



Tobacco and oral health – the approach of the World Health Organization Oral Health Programme

Professor Poul Erik Petersen
Chief, Oral Health Programme
Chronic Disease and Health Promotion
World Health Organization
Geneva
Switzerland

The epidemic of tobacco use is one of the greatest threats to global health today. Approximately one-third of the adult population in the world use tobacco in some form and of whom half will die prematurely. This huge death toll is rising rapidly, especially in low- and middle-income countries where most of the world's 1.2 billion tobacco users live. Developing countries already account for half of all deaths attributable to tobacco¹. This proportion will rise to 7 out of 10 by 2025 because smoking prevalence has been increasing in many low- and middle- income countries even though it is decreasing in high-income countries.

Worldwide the prevalence of tobacco use is highest amongst people of low educational background and among the poor and marginalized. In several developing countries there have been sharp increases in tobacco use especially among men and as the tobacco industry continues to target youth and women there are also concerns about rising prevalence rates in these groups. The shift in the global pattern of tobacco use is reflected in the changing burden of disease and tobacco deaths. Sadly, the future appears worse. Because of the long time lapse between the onset of tobacco use and the inevitable wave of disease and deaths that follow, the full effect

of today's globalization of tobacco marketing and increasing rates of usage in the developing world will be felt for decades to come. Tobacco use is a common risk factor to several general chronic diseases and oral diseases and the negative impact relates not only to smoking but use of smokeless tobacco. Most recently, the International Agency for Research on Cancer observed that there is sufficient evidence that smokeless tobacco causes oral cancer and pancreatic cancer in humans². Chewing tobacco is known as plug, loose leaf and twist. Pan masala or betel quid consists of tobacco, areca nuts and staked lime wrapped in a betel leaf. They can also contain other sweeteners and flavouring agents. Moist snuff is taken orally while dry snuff is powdered tobacco that is mostly inhaled through the nose. In comparison to smoking habits, the patterns of use of smokeless tobacco is less documented, particularly in developing countries^{3,4}.

Tobacco-induced oral disease

Tobacco-induced oral diseases contribute significantly to the global oral disease burden^{5,6}. Tobacco is a risk factor for oral cancer, oral cancer recurrence, adult periodontal diseases, and congenital defects such as cleft lip and palate in children whose mother smokes during pregnancy. Tobacco use suppresses the immune system's response to oral infection, retards healing following oral surgical and accidental wounding, promotes periodontal degeneration in diabetics and adversely affects the cardiovascular system. These risks increase when tobacco is used in combination with alcohol or areca nut. Most oral consequences of tobacco use impair quality of life be they as simple as halitosis, as complex as oral birth defects, as common as periodontal disease or as troublesome as complications during healing.

Oral and pharyngeal cancers pose a special challenge to oral health programmes particularly in developing countries. Cancer of the oral cavity is high among men, where oral cancer is the eighth most common cancer in the world (**Figure 1**)⁷. Incidence rates of oral cancer are high in developing countries, particularly in areas of South Central Asia where cancer of the oral cavity is among the three most frequent types of cancer. Meanwhile, dramatic increases in incidence rates of oral/pharyngeal cancers have been reported in countries or regions such as Germany, Denmark,

France, Scotland, Central and Eastern Europe, and rates are on the increase in Japan, Australia, New Zealand and in the USA among non-whites⁷.

