3% of respondents aged 13 to 18 years developed their liking to the actor or actress who smoked in the scene, 30.6% of 19 to 29 years, and 25.3% of aged 30 to 39 years; thus a smoking scene on TV was considered to provoke juveniles into smoking.

To positively provide information on no smoking has a great effect on no smoking. An experiment to measure the effect of no smoking using public media was conducted in the Netherlands, and it was found that 88% of smokers recognized no-smoking campaigns, and 45% memorized no-smoking campaign contents, and 187,000 of smokers or 4.5% were estimated to have quit smoking. (W. Stevens et al, 2002). A Canadian study found that non-smoking education targeted at students required US\$ 67 per person, but early during the education, the smoking rate declined by 6%, and it declined by 4% later, saving as much as an average of US\$ 3,400 per person in health cost in one's life (Health Canada, 1996).

### **III. Status and Evaluation of Korea's No-Smoking Policies**

This chapter conducted evaluation on

Korea's no-smoking policies by dividing them into planning (status of no-smoking-related laws, systems and budgets), processes (the degree of implementing no-smoking-related laws and systems), and results (change in smoking rate).

#### **1. Evaluation of Planning: Status and Evaluation of Laws and Systems and Budgets Related to No Smoking**

##### **A. Status of Laws Related to No Smoking**

Laws related to tobacco production have yet to be reinforced. Policies geared towards encouraging tobacco farming were abolished, and for tobacco components regulation during the manufacturing, nicotine and tar components were disclosed in 2001 and thus a regulation on the matter has just begun. As such, a system has yet to be introduced to control all components. Also, an indication of warning phrases on cigarette packs has been being implemented since 1988, and an area covered by the indication of warning phrases changed to consist of 20% of the respective area of a cigarette pack's front and back, and the types of warning phrases also changed to widen to more than two. However, Canada used smoking-warning pictures instead of warning phrases and found that the effect of no smoking increased. (Health Canada <http://www.hc-sc.gc.ca>) Switzerland likewise used 12 different kinds of warning

Table 1. Changes in Cigarette-related Acts

		1972	1986	1989	1992	1995	1997	1999	2001	2002	2003
Production, production and manufacturing	Tobacco farmers	Agreement to grow tobacco (1)	→	(Incorporated into Tobacco Business Act)	→	→	→	→	Stopping the agreement system of growing tobacco (2)	→	
	Tobacco components	X	X	X	X	X	X	X	X	Disclosure of nicotine and tar examination (2)	
	Cigarette design	X	Ban on damage on cigarette packaging in selling them (1)	(Incorporated into Tobacco Business Act)	→	→	→	→	→	→	
	Indication of warning on packs	X	Warning phrases are required(1)	Determining phrases (2)	→	Specifying warning phrases (3)	→	→	→	→	
Consumption	Indirect smoking	X	X	X	X	Operating smoking and non-smoking areas separately (3)	→	→	→	→	Reinforcing the operation of separate smoking and non-smoking areas (3)
	Cigarettes advertising	X	Restricting cigarettes ads (1)	Indicating the scope of allowing cigarettes ads (2)	→	(Incorporated into Health Promotion Act)	→	→	→	→	
	No-smoking education	X	X	X	X	Health education was mandated (3)	Health education was recommended (3)	→	→	→	
Sale	Prices and tax	The government determined cigarettes prices (1)	→	(Incorporated into Tobacco Business Act)	→	→	Collecting 20 won in health promotion fund per cigarette pack (3)	20 won range per cigarette pack (3)		Adjusted to 150 won per pack (3)	
	Selling qualification	Approval system of production to retailing (1)	→	(Incorporated into Tobacco Business Act)	→	→	→	→	Reinforcing seller qualifications (2)	→	
	Cigarette vending machine	X	X	X	Restricting cigarette vending machine installation <sup>2)</sup>	(Incorporated into Health Promotion Act)	→	→	→	→	
	Ban on selling to juveniles	X	X	X	X	Banning the selling of cigarettes to juveniles aged under 19 years (3)	→	→	→	→	

Note: (1) Tobacco Monopoly Act (2) Tobacco Business Act (3) National Promotion Act

Note : → indicates the continuing effect of related acts; Note 2) X indicates that no related act exists;

phrases to increase the effect of no smoking (Korea anti-smoking Association). Korea also has yet to write into law the use of picture warnings and various warning phrases in order to increase the effect of warning phrases.

