

The nicotine trap

Mind Your Body, The Straits Times (Thursday, 19 November 2009)

By June Cheong

Getting hooked on smoking is as easy as 1,2,3. Mind Your Body finds out how nicotine tricks the brain and its harmful effects on the body

Once enslaved by cigarettes, actress Pam Oei broke free and is now smoke-free - even refusing roles that require her to puff away.

'I refuse to smoke in a role,' said Ms Oei, 37, well-known for being one third of the comedy cabaret act Dim Sum Dollies.

The actress, who is married with no kids and who quit smoking in 2006, has this to say about smoking onscreen or onstage: 'It often adds nothing to the character but makes smoking look normal or glamorous.'

'If you watch Fight Club, Brad Pitt looks hot and he smokes a lot. It gives the impression that you can smoke too and look just as good.'

A smoking cessation therapist as well, Ms Oei wants to dispel such a depiction.

She started smoking when she was 17. She said: 'I hung out with some boys who played the guitar and we jammed a lot. All of them smoked.'

'After my first puff, I didn't like it but I persevered.'

Her story is typical of many young people who start lighting up.

Dr Kenneth Chan, a consultant at the department of respiratory and critical care medicine at Singapore General Hospital, said: 'Most people in Singapore start smoking in their adolescent years. Common reasons include peer pressure or having friends who smoke, curiosity, boredom and the desire to relieve stress.'

He added: 'Having a parent who smokes increases the risk of the child picking up smoking substantially.'

The Health Promotion Board's National Health Surveillance Study 2007 found that smoking every day was most prevalent among people between 18 and 29 years of age.

It also found that the proportion of men and women in this age group who smoked had increased, from 18.2 per cent and 6.6 per cent in 2004 respectively, to 25.4 per cent and 9.1 per cent in 2007.

The villain of the piece is nicotine.

The nicotine in the inhaled tobacco smoke goes from the lungs to the bloodstream and then the brain - within seven to 10 seconds.

Dr Chan said once nicotine gets into the brain, it attacks the central nervous system by mimicking a naturally occurring chemical called acetylcholine.

As a result, nerve cells in the front of the brain unwittingly release the neurotransmitter dopamine, which is responsible for feelings of pleasure and well-being.

Mr Eddy Lim, a senior pharmacist at the National University Hospital, said: 'Nicotine activates the same reward pathways in the brain, like other abusive drugs, although to a lesser degree.'

'While nicotine increases the level of dopamine in the brain, the effects wear off within minutes, so smokers must continue dosing themselves throughout the day to maintain the pleasurable effects of nicotine and to prevent withdrawal symptoms.'

There is more bad news if you are a smoker. Nicotine also triggers the release of adrenaline, which causes the heart rate and blood pressure to shoot up.

Mr Lim said: 'The smoker then experiences rapid, shallow breathing and finds his heartbeat racing.'

Nicotine also inhibits the release of insulin, a hormone responsible for removing excess sugar from a person's blood. A smoker thus has a higher blood sugar content and his appetite is suppressed.

Ms Tan Cin Yee, a senior pharmacist at Tan Tock Seng Hospital, said: 'Over time, tolerance to smoking's stimulating effect develops and the smoker needs to puff more to get the same effect.'

In a spiral, increasing tolerance and nicotine's efficiency at hijacking the brain's reward pathways egg smokers to keep on puffing away.

On why many smokers continue to light up, a Health Promotion Board spokesman referred to a 'triangle of addiction'.

He said: 'Smokers experience physical addiction because of the nicotine acting on their brains.'

'They may also suffer from psychological or emotional dependence where they perceive that cigarettes make them feel better or form a habitual dependence as smoking has become a routine in their lives.'

Inhaled nicotine goes from the lungs to the bloodstream and then the brain within 7 seconds

1: Physical addiction

Caused by the chemical's stimulating effect on the brain

2: Psychological dependence

Smoking makes smokers feel they are in control

3: Habitual dependence

Smoking becomes a routine in smokers' lives

How Pam Oei stubbed out

It is admittedly hard to quit smoking. Many smokers, including actress Pam Oei, successfully quit smoking for life only after five to seven attempts.