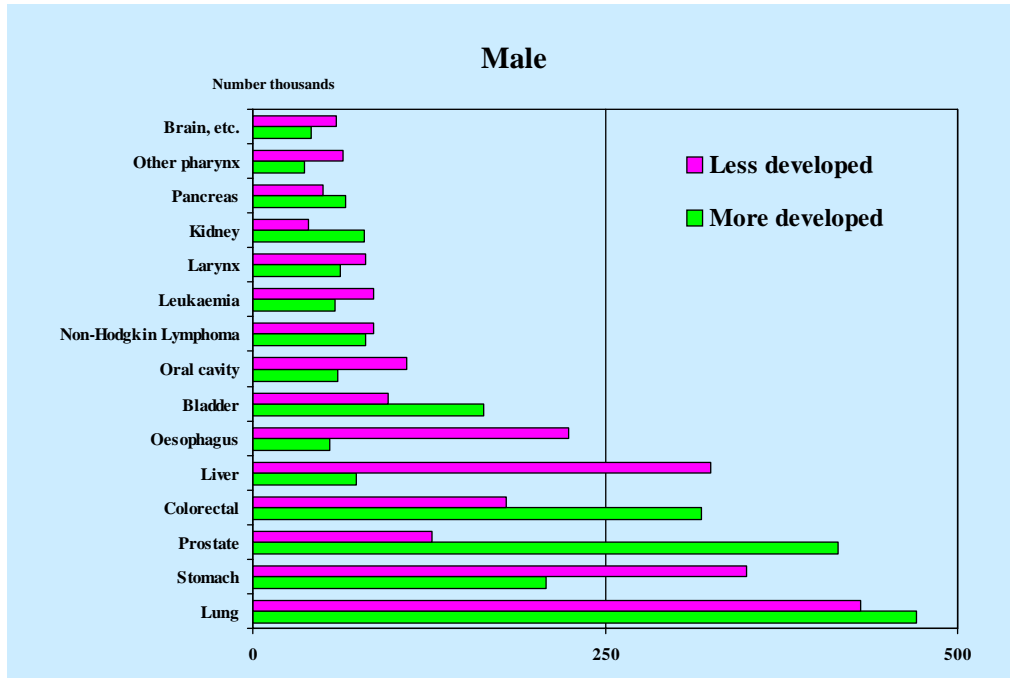


Figure 1 – Comparison of the most common cancers in more or less developed countries in 2000⁷

National cancer control programmes

WHO’s approach to chronic disease prevention places emphasis on the rising impact of tobacco-related diseases in low-income and middle-income countries and the disproportionate suffering it causes in poor and disadvantaged populations. Several public health actions have been initiated by WHO. In 2002, WHO stimulated the process for promoting and reinforcing the development of national cancer control programmes as the best known strategy to address the cancer problem worldwide⁸. This initiative also includes prevention of oral cancer. In addition to strong comprehensive tobacco control measures, dietary modification is another approach to cancer control. A national cancer control programme is a public health programme designed to reduce cancer incidence and mortality and improve quality of life of cancer patients, through the systematic and equitable implementation of evidence-based strategies for prevention, early detection, diagnosis, treatment and palliation,

making the best use of available resources. Thus, conducting a cancer prevention programme, within the context of an integrated noncommunicable disease prevention programme, is an effective national strategy. Tobacco use, alcohol, nutrition, physical activity and obesity are risk factors common to other noncommunicable diseases such as cardiovascular disease, diabetes and respiratory diseases. As emphasized by the World Health Report 2002¹ on reducing risks and promoting healthy life, chronic disease prevention programmes can efficiently use the same health promotion mechanisms.

Framework Convention for Tobacco Control and oral health

At the World Health Assembly in May 2003 the Member States agreed on a groundbreaking public health treaty to control tobacco supply and consumption. The text of the WHO Framework Convention on Tobacco Control (FCTC) covers tobacco taxation, smoking prevention and treatment, illicit trade, advertising, sponsorship and promotion, and product regulation⁹. The convention is a real milestone in the history of global public health and in international collaboration. It means nations will be working systematically together to protect the lives of present and future generations, and take on shared responsibilities to make this world a better and healthier place.

As emphasized in the World Oral Health Report 2003¹⁰, there are several ethical, moral and practical reasons why oral health professionals should strengthen their contributions to tobacco-cessation programmes, for example:

- * They are especially concerned about the adverse effects in the oropharyngeal area of the body that are caused by tobacco practices.
- * They typically have access to children, youths and their caregivers, thus providing opportunities to influence individuals to avoid all together, postpone initiation or quit using tobacco before they become strongly dependent.
- * They often have more time with patients than many other clinicians, providing opportunities to integrate education and intervention methods into practice.

- * They often treat women of childbearing age, thus are able to inform such patients about the potential harm to their babies from tobacco use.
- * They are as effective as other clinicians in helping tobacco users quit and results are improved when more than one discipline assists individuals during the quitting process.
- * They can build their patient's interest in discontinuing tobacco use by showing actual tobacco effects in the mouth.

Oral health professionals and dental associations worldwide should consider this platform for their future work and design national project(s) jointly with health authorities. Tobacco prevention activities can be translated through existing oral health services or new community programmes targeted at different population groups.

Children and youth are important target groups in tobacco prevention. The Health Promoting School provides an effective setting for tobacco prevention and the WHO Oral Health Programme has developed a manual for implementation of oral health promotion through schools¹¹. Guidelines are given for organization of tobacco prevention activities based on healthy environments and health education.

Tobacco prevention and the WHO Global Oral Health Programme

The WHO Oral Health Programme aims to control tobacco-related oral diseases and adverse conditions through several strategies¹⁰. Within WHO, the Programme forms part of the WHO tobacco-free initiatives, with fully integrated oral health-related programmes. Externally, the Programme encourages the adoption and use of WHO tobacco-cessation and control policies by international and national oral health organizations. Primary partners are NGOs who are in official relations with WHO, i.e. the FDI World Dental Federation and the International Association for Dental Research (IADR).