Korea has already enacted regulations concerning the stage of selling cigarettes as produced. Enacted in 1972, the Tobacco Monopoly Act mandates a strict regulation on all stages ranging from tobacco production to sales. Also, preventing the spread of juveniles smoking, are forbidden from selling cigarettes, thus reinforcing the qualifications of cigarettes sellers. In addition, since 1992, the installation of cigarette vending machines is restricted to protect juveniles smoking, cigarette selling to minors are banned, and cigarette buyers suspected of being minors are required to present their I.D. cards, thus strongly regulating the selling of cigarettes to minors.

Acts on cigarettes consumption impose a strong restriction of cigarettes ads, and regulations on smoking areas aimed at preventing indirect smoking are comprehensive. Currently, cigarettes ads are allowed in a limited scope such as in magazines and at retailers'. However, since only a complete ban on cigarettes ads has an effect on no smoking (World Bank, 1999), it should be written into law in the long-term. Public facilities operate smoking and non-smoking areas separately,

gradually expanding non-smoking areas as well as reinforcing the erection of facilities necessary for smoking areas. In addition, an act related to no-smoking education, which was included in the National Health Promotion Act enacted in 1995, mandated the education at work place with a size of over 500 workers, but the no-smoking education was changed to be a recommendation item in 1999. As such, acts on education on no smoking and health have yet to be amended.

#### B. Appropriate Financial Support for the Implementation of No-Smoking Policies

The no-smoking campaign cost was one billion won for the year 2000, 3 billion won for 2001, 8 billion won for 2002, and 7 billion won for 2003. It represented 7.0%, 7.5% and 30.8% of the national health promotion funds, in 2000, 2002 and 2003, respectively, thus continuing to rise (Ministry of Health and Welfare, 2000~2003). Ninety-eight percent of the no-smoking program budget was used for education and publicity efforts. Of no-smoking budget for the year 2003, 98.0% was allotted to education and publicity on no-smoking and smoking prevention, 6.1% medical checks for smokers, and 2.6% smoking business planning and evaluation, with most of the budget allotted to education and publicity efforts.<sup>1)</sup>

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1) The education and campaign on no-smoking include the

To implement no-smoking policies successfully, comprehensive policies should be implemented to include everything ranging from tobacco production process to consumers smoking. These policies include assisting tobacco farmers, tobacco factory workers and cigarettes sellers in changing their jobs; determination and confirmation of the criteria of tobacco product contents; determination and confirmation of the criteria of cigarettes packaging paper; regulation and monitoring aimed at allowing only qualified businesses and personnel to sell cigarettes; implementation and confirmation of the banning of selling to juveniles; support for and monitoring of the installation of smoking and non-smoking areas; monitoring of the status of regulating cigarettes ads and of indirect advertising; protecting non-smokers from smoking; no-smoking education to smokers and operation of no-smoking clinic; and early medical checks and treatment of smoking-caused diseases. Also, these efforts should be accompanied by overall no-smoking campaign and monitoring and evaluation. In addition, budgets should be allotted to establish a feedback system to conduct no-smoking planning prior to implementing of specific businesses, monitor the implementation of businesses, and

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development and spread of no-smoking health education materials, no-smoking public ads on TV and in subways, and support for no-smoking campaigns in cities, provinces and schools.

evaluate results.

## **2 Evaluation of Process: Status and Evaluation of anti-Smoking Policies Implementation**

### **A. Evaluation of Policies on the Process of Tobacco Manufacturing**

Korea's tobacco farming land was 43,000 hectares or 1.85% of the total farming land, in 1970. It declined to 24,300 hectares in 2000, representing 1.23% of the total (World Bank, 2003). This decrease may be attributed to the nation's recession of agriculture rather than its no-smoking policies.

### **B. Evaluation of Policies on the Stage of Cigarette Sales**

In the stage of cigarette sales, control of cigarette prices and illegal sale is regarded as crucial. In Korea, cigarette prices have continued to rise together with increases in tobacco tax.<sup>2)</sup> However, the rise in cigarette prices was lower compared to the increase in consumer prices over the past decade. Cigarette prices rose 4.92% between 1991 and 1995, while consumer prices increased 6.21%. Also, cigarette prices went up 6.45% between 1996 and 2001, while consumer prices rose 3.29%. (Kim Won-Yeon, 2002).

