Figure 1 Number of adult smokers calling the Washington quitline (QL) over time, by age: 2004–6. *The enhancement was publicised through a press release, flyers, local community promotions, targeted materials to cross-cultural communities, other grass roots efforts and radio advertisements (which aired in February/March 2005 and January 2006).

The enhancement attracted young adults with different characteristics. Specifically, our survey data suggested more young adults with annual household income of at least \$20 000 called the QL after the enhancement began, probably because the eligibility criteria for free NRT expanded to include young adults with private insurance. Quit rates increased in each income group, but increased more dramatically among this higher income group (28% vs 48%) than among others (20% vs 29%). We did not find changes in quit rates or demographics among older survey participants, so the changes among young adults were probably not the result of some underlying temporal trend.

Our findings suggest that states wanting to increase QL call volume and quit rates among young adults should consider offering them free NRT.

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Which cut-off level of urine cotinine:creatinine ratio (CCR) should be used to determine passive smoking prevalence in children in community based studies?

Environmental tobacco smoke (ETS) in the home is a major preventable health problem for children around the world. In children, ETS exposure (passive smoking) has been shown to be particularly associated with respiratory infection, especially lower respiratory tract infection (LRTI).^{1–3} Exposure intensity of ETS among children shows a strong correlation with indoor parental and, especially, maternal smoking, the number of cigarettes smoked, the number and volume capacity of the rooms where cigarettes are smoked and individual metabolic diversities.⁴ The use of cotinine, a major metabolite of nicotine, as a biological marker of smoke absorption has been suggested as an approach to strengthen the evidence of the relation between passive smoking and respiratory illness. In several

studies, a strong disagreement was present between parental self reports and quantitative measures. Epidemiological studies on ETS exposure report that cotinine measurement in body fluids (especially in urine) is a more powerful predictor of actual exposure compared to parental self reports, has a higher sensitivity and indicates a longer period of exposure.⁵ Globally the percentage of children exposed to ETS is considerably high and has been reported at between 29% and 69%.⁶

With regard to cut-off values, several limits have been proposed by investigators who compared cotinine in body fluids of smokers and non-smokers. Henderson *et al*⁷ reported that a cut-off cotinine:creatinine ratio (CCR) of 30 ng/mg identifies children exposed to smoking at home with a high degree of sensitivity (80%) and specificity (100%). This cut-off point has been commonly used to compare children unexposed and exposed to ETS. The cut-off CCR of 30 ng/mg creatinine as a passive smoking indicator may be appropriate for countries having low smoking prevalence. However, as the prevalence of passive smoking in developing countries such as Turkey is very high, this cut-off level would be insufficient to indicate the causative effect of ETS in LRTI correctly.^{8,9}

The case-control study carried out by Keskinoglu *et al*¹⁰ was conducted between October 2003 and April 2004 in an urban district of Izmir, Turkey. The case group ($n = 150$) consisted of children aged 2–12 years who had been diagnosed with LRTI. The control group ($n = 150$) comprised healthy children during the period of the study, and these children were paired with the cases according to age, sex and street resided in by the family. In our study, according to the cut-off CCR of 30 ng/mg, the prevalence of passive

smoking was 87.3% in the case group with LRTI (n = 150) and 84.7% in the healthy children group (n = 150), with no significant difference (p = 0.618). However, a significant difference was found between passive smoking prevalence in groups at a urinary CCR of 60 ng/mg (76.7% and 50.7%, respectively) (p < 0.001). The children with LRTI had more dense ETS exposure compared to the healthy children (OR = 4.72; 95% CI = 2.62 to 8.51). When the cut-off level of urinary CCR was accepted as 60 ng/mg creatinine, it was found that passive smoking increased LRTI in children significantly (p = 0.000). This finding indicated that the causative effect on LRTI of passive smoking was dose dependent.

We believe that the evaluation of ETS exposure using a higher cut-off level of CCR than 30 ng/mg creatinine, such as 60 ng/mg and over, to investigate whether there is any association between ETS exposure and LRTI in an intensive exposure status and to assess the dose dependent relation will be more accurate.

