

## Tobacco Smoking Facts and actions

Moeness M. Alshishtawy

تدخين التبغ

الحقائق والسلوكيات

مؤنس مصطفى الششتاوي

ONE OF THE VERY INTERESTING ARTICLES in this issue is *Tobacco Smoking and Lung Cancer: Perception-changing facts*.<sup>1</sup> The author has raised a salient issue by stressing that strict regulations to control tobacco smoking can reduce mortality due to lung cancer and other diseases. The problem is that tobacco use has become a mass global phenomenon—currently an estimated 794 million adults use tobacco, smoking 5,884 billion cigarettes a year. A further 350 million are exposed to second-hand smoke (SHS) at work.<sup>2</sup>

The problem is centuries old. Tobacco was brought to Europe by Christopher Columbus, who discovered it in Cuba in 1492.<sup>3</sup> By the beginning of the 16<sup>th</sup> century, the tobacco trade was already established between the Caribbean and India, soon extending to China, Japan and the Malay peninsula. About the same time, the Portuguese and Spanish brought tobacco down the east coast of Africa, then to Central Africa. By the 17<sup>th</sup> century, tobacco was being produced in Russia, Persia, India and Japan.<sup>3</sup> In the early 20<sup>th</sup> century, tobacco use rose to epidemic proportions, mostly due to aggressive marketing by the tobacco industry after the invention of the cigarette machine.<sup>4</sup> Tobacco consumption rose again after World War I, and after World War II it became very common.<sup>5</sup> In the 20<sup>th</sup> century, tobacco killed approximately 100 million people.<sup>2</sup> If present patterns of use persist, tobacco use could cause as many as 1 billion premature deaths during the 21<sup>st</sup> century.<sup>6</sup>

Presently, the burden of tobacco use is greatest in high-income countries (18% of deaths attributable

to tobacco use), intermediate in middle-income countries (11%), and lowest in low-income countries (4%).<sup>7</sup> However, because rates of smoking are increasing in many low-income and middle-income countries and decreasing in most high-income countries, the proportion of deaths from tobacco use could increase in low- and middle-income countries as the number of tobacco-related deaths increases.<sup>6,7</sup>

Although most of the tobacco that is consumed throughout the world is in the form of manufactured cigarettes, it is also smoked in other products, such as cigars, cigarillos, pipes, water pipes, *kreteks* (clove cigarettes), *bidis* (tobacco rolled in a *tendu* or *temburni* dried Indian ebony leaf that is tied with a cotton thread), and *papirosy* (Russian cardboard-tube-tipped cigarettes). Water pipes (*sheesha*) are common in Middle Eastern and some Asian countries.<sup>8</sup>

Tobacco use is now the world's single leading preventable cause of death. More deaths are caused each year by tobacco use than by all deaths from human immunodeficiency virus (HIV), tuberculosis, and malaria combined.<sup>2</sup> Scientific knowledge about the effects of tobacco smoking accumulated during the last century after evidence linking smoking and cancer appeared in the 1920s. Between 1920 and 1940, a chemist, Angel Honorio Roffo, published articles showing that cancers could be experimentally induced by exposure to tar from burned tobacco. Roffo *et al.* further showed that cancer could be induced by nicotine-free tobacco, meaning that the tar itself was carcinogenic.<sup>9</sup>

Evidence that smoking causes cancer mounted in 1951 when Hill *et al.* in Great Britain, and Wynder *et al.* in the USA demonstrated a statistically significant correlation between smoking and lung cancer.<sup>5</sup>

In 1957, the first official USA government statement on smoking and health was televised; the Surgeon General, Leroy Burney, announced that scientific evidence supported cigarette smoking as a causative factor in the aetiology of lung cancer. By 1960, Joseph Garland, editor of the *New England Journal of Medicine* confirmed that the evidence has become sufficiently strong to suggest a causative role.<sup>9</sup> Smoking causes an estimated 90% of all lung cancer deaths in men and 80% of all lung cancer deaths in women.<sup>7</sup> The major diseases caused by tobacco include other cancers, coronary heart disease, cardiovascular diseases, chronic respiratory diseases, pregnancy complications, and respiratory diseases in children.<sup>10</sup>

Despite this large volume of evidence, cigarette manufacturers have told smokers their products are not injurious to health. In fact, cigarette companies frequently promised consumers that their brands were better for them than their competitor's brands because the smoke was less irritating, smoother, and milder.<sup>11</sup> However, internal industry documents revealed that by the late 1950s the tobacco companies knew and accepted the evidence that cigarette smoking was a cause of cancer. These documents revealed also that the tobacco companies deliberately conspired to confuse the public debate about smoking and health and co-opted scientists by research funding offers channeled through third party organisations.<sup>9</sup> It is shameful that the cigarette companies which signed the 1954 *Frank Statement to Cigarette Smokers*, which denied the link between smoking and cancer, did not fulfill their promises to support unbiased research into tobacco and health.<sup>11</sup>