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2) Cigarette prices increased by 120 won in January 1994, 4 won in January 1996, 184 won in July 1996, 2 won in May 1997, 10% in January 1999, 121 won in January 2001, and 160 won in 2002 (Ministry of Health and Welfare, 2003)



Korea's cigarette prices are relatively lower compared to other developed nations. One has to work for about 17 minutes to pay for a pack of Marlboro in Seoul, compared to 23 minutes in New York, 24 minutes in London, 25 minutes in Paris, 24 minutes in Manila, 36 minutes in Hong Kong, 46 minutes in Bangkok, and 52 minutes in Singapore. (USB, 2003) Europe increased cigarette prices more than it did other prices in order to lower smoking rates. Given that France and Belgium excluded cigarette prices from the consumer prices increase index, Korea should do this and thus actually increase cigarette prices in order to boost the effect of no smoking.<sup>3)</sup>

Also, related acts restrict the installation of cigarettes vending machines, ban cigarettes sale to minors aged under 19 years, and ban cigarettes sale by services operators other than retailers, thus strongly regulating cigarettes sale to minors. However, cigarettes are still illegally sold to juveniles. As many as 49.6% of juvenile smokers buy cigarettes at convenience stores, retailers, and stands at

subways and bus stops, and 10.6% from vending machines (Consumers Union of Korea, 2000)<sup>4)</sup>. Also, juveniles are reported to have easy access to cigarettes and smoke at billiard halls, karaoke, bars, cafes, and cartoon shops. As a result, a large part of entertainment establishments are found to violate the related act (Park Chang-hui et al., 1997).

### C. Policies on the Stage of Cigarette Consumption

Receiving people's favorable response requires public facilities to restrict smoking or be equipped with smoking areas to prevent indirect smoking. However, such regulations have yet to be reinforced through administrative support. A telephone survey in 2002, targeted at managers at 148 related public facilities, indicated that only 71.5% observed regulations on non-smoking areas. Likewise, 91.2% affixed stickers aimed at indicating smoking areas, 58.1% installed compartments, and 79.7% installed ventilators. As such, the related facilities have yet to be reinforced. Also, only 41.9% of them fully observed as no smoking in non-smoking areas. 56.8% attributed this low adherence to the act to lack of monitoring manpower, implying a need to reinforce the manpower.

3) France increased cigarette price by 57% between 1987 and 1993 (prices rose by 31.4% during this period), and has excluded cigarettes from consumer price index since 1992. United Kingdom increased cigarette prices by 57% between 1987 and 1993 (prices rose by 9.7% during this period), and disclosed a policy on 3% tobacco tax increase each year in 1993. Italy increased cigarette prices by 37.5% between 1987 and 1991 (prices rose by 5% during this period). Germany increased cigarette prices by 16.8% between 1987 and 1993 (prices rose by 4.1% during this period). Belgium has excluded cigarettes from consumer price index since 1994. (WHO, Tobacco or Health, 1997)

4) survey by Consumers Union of Korea, targeted at middle and high school students residing in Seoul, in April-July 2000

Given that a hefty 93.7% supported the policy to regulate smoking areas (Kim Mi-suk et al., 2003), to implement the policy strongly, financial and administrative support should be provided to install smoking areas, and to boost monitoring efforts by reinforcing related manpower.

Regulations on cigarette advertising are well enforced. However, indirect tobacco advertising, not regulated by the act, is very problematic. A survey<sup>5)</sup> on programs by four broadcasting companies including KBS1 revealed that 3.6 cases of smoking scenes were broadcast per hour, each releasing about one smoking scene every hour. Another survey<sup>6)</sup> indicated that 1,795 smoking scenes were shown out of a total of 4,467 drama showings, with each one show broadcasting a 0.4 smoking scene and smoking scenes shown in 40% of the total showings. Also, a survey (Lee Sang-uk et al., 2003), targeted at 34 soap operas run on MBC, KBS, SBS, and EBS between November 18, 2002 and December 1, 2002, found that the number of smoking scenes per broadcast was 0.52 for MBC, 0.46 for KBS, and 1 for EBS (due to juvenile dramas with smoking themes), rising compared to 2001. 88.6% of ordinary males

supported the regulation of smoking scenes on TV, while 80.5% of ordinary females did. 64.4% of males supported a complete ban on smoking scenes on TV, and 52.2% of females did, showing a high favor. In Korea, KBS and SBS decided to stop showing smoking scenes starting December 2002, but MBC and cable TVs continue to broadcast smoking scenes and this has to be regulated.