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Perceptions of tobacco advertising and marketing that might lead to smoking initiation among Chinese high school girls

More than 320 million of China's 1.3 billion people are smokers (66.9% of all men and 4.2% of all women ≥15 years old).¹ Although Chinese men have been the subject of considerable research,²⁻⁴ little is known about smoking initiation among women. Our preliminary tobacco document research suggests significant female market segmentation and brand development by transnational tobacco companies (TTCs) in China. To understand the influence of these factors, we conducted a pilot study on susceptibility among young women in Beijing.

We assembled five focus groups of high school girls aged 16-19 years (n = 27) during summer 2006. After obtaining informed consent, a trained, female medical student conducted focus groups to ascertain knowledge, attitudes, behaviours, beliefs and intentions to smoke. Thirteen subjects reported smoking experience (smoked 100 lifetime cigarettes or smoked in past 30 days). In-depth questions identified themes such as knowledge of brand identities, influences and information about smoking among women (table 1).

Explicit cigarette advertisements are banned by law, but subjects noted the appearance of cigarette brand logos on television. Most subjects agreed that female cigarettes were long, slender, and pretty, with beautiful packaging. Subjects noted that female cigarettes were expensive and that people who bought them were usually white collar, successful and glamorous. They also were aware that TTCs manufacture most female brand cigarettes. Many subjects were aware that cigarettes were advertised at sporting events. "Baisha sponsors Liu Xiang" (the Chinese 110 metre hurdle Olympic gold medalist); "Marlboro tobacco advertisements are on F1 racing cars"; "555 sponsored a professional basketball game." Cigarette sports promotion has evaded restrictions imposed by the government on tobacco advertisements on television.

Many subjects' favourite actors and singers are smokers, and they reported that they believe these celebrities are more glamorous and elegant when they smoke. Smoking in movies contributes to images of increased female glamour and sophistication.

Most smokers agreed that smoking is a way to break with antiquated social restrictions. "Smoking is quite normal—if men can smoke, then why can't women?" Many subjects agreed

that smoking is used as a social tool. "When my classmates smoke, I do too."

Students reported smoking among teachers and students in schools, despite legal restrictions. "Once there was a teacher during class who wanted to take a 10 minute break in the middle of class, clearly because he wanted to go smoke. When I told him that break time had not arrived yet, he said well let's just take a five minute break then." Subjects stated that it was not uncommon to see high school teachers "smoking in their offices."

Although relatively knowledgeable about the health risks of smoking, many misconceptions of the health effects of smoking existed. None of the students were aware that smoking causes damage to the cardiovascular system. In addition, an 18 year old non-smoker stated that smoking can help smokers by "stimulating their spirits." "Smoking could inspire people and increase creativity when composing music."

This study suggests that concepts of femininity, independence, style and sophistication are recognised by young women in China as part of the already embedded smoking culture. These themes reflect the brand segmentation research conducted in the 1990s by TTCs.⁵ Our study is limited by a single small urban population sample. However, other research among adolescents in China^{6,7} confirms the vulnerability of young Chinese women. While smoking prevalence among women overall is still quite low, it appears to be increasing in urban areas, and there is a clear trend towards younger age of initiation. Our study and these reports suggest that additional, in-depth research⁸ is needed to understand changes in knowledge, attitudes, behaviours and beliefs of young Chinese women in order to develop appropriate prevention measures.

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Table 1 Thematic perceptions on smoking reported by focus group participants (n = 27), Beijing, 2006

Themes	Percentage agreement*
Television and advertising seen	85
Able to name female brands	74
Marketing and promotion observe	56
Approve smoking by celebrities	52
Smoking identifies women as independent	56
Friends who smoke	63
Seen teacher smoking on campus	78
Smoking is a risk for heart disease	0

*Percentages indicate percentage of group who agreed to questions presented in focus group thematic groups.