Ms Oei was smoking 20 cigarettes or more a day in 2006 and had tried to quit several times before. 'I tried acupuncture, hypnotherapy, pills and nicotine replacement therapy. I'd quit for a few months and then go back to smoking.'

'When I was 21, pure willpower drove me to quit for six months, but I still believed I was sacrificing a 'friend', she said.

It was not until she went to a smoking cessation clinic - Allen Carr's Easyway To Stop Smoking - in London in 2006 that she took her last puff.

She said: 'I was amazed at how easy it was to quit when it was such a struggle previously.'

'Once I saw through the reasons for smoking, it was easy to cope with living without it. As long as I kept attaching pleasure or value to a cigarette, I continued to be vulnerable to smoking.'

Ms Oei got her smoker friends to quit with the same method and when 10 of them did so, she started training to be a therapist in the method.

She is the first in South-east Asia to be trained in Allen Carr's Easyway and runs regular sessions here (www.allencarr.com.sg).

Medical professionals said that no matter what method smokers use to help them quit, they should make sure their physiological, psychological and behavioural dependence on smoking are addressed.

Dr Kenneth Chan, a consultant at the department of respiratory and critical care medicine at Singapore General Hospital, said the most effective method is combining medication with counselling.

He said: 'Medication helps with the physical effects of withdrawal while intensive support addresses psychological dependence issues like coping with stressful situations and force-of-habit issues like how to change one's daily routine.'

He added that one-to-one support and advice can increase a smoker's chance of success from between 2 and 3 per cent, if a smoker depends on willpower alone, to between 10 and 15 per cent.

When counselling is combined with quit-smoking medication, the success rate further rises to between 20 and 30 per cent.

Mr Eddy Lim, a senior pharmacist at the National University Hospital, said: 'There are no foolproof methods for quitting. Different smokers respond differently to the various methods available. Smokers must be ready, determined and want to quit if the quitting process is to be successful.'

Ms Oei agreed that the most important aid to quitting successfully is the smoker's desire to quit.

On her own decision, she said: 'I was going through my brother's ashtray one day, looking for cigarette butts I could smoke when I suddenly realised what I was doing was stupid.'

'I counted the number of years I had been smoking and realised it was half my life. I'm much happier now. I'm not a slave to cigarettes anymore.'

For more information on quitting smoking, log onto www.hpb.gov.sg/smoking or call QuitLine toll-free on 1800 438 2000. QuitLine is available in four official languages and is open Monday to Friday from 8.30am to 5pm and Saturday from 8.30am to 1pm.

8 ways to quit

Cigarette smoke is the major cause of lung cancer and can lead to chronic lung disease. Tobacco smoke can also contribute to cancer of the bladder, pancreas and kidney. **JUNE CHEONG** finds out about some of the ways you can quit

1: Cold turkey or gradual reduction

How it works: In going cold turkey, a quit date is set and smoking has to cease from that day. In gradual reduction, a quit date is set too, but the smoker progressively cuts down on the cigarettes until he no longer smokes.

Success rate: Ms Tan Cin Yee, a senior pharmacist at Tan Tock Seng Hospital (TTSH), said: 'For cold turkey, the success rate obtained from clinical trials is about 10 per cent.'

She added: 'The success rate may increase to 20 per cent if both methods are supplemented by nicotine replacement therapy or prescription medication to help smokers cope with cravings and withdrawal symptoms.'

2: Nicotine replacement therapy

How it works: Nicotine products like patches, gums and inhalers release small amounts of nicotine into the body, thereby alleviating withdrawal symptoms. Since the amount is small and is absorbed slowly, the products are not addictive.

Success rate: Ms Tan said that the percentage of smokers who stay smoke-free at 12 months when using nicotine patches and nicotine gum are 13.7 per cent and 17.4 per cent respectively.

Dr Kenneth Chan, a consultant at the department of respiratory and critical care medicine at Singapore General Hospital, said: 'Nicotine replacement therapy, together with counselling, approximately doubles the chance of success as compared to counselling alone.'

3: Prescription medication

How it works: Prescription drugs reduce the smoker's cravings and withdrawal symptoms.

For example, the drug Champix interrupts the pleasure that smokers derive from smoking by working on the same receptors in the brain that nicotine stimulates.