Rather than abovementioned regulation policies, positive no-smoking campaigns, such as broadcasts, and education program of schools and public health centers, ordinary people have a positive attitude on no smoking and practice no smoking habit more. Broadcast through TV starting December 2000 were six public ads geared towards smoking prevention and no smoking titled Tobacco, Juveniles No to Smoking and so on. An average of 33.2% to 84.6% viewing rates was registered, and the ads were evaluated as positive as they helped viewers form a positive attitude on no smoking such as recognizing the harm of smoking and advising others to stop smoking (Oh Hui-cheol 2003). Since public ads are effective in forming no-smoking environment, they have to continue with long-term planning according to targets and purposes. Also, eight public health centers conducted no-smoking business in 1998 with the support of national health promotion funds in 1998, and the business widened to 54 public health centers

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5) The survey was targeted at programs broadcast by KBS1, KBS2, MBC and SBS on January 5 (Wed) - January 11 (Tue), 2000 / Mon - Fri, 6:30 p.m.-12:30, and Sat - Sun, 9:30 a.m. - 12:30 p.m.

6) The survey was conducted by Consumers Union of Korea, targeted at 70 dramas shown by KBS, MBC, SBS and EBS, between May 2001 and April 2002.

in 2002. Nonetheless, only 9.7% of workplaces that have many male smokers conduct no-smoking programs positively, and 15% do not even take measures to regulate smoking, thus suggesting a need to conduct no-smoking campaigns.<sup>7)</sup>

### 3. Evaluation of Results: Changes in Smoking Rate and Policy Contribution

Aimed at reviewing correlations between smoking rates changes and related policies, changes in smoking rates were analyzed before and after the two demarcation years, namely, 1995 when the National Health Promotion Act was enacted to comprehensively reinforce no smoking, and 1999 when a full-swing support for national health improvement funds began to be provided. Specifically, the periods were divided into period 1 of 1986 - 1995 <sup>8)</sup> when no financial support was offered without insufficient legal backing, period 2 of 1995-1999 when financial support was not provided even with related acts enacted, and period 3 of 1999-2003 when financial support was provided with legal backing.

7) The survey was conducted in August 2003, targeted at 800 workplaces nationwide with a size of over 50 workers. 33% imposed a complete ban on smoking, 2% banned smoking in offices, 48% operated separate smoking areas, and 15% did not ban smoking.

8) This period is divided by ten years instead of five years, because there was no real change in smoking rate over 10 years, and no-smoking policies were not actively implemented, thus making it meaningless to divide into two different periods. Also, the smoking rates before this period were not available.

During the period of 1986-1995, the Tobacco Monopoly Act mandated the control of cigarette sellers, the indication of warnings on cigarette packs, bans on cigarettes advertising, and bans on cigarettes sale with packs damaged, and there was a one-time increase in cigarette prices. During this period, the overall adult smoking rates rose, but females smoking rate declined. The smoking rate among females declined from 7.8% in 1985 to 3.5% in 1994, with the smoking rate falling from 31.1% to 7.1% for females aged over 60, and from 16.4% to 8.2% for females aged between 50 and 59 years (the Korean National Tuberculosis Association, Gallup Korea). This fall, presumably, is attributed to elderly women's heightened health consciousness rather than the nation's policies.

During the period of 1995-1999, additional measures were taken to regulate smoking areas, and existing cigarette regulation policies, overall, were reinforced. There was decrease in smoking rate among adult males during this period. This presumably is attributed to the newly formulated policy aimed at regulating smoking areas, and a three-time increase in cigarette prices. During the period of 1999-2003, qualifications for cigarettes sellers were reinforced, the sale of cigarettes by ordinary restaurants was banned, and unilateral buying of tobacco products by the government was stopped. Likewise, since 2002, the indication of tar and nicotine

content on cigarette packs has been mandated. Intensive financial support from national promotion funds was provided with 98% of the budget allotted to no-smoking education and publicity efforts. During this period, smoking rates among all ages decreased.