The priority areas in relation to tobacco control given by the WHO Global Oral Health Programme are outlined in **Table 1**. Firstly, state-of-the-science analysis and development of modern, integrated information systems will provide an important new platform for public health initiatives in tobacco control. Secondly, the Programme provides assistance to countries in risk behaviour analysis and surveillance in order to help countries include oral health aspects in tobacco prevention programmes. Thirdly, the WHO Oral Health Programme supports the translation of knowledge into action programmes, e.g. tobacco prevention activities in schools or by involving oral health professionals in national or community-based tobacco control. Fourthly, the WHO Oral Health Programme has intensified the work towards development of surveillance, monitoring and evaluation systems. Operational research may provide for outcome and process evaluation of community approaches for tobacco control and such research may then help sharing experiences across countries¹². In particular, emphasis is given by the WHO Oral Health Programme to development of national tobacco programmes in low- and middle-income countries. Worldwide activities may be facilitated by strong networks and the effective collaboration with NGOs such as the FDI.

The WHO Oral Health Programme continues strengthening work for tobacco control, particularly through support to countries having them incorporate oral health in their tobacco prevention policies. Evaluation and sharing experiences from tobacco-cessation programmes are important for such global initiatives and the WHO Oral Health Programme appreciates the expanded collaboration with the oral health community in this activity. The joint WHO-FDI activities which are based on the World No Tobacco Day 2005 provide a most constructive platform for the continuous tobacco prevention programmes in the future.

Poul Erik Petersen
World Health Organization
Oral Health Programme
Department of Chronic Disease and Health Promotion
20 Avenue Appia, CH-1211 Geneva 27
Switzerland
Tel.: +41 22 791 34 75
Fax: +41 22 791 48 66
petersenpe@who.int

Table 1. WHO Oral Health Programme objectives and activities carried out in relation to tobacco control

<p>State-of-the-science and new knowledge</p>	<ul style="list-style-type: none"> ● Analysis of existing knowledge about oral health – general health and relationships to tobacco use ● Update of the WHO Global Oral Health Data Bank, including periodontal disease data (CPI) ● Integration of oral health data bank into other WHO databanks on chronic disease, common risk factors and tobacco use ● Update of the WHO Oral Health Surveys Basic Methods, including guidelines for recording risk factors/tobacco use and tobacco-induced oral diseases and conditions
<p>Assistance to countries in risk behaviour analysis and risk surveillance</p>	<ul style="list-style-type: none"> ● Development of indicators and tools for assessment of tobacco use and their impact on oral health, as part of national health programmes ● Tests of instruments in selected countries
<p>Translation of knowledge into action programmes in countries/communities</p>	<ul style="list-style-type: none"> ● Analysis of policy and analysis for policy in relation to tobacco use and oral health ● Effective use of schools in tobacco prevention among children and adolescents, based on Health Promoting Schools principles ● Guidelines on tobacco prevention and oral health for pregnant women and young mothers at MCH level ● Effective involvement of oral health professionals in tobacco cessation programmes – analysis of barriers and constraints
<p>Evaluation, monitoring and surveillance</p>	<ul style="list-style-type: none"> ● Operational research in tobacco behaviour modification ● Development of community/country specific goals for tobacco prevention, incorporating oral health ● Development of models for evaluation of community-based oral health promotion programmes, including tobacco control ● Outcome and process evaluation of community demonstration projects for sharing experiences ● Development of tools for surveillance and monitoring tobacco control programmes

REFERENCES

1. World Health Organization. *The World Health Report 2002. Reducing risks, promoting healthy life*. Geneva, World Health Organization, 2002.
2. Cogliano V, Straif K, Baab R, Grosse Y, Secretan B, Ghissassi FEI. Smokeless tobacco and tobacco-related nitrosamines. *The Lancet Oncology* 2004; 5: 708.
3. Gupta PC, Warnakulasuriya S. Global epidemiology of areca nut usage. *Addiction Biology* 2002; 7: 77-83.
4. Mackay J, Eriksen M. *The Tobacco Atlas*. Geneva, World Health Organization, 2002.
5. Reibel J. Tobacco and oral diseases: an update on the evidence, with recommendations. *Med Princ Pract* 2003; 12 (suppl. 1): 22-32.
6. Tomar SL, Asma S. Smoking attributable periodontitis in the United States: findings from NHANES III. *J Periodontol* 2000; 71: 743-51.
7. Steward BW, Kleihues P. *World Cancer Report*. Lyon, WHO International Agency for Research on Cancer, 2003.
8. World Health Organization. *National Cancer Control Programmes. Policies and managerial guidelines (2nd edition)*. Geneva, World Health Organization, 2002.
9. World Health Organization. *Framework Convention on Tobacco Control*. Geneva: World Health Organization. World Health Assembly May, 2003.
10. Petersen PE. *The World Oral Health Report 2003. Continuous improvement of oral health in the 21st century and the approach of the World Health Organization Global Oral Health Programme*. Geneva, World Health Organization, 2003.
11. World Health Organization. *WHO Information Series on School Health. Oral Health Promotion through Schools*. Document 11. Geneva: WHO, 2003.
12. Petersen PE, Kwan S. Evaluation of community based oral health promotion and oral disease prevention - WHO recommendations for improved evidence in public health practice. *Community Dent Health* 2004; 21(Suppl 1): 319-29.