Dr Ong Kian Chung, a consultant respiratory physician at KC Ong Chest & Medical Clinic at Mount Elizabeth Medical Centre, said: 'It stimulates these receptors, producing the same pleasure sensation as nicotine. It also works by occupying these receptors and preventing nicotine from stimulating them.'

'When smokers taking Champix take a puff, they do not derive as much satisfaction as before. Thus, they are less likely to want to continue smoking.'

Success rate: Ms Tan said the success rates for smokers using bupropion and varenicline at 12 weeks are 30 per cent and 44 per cent respectively. A Pfizer spokesman said Champix has quit rates of 50 per cent or higher in Asian clinical data.

4: Smoking cessation clinics

How it works: Mr Eddy Lim, a senior pharmacist at the National University Hospital, said the counsellor first finds out from the patients their smoking history and lifestyle.

He said: 'We also find out what are some of the issues they face when quitting.'

'We explore ways to manage withdrawal symptoms and share with them ways or products that can help them. Follow-up sessions focus on the patients' progress, the challenges they faced and how to modify management strategies.'

There are a variety of such clinics, from school-based programmes to programmes run by voluntary welfare organisations like the Singapore Heart Foundation. There are also quit centres based in polyclinics, restructured hospitals' outpatient services and community organisations.

Success rate: Dr Chan said that one-to-one support and advice leads to a chance of success of between 10 and 15 per cent while undergoing counselling and using medication together raises the success rate to between 20 and 30 per cent.

5: Auricular therapy

How it works: According to Mr Louis Goh, the clinic manager of Antismoking Center Singapore, a low frequency electromagnetic pulse machine stimulates the smoker's brain into releasing neurochemicals like endorphins and dopamine and other hormones. A five-treatment package, spread over six months, costs \$980.

Mr Goh added that 75 per cent of his clients need only one treatment to completely stop smoking.

Success rate: Mr Goh claimed the success rate is more than 95 per cent. However, doctors could not comment.

6: Bioresonance therapy

How it works: A machine which emits low level electromagnetic waves of specific frequencies - purported to affect neurotransmitters in the brain controlling craving and addiction - is used.

Mr Alvin Chong, centre manager of PHI Integrated Therapy Centre, said: 'After each treatment, the smoker's level of craving or urge to smoke is reduced.'

'If he is able to reduce his psychological dependence on cigarettes, he will be able to kick the habit.'

Each treatment session costs \$150 and lasts between 30 and 45 minutes. A smoker of less than five years usually requires up to six sessions while longer-term smokers require more sessions, depending on individual needs.

Success rate: Mr Chong said: 'We have had about 50 customers. We have a screening programme for smokers before we initiate treatment as not all are suitable or ready for it. Most of our customers who fit the criteria quit smoking after the intensive programme.'

Doctors could not comment on this.

7: Hypnotherapy or hypnosis

How it works: Patients are placed under hypnosis to help them quit smoking.

Dr Daniel Kwek, the head and senior consultant at the department of psychological medicine at Tan Tock Seng Hospital, said: 'Some people respond to a single session of therapy. It deals with the habits and behaviours associated with smoking and there is no need for any medication.'

'It may also deal with the underlying issues of emotional smokers or people who smoke when they are in a lousy mood.'

Success rate: Ms Sandy Hui, director of ONE Hypnosis, said that the success rate is 95 per cent. However, Ms Tan of TTSH said: 'From the latest clinical trials done overseas, only 20 to 40 per cent of smokers who undergo hypnosis stay smoke-free at 12 months.'

8: Allen Carr's Easyway To Stop Smoking

How it works: The late Briton's method involves clinic sessions which focus on why smokers continue to smoke and help remove smokers' fears about quitting through psychotherapy and hypnotherapy.

Conducted by a trained therapist, the first session lasts six hours and participants are encouraged to take regular smoke breaks. The session climaxes with the group smoking a final cigarette before throwing their cigarettes and lighters away.

Ms Pam Oei, 37, an actress and an Allen Carr's Easyway therapist, said that 80 per cent of participants quit smoking after attending one session.

Three sessions with Ms Oei cost \$599 and she offers a three-month money-back guarantee.

Success rate: Ms Oei said she has helped 200 smokers quit since last year and the success rate is more than 90 per cent. Doctors did not comment on this.