Thus, the reinforcement of the act to ban cigarette sales in ordinary restaurants, hikes in cigarette prices, and policies on no-smoking campaigns aided by financial support were combined to decrease the smoking rates of juveniles and females.

Table 2 No-smoking Policies and Smoking Rate Changes at Five-year Intervals

Year	1986 ~ 1994	1995 ~ 1999	1999 ~ 2003		
Policy <sup>1)</sup>	<ul style="list-style-type: none"> <li>National Health Promotion Act: control of sale networks, indication of warning phrases, and restriction of cigarettes advertising</li> </ul>	<ul style="list-style-type: none"> <li>Regulation of smoking areas, and mandating of health education (National Health Promotion Act, 1995)</li> </ul>	<ul style="list-style-type: none"> <li>Reinforcement of qualifications for cigarette sellers (National Health Promotion Act, 2001)</li> <li>Stoppage of buying tobaccos (Tobacco Business Act, 2001)</li> <li>Disclosure of tobacco components (Tobacco Business Act, 2002)</li> </ul>		
	-	-	<ul style="list-style-type: none"> <li>Financial support from national health promotion funds 1 billion won (2000), 3 billion won (2001), 8 billion won (2002), and 7 billion won (2003)</li> </ul>		
	<ul style="list-style-type: none"> <li>Cigarette prices increased by 120 won (1994)</li> </ul>	<ul style="list-style-type: none"> <li>Cigarette prices increased by 4 won (1996.1), 184won (1996.7) and 10% (1999)</li> </ul>	<ul style="list-style-type: none"> <li>Cigarette prices increased by 121 won (2001) and 160 won (2002)</li> </ul>		
Smoking rate (%)	1995-1986	1999-1995	1999~2003		
			2003-1999	Change in 5 years	An average of annual change
Adult males <sup>2)</sup>	1.6	-8.0	-8.2	12.6	2.5
Adult females <sup>2)</sup>	-4.9	0.9	-0.9	20.5	4.1
High school males <sup>3)</sup>	2.5	6.8	-10.1	31.2	6.2
High school females <sup>3)</sup>	-	5.3	-0.7	9.3	1.9
Middle school males <sup>3)</sup>	0.4	3.4	-2.8	50.0	10.0
Middle school females <sup>3)</sup>	-	1.7	-0.8	20.5	4.1

Note: Due to insufficient data, an accurate smoking rate change at five-year intervals was unavailable, and instead, smoking rates closest to related years were employed. 1) Adults' smoking rate for 1988 was based on data of 1985. 2) Middle and high school students in 1994 were based on data of 1993.

References: 1) MOHAW, Budget on National Health Promotion Fund, 2000~2003; MOHAW, unpublished report, 2003; 2) Korea gallup, 1995~ 2001; Korea antismoking Association, 2002~3; 3) Korea antismoking Association, 1997~2003.

In short, during the period of 1994-1999 when no-smoking campaigns were not conducted with the enactment alone of related acts, only the smoking rate of adult males declined by 8.0%, while those of other age groups in both sexes rose. However, during the period of 1999-2003 when legal backing and financial support for no-smoking policies from national health promotion funds were provided, the smoking rates among all age groups in both sexes were lowered. Given that 98% of the budget was provided to no-smoking education and publicity efforts, changes in smoking rates during this period were attributed greatly to efforts towards no-smoking education and campaigns. Also, related policies reflected theories that individual policies, when combined and implemented simultaneously, produce a greater effect, than when they are implemented separately. For the effect of policies as implemented, it is presumed that adult males are forced to lower their smoking rate through hikes in cigarette prices and regulation of smoking areas, while the three-policy combination of legal regulation, no-smoking education and publicity, and hikes in cigarette prices, especially, no-smoking education and publicity efforts, serves as crucial variables in lowering the smoking rates of women and juveniles.