Tobacco manufacturers only recently admitted that smoking causes lung cancer and other diseases, and in varying degrees. Despite this, they have rebutted charges made in personal injury lawsuits that their products caused cancer.<sup>12</sup> Their defence experts testified that most people start smoking because of peer pressure or because family members smoke, not because they were influenced by advertising. Defence witnesses stated that the tobacco companies do not advertise their products

to under 21-year-olds. Expert witnesses testified that nicotine is not addictive; that motivated people can quit smoking; that cigarettes, unlike hard drugs, are not intoxicating and withdrawal symptoms are mild; that nicotine does not impair human judgment or decision-making, and that people smoke for relaxation, taste, and enjoyment, not because they are addicted.<sup>12</sup>

The global response to the pandemic of tobacco-induced death and disease has been the World Health Organization's (WHO) Framework Convention on Tobacco Control (FCTC), the first ever global health treaty.<sup>4</sup> The WHO FCTC exhorted countries to develop action plans for public policies, such as bans on direct and indirect tobacco advertising, tobacco tax and price increases, the promotion of smoke-free public places and workplaces, and the printing of health warnings on tobacco packaging. It also called for countries to establish programmes for national, regional, and global tobacco-use surveillance.<sup>13</sup> By August 2012, the WHO FCTC had been ratified by 176 countries, accounting for 88% of the world's population.<sup>14</sup>

The Global Monitoring Framework for Non-Communicable Diseases urged countries to implement the WHO FCTC to achieve a relative reduction in tobacco smoking of 30% by 2025.<sup>15</sup> Indeed, many countries have recently implemented stricter measures, in line with the WHO FCTC. Guidelines adopted by the first session of the FCTC Conference of the Parties<sup>16</sup> has led to achievements such as smoking bans at beaches in some Australian states and parks in Canada. Brazil has banned the use of additives in cigarettes and tobacco products. Some countries have increased the size of their pictorial health warnings—Uruguay (to 80%) and Mauritius (to 65%)—while Australia now requires plain packaging of tobacco products with other countries likely to follow suit. Nine countries have banned the display of tobacco products, and five have banned tobacco advertising at points of sale. Nepal now forbids the sale of tobacco products not only to minors but also to pregnant women, while Bhutan has legislated for a comprehensive tobacco sale ban. Finally, Finland and New Zealand are endeavouring to become tobacco-free countries.<sup>16</sup>

Oman is one of the countries where a large number of people smoke. The 2008 Oman World Health Survey revealed 14.7% of males were current smokers (12.3% averaged 16 cigarettes a day, 2.4%

were occasional smokers). This shows an increasing trend compared to the 2000 Survey where only 10.7% of males smoked. In both surveys, only <0.5% of females smoked.<sup>17</sup> According to a third study undertaken in Oman in 2004, as many as 7.0% (males 13.4%, females 0.5%) were current smokers, and 2.3% were former smokers. The group with the highest prevalence was Omanis aged 40–49 years where the rate was 11.1% (18.7% of males, 0.9% of females). The mean age for starting smoking was 18.7 years for males and 24.3 years for females. In Oman and neighbouring countries, females start smoking later than men and smoke fewer cigarettes, mainly as a result of sociocultural, religious or economic factors.<sup>18</sup>

Fortunately, in 2010, a study measuring indoor SHS was conducted in Oman. A special monitoring instrument measured particulate matter (PM<sub>2.5</sub>) which is solid or liquid particles emitted to the air. Of 30 venues monitored, active smoking was only observed in recreation venues (although they had signs prohibiting smoking). All schools, hospitals, government offices, and public transportation monitored in this study appeared to be compliant with the smoke-free policies. A level of PM<sub>2.5</sub> (256 µg/m<sup>3</sup>) was found in one recreation venue (a *sheesha* coffee shop) which was 25 times higher than smoking-free venues and outdoors.<sup>19</sup> Visitors to such a venue would be subjected to a short-term exposure of PM<sub>2.5</sub> 10 times higher than what is acceptable for a whole day (25 µg/m<sup>3</sup>), as defined by the WHO. However, long-term exposure to PM<sub>2.5</sub> concentrations, associated with adverse effects on chronic cardiovascular and respiratory disease, is identified at 10 µg/m<sup>3</sup> as an annual average.<sup>20</sup>

In the light of such studies, Oman has already banned TV, radio and outdoor cigarette advertising. Citizens have since been pressing for smoking bans in shopping malls, cinemas and restaurants. From April 2010, the Muscat municipality banned smoking in all public places. Anyone flouting the ban is fined up to OMR 100 and OMR 300 from the third offence. Private establishments, lax in enforcing the new curbs, also face fines and even risk having their establishments closed down for 3 to 7 days. The licences of persistently offending establishments can be permanently cancelled. Establishments covered by the new measure must display English and Arabic 'No Smoking Zone' signs and smoking in these establishments is permitted

only in designated 'smoking zones'.

