

## Time to Raise Awareness of Blindness as Another Smoking-related Condition

Dear Editor,

Singapore currently has a comprehensive range of tobacco control policies and programmes.<sup>1</sup> It started implementing legislative measures against cigarette smoking in the early 1970s, and since then has been regularly reviewing and revising its laws and their enforcement. Some of the measures that have been implemented include public education, ban on tobacco advertisements and promotions, restriction on the sale of tobacco products, licensing of sales outlets, mandatory health warnings on cigarette packets, ban on smoking in public places, prohibition of smoking in the public by those under 18 years of age and provision of smoking cessation services.

Thanks to these and other measures, the most recent National Health Survey in Singapore revealed a decline in the prevalence of daily cigarette smoking among adults, from 18.3% and 15.2% in 1992 and 1998, respectively, to 12.6% in 2004.<sup>2</sup> The prevalence of daily cigarette smoking decreased significantly from 27.1% in 1998 to 21.8% in 2004 among men but increased marginally for women during the same period, from 3.2% to 3.5%. The proportion of young women 18 to 29 years old who smoked daily showed a larger increase from 5.2% in 1998 to 6.6% in 2004.

A recent legislation mandating the use of graphic images to illustrate the harmful health effects of tobacco use on cigarette packets came into effect on 1 August 2004 in Singapore.<sup>3</sup> Six pictures are currently in use (Fig. 1). These depict diseased gums, a cancerous lung, a brain oozing blood, a person on his deathbed, a dying baby, and a family suffering from second-hand smoke. Each picture is accompanied by an appropriate written health warning.

How effective are these graphic warning labels on cigarette packets in reducing cigarette smoking? Hammond and colleagues<sup>4</sup> have assessed the impact of graphic cigarette warning labels in Canada using a longitudinal telephone survey of adult smokers. They found that 20% of smokers reduced their smoking as a result of the labels. Emotional reactions to the warning labels included at least some fear in 44% of smokers and disgust in 58%. Smokers who reported greater fear and disgust were more likely to have reduced their smoking at follow-up, made an attempt to quit, or quit smoking.

The aetiologies of cataract and age-related macular degeneration (AMD), the major causes of severe visual loss in older persons, are multifactorial. Among the many factors, smoking is now a well-recognised risk.<sup>5</sup> Smokers

have up to about 3 times relative risk of developing cataract<sup>5</sup> while results from several large population-based epidemiological studies<sup>6-8</sup> and 2 large prospective cohort studies<sup>9,10</sup> have shown that current smokers are 2 to 6.6 times more likely to develop AMD. Pooled data from 3 large studies done in Australia, the Netherlands and the United States also support the association of smoking with an increased risk of AMD.<sup>11</sup> The strongest association was noted in current smokers compared to past smokers and those who have never smoked. Other studies have also shown a higher risk of AMD with greater number of pack years smoked.<sup>6,8,9</sup> There is therefore a strong dose-dependent relationship between smoking and the risk of AMD.

Although AMD is the leading cause of legal blindness in people aged 65 years and above in developed countries,<sup>12</sup> the awareness of AMD is low in the general public. Amongst Hong Kong Chinese aged 40 years and above, less than 1% knew the symptoms of AMD compared to 22.9% and 10.2% who could correctly describe cataract and glaucoma symptoms, respectively.<sup>13</sup> Even in Australia, only 2% of adults aged 40 years and above had the correct knowledge of AMD compared to 74% and 19% for cataract and glaucoma, respectively.<sup>14</sup>

Despite the relative lack of awareness, many people fear blindness more than they fear many other disabilities. Amongst Hong Kong Chinese adults, blindness was second (35.7%) after paralysis following a stroke (48.1%) as the most feared disability.<sup>15</sup> The proportion of participants who feared dementia, loss of limbs and deafness most were 8.0%, 7.4% and 0.5%, respectively.<sup>15</sup>

While many people recognise the better-known health hazards of smoking such as lung cancer, heart attack, stroke, and other lung diseases, few are aware of its association with blindness. In a recent study in a British district general hospital, only 9.5% of patients above 18 years old could attribute smoking as a definite or probable cause of blindness compared to 92.2%, 87.6%, and 70.6% for lung cancer, heart disease, and stroke, respectively.<sup>16</sup>

Cigarette smoking is currently the strongest modifiable environmental risk factor that has been identified for all forms of AMD.<sup>17</sup> We believe that the fear of blindness could be a major motivating factor for smokers to quit smoking and to dissuade non-smokers from starting the habit. Public education efforts to increase the awareness of blindness as another smoking-related disease could therefore potentially increase the success of anti-smoking campaigns.



Fig. 1. Six graphic health warning labels currently in use in Singapore on cigarette packs. (Reproduced with permission from Health Promotion Board, Singapore)

For instance, blindness is currently not highlighted as a smoking-related condition in the graphic warnings on cigarette packs in Singapore. Including a health warning such as “Smoking causes blindness” on cigarette packs could potentially help to raise the awareness of this fact and discourage people from smoking.

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