#### **IV. Conclusion and Suggestions**

Korea enacted National Health Promotion Act in 1995, and created national health promotion funds, thus endeavoring to reduce its smoking rates and prevent smoking. Consequently, smoking rates in all age groups in both sexes were lowered during the period of 1999-2003 when legal backing and financial support for no-smoking policies from national health promotion funds were provided. The decrease in smoking rate is attributed to the fact that enactment of related acts, their implementation, financial support, and education and publicity campaigns on no smoking, combined to work. According to targets, it is possible to lower the smoking rate of adult males through increase in cigarette prices and the reinforcement of acts for the regulation of smoking areas, while no-smoking education and publicity efforts and hikes in cigarette prices in addition to legal regulations, all combined to serve as crucial variables in lowering the smoking rates of women and juveniles. However, at the current pace of lowering the smoking rates, it would be difficult to achieve the Health and Welfare Ministry's smoking rate goal of 30% among adult males by 2013. Thus, related acts should be reshaped, corresponding support should be increased, and financial support should also be provided

to implement comprehensive no-smoking policies including no-smoking education and publicity efforts.

Korea's no-smoking-related acts and systems, in terms of the WHO's recent basic pact on cigarettes regulation, can be said to be systematic and comprehensive. Also, they can match those of Australia, Canada and United States that are experiencing smoking rates, but a few points have to be improved as follows. To lower smoking rates, strict management is required from the point of tobacco manufacturing, and also criteria of tobacco components should be reshaped and be disclosed, thus allowing consumers to have accurate information on them. Also, measures should be taken to prevent cigarette packaging designs from being used as cigarettes advertising, and to use various warning phrases and pictures to alert consumers to cigarette hazards. Cigarette vending machines are mandated to be installed in areas that juveniles are restricted in accessing; however, to implement this regulation, areas where cigarette vending machines are allowed should be specified. Also, a complete ban on cigarettes advertising is required, and a need is required to enact an act to ban indirect advertising through TV and other public media. In addition, to reinforce no-smoking education and publicity efforts, a need is seen to reinstate the phrases in National Health Promotion Act enacted in 1995 that mandated health edu-

cation by businesses with a size of over 500 workers.

To lower smoking rates through cigarettes management, no-smoking policies are required in all stages from tobacco manufacturing to consumption by consumers, and with financial support focused on publicity and education efforts to date, it should be extensively expanded to assist tobacco farmers, workers engaged in tobacco manufacturing, and cigarette sellers in changing their jobs, to determine the criteria of tobacco components, to monitor the compliance with related acts on cigarettes sale regulation, smoking area regulation, and indirect advertising regulation, to support the establishment of smoking and non-smoking areas, to help smokers quit smoking, and to examine and treat smoking-related diseases early during their occurrence. Also, budgets should be allotted to establish a system to provide feedbacks on the monitoring and evaluation of short- and long-term no-smoking business planning and implementation.

Also, the increase rate of cigarette prices, will be effective in lowering smoking rates, only when it is higher than that of prices. Thus, the increase rate of cigarette prices should be heightened more than that of prices, and in the long term, cigarettes should be excluded from price increase index. Also, to strongly implement regulations of banning cigarettes sale to juveniles, separation and

establishment of smoking areas, and no smoking in non-smoking areas -- these receive a highly favorable response --, monitoring efforts and financial support should be reinforced. Monitoring should continue to prevent public media from conducting indirect advertising, and corresponding crackdowns should also be accompanied. Also, no-smoking publicity campaigns were found to be effective in lowering the smoking rates of juveniles and women. This remarkable feat was made possible by administrative and financial support from the Ministry of Health and Wealth, the Commission on Youth Protection, and Ministry of Education and Human Resources. In contrast, workplaces have yet to reinforce the implementation of no-smoking programs. Given that the smoking rate of adult males is 60%, and they work in such workplaces, a need is seen to provide support for no-smoking programs to them.

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## ABSTRACT

The government of Korea enacted the National Health Promotion Act in 1995, and set aside funds for national health promotion, endeavoring to reduce the smoking rate of its citizens. Consequently, smoking rates in all age groups of both sexes were lowered during the period of 1999-2003 when legal backing and financial support for no-smoking policies from the national health promotion funds were provided. The decrease in the smoking rate is attributed to the combined effort of the fact that enactment of related acts, their implementation, financial support, and education and publicity campaigns on no smoking. However, at the current pace of decreasing the smoking rates, it will be difficult to achieve the Health and Welfare Ministry's smoking rate goal of 30% among adult males by 2013. Thus, related acts should be reshaped, corresponding support should be increased, and financial support should also be provided to implement comprehensive no-smoking policies. Also, budgets should also be allotted to establish a system of providing feedback on the monitoring and evaluation of both short-term and long-term no-smoking business planning and implementation.

*key words:* Tobacco, Law, Policy