Since November 2012, cigarette packs in Oman must be printed with a message alerting smokers to the dangers of smoking and a compelling image aiming to persuade them to kick the habit. All cigarette manufacturers and distributors should also keep such messages as part of anti-smoking campaigns.

The activities of the Oman Tobacco Control Programme includes the following interventions: higher taxes on tobacco products; comprehensive bans on tobacco advertising; information in the media on the health consequences of smoking, and school-based anti-smoking programmes in combination with community-based activities.

All these efforts assure us that there are now unprecedented opportunities to prevent and eradicate tobacco dependence by proven interventions aimed at both the population and individuals. The effectiveness of tobacco control policies will depend on coordination and cooperation between the various government and non-government organisations. In Oman, we need to increase awareness among adolescents in order to reduce rates of smoking initiation, increase quit attempts through improved access to cessation therapies, and protect non-smokers by re-examining smoke-free policies in recreation venues.

## References

1. Furrakh M. Tobacco Smoking and Lung Cancer: Perception-Changing Facts. Sultan Qaboos University Med J 2013; 13:345–58.
2. Cohen J. Global tobacco epidemic and public health response. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. From: <http://www.cdc.gov/about/grand-rounds/archives/2012/pdfs/GR-Tobacco-ALL-FINAL-Jul24.pdf> Accessed: May 2013.
3. Mackay J, Crofton J. Tobacco and the developing world. Br Med Bull 1996; 52:206–21.
4. Hosseinpoor AR, Parker LA, d'Espaignet ET, Chatterji S. Social determinants of smoking in low- and middle-income countries: results from the World Health Survey. PLoS ONE 2011; 6:e20331.
5. Grzybowski A. The history of anti-tobacco actions in the last 500 years. Part 1. Non-medical actions. Przegl Lek 2006; 63:1126–30.
6. World Health Organization. WHO report on the Global Tobacco Epidemic, 2011: Warning about the dangers of tobacco. Geneva: World Health

- Organization, 2011.
7. World Health Organization. Global Health Risks: Mortality and burden of disease attributable to selected major risks. Geneva: World Health Organization, 2009.
  8. Giovino GA, Mirza SA, Samet JM, Gupta PC, Jarvis MJ, Bhalal N, et al. Tobacco use in 3 billion individuals from 16 countries: an analysis of nationally representative cross-sectional household surveys. *Lancet* 2012; 380:668–79.
  9. Cummings KM, Brown A, O'Connor R. The cigarette controversy. *Cancer Epidemiol Biomarkers Prev* 2007; 16:1070–6.
  10. Giovino GA. The tobacco epidemic in the United States. *Am J Prev Med* 2007; 33:S318–26.
  11. Cummings KM, Morley CP, Hyland A. Failed promises of the cigarette industry and its effect on consumer misperceptions about the health risks of smoking. *Tobacco Control* 2002; 11:i110–17.
  12. Milberger S, Davis Ronald M, Douglas CE, Beasley JK, Burns D, Houston T, et al. Tobacco manufacturers' defence against plaintiffs' claims of cancer causation: throwing mud at the wall and hoping some of it will stick. *Tobacco Control* 2006; 15:iv17–26.
  13. Sirichotiratana N, Techatrasakdi C, Rahman K, Warren CW, Jones NR, Asma S, et al. Prevalence of smoking and other smoking-related behaviors reported by the Global Youth Tobacco Survey (GYTS) in Thailand. *BMC Public Health* 2008, 8:S3.
  14. The Framework Convention Alliance for Tobacco Control. Status of the WHO Framework Convention on Tobacco Control (WHO FCTC). Updated 14 August 2012. From: <http://www.fctc.org/> Accessed: May 2013.
  15. World Health Organization. A comprehensive global monitoring framework including indicators and a set of voluntary global targets for the prevention and control of noncommunicable diseases. Second WHO discussion paper, 22 March 2012. From: [http://www.searo.who.int/LinkFiles/mhnd\\_GMF.pdf](http://www.searo.who.int/LinkFiles/mhnd_GMF.pdf) Accessed: May 2013.
  16. World Health Organization Framework Convention on Tobacco Control (WHO FCTC). 2012 Global Progress Report on implementation of the WHO Framework Convention on Tobacco Control. Geneva: World Health Organization, 2012.
  17. Al-Riyami A, Abd el Aty MA, Jaju S, Morsi M, Al-Kharusi H, Al-Shekaili W. World Health Survey 2008. Muscat: Ministry of Health, 2008.
  18. Al Riyami AA, Afifi M. Smoking in Oman: prevalence and characteristics of smokers. *East Mediterr Health J* 2004; 10:600–9.
  19. Al-Lawati JA, Al-Thuhli YS, Al-Hajri KH. A study on measuring secondhand smoke. Muscat: Ministry of Health, Oman, and Oman National Tobacco Control Committee, 2012.
  20. Krzyzanowski M, Cohen A. Update of WHO air quality guidelines. *Air Qual Atmos Health* 2008; 1:7–13.