

Policy for Prevention of Oral Manifestations in HIV/AIDS: The Approach of the WHO Global Oral Health Program

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Adv Dent Res 19:17-20, April, 2006

The HIV/AIDS pandemic has become a human and social disaster, particularly affecting the developing countries of Africa, Southeast Asia, and Latin America. By the end of 2004, about 40 million people were estimated to be infected by HIV globally. The health sectors in many affected countries are facing severe shortages of human and financial resources, and are struggling to cope with the growing impact of HIV/AIDS. In most developed countries, the availability of antiretroviral treatment has resulted in a dramatic reduction in HIV/AIDS-related mortality and morbidity. In contrast, in the developing countries, there is little access to treatment, and access to HIV-prevention services is poor. The '3 by 5' initiative was launched by the WHO and UNAIDS in 2003 with the aim of providing antiretrovirals to three million people in developing countries by the year 2005. HIV infection has a significant negative impact on oral health, with approximately 40-50% of HIV-positive persons developing oral fungal, bacterial, or viral infections early in the course of the disease. Oral health services and professionals can contribute effectively to the control of HIV/AIDS through health education and health promotion, patient care, effective infection control, and surveillance. The WHO Global Oral Health Program has strengthened its work for prevention of HIV/AIDS-related oral disease. The WHO co-sponsored conference, *Oral Health and Disease in AIDS*, held in Phuket, Thailand (2004), issued a declaration calling for action by national and international health authorities. The aim is to strengthen oral health promotion and the care of HIV-infected persons, and to encourage research on the impact that HIV/AIDS, public health initiatives, and surveillance have on oral health.

The HIV/AIDS Pandemic

The HIV/AIDS pandemic has become a human, social, and economic disaster, with far-reaching implications for individuals, communities, and countries. No other disease has so dramatically highlighted the current disparities and inequities in health-care access, economic opportunity, and the protection of basic human rights. By the end of 2004, about 40 million people were estimated to be infected with HIV (UNAIDS/WHO, 2004). During 2004, the HIV/AIDS pandemic claimed more than three million lives, and five million people became infected with HIV. Each day, there are 14,000 new HIV infections, more than half of these occurring among young people under 25 years of age. Over three million children are infected with HIV (UNAIDS/WHO, 2004).

Global data available on the HIV/AIDS pandemic are illustrated in Figs. 1 and 2. Sub-Saharan Africa has been most severely affected, with almost 10% of the adult population being infected in 2004, and an estimated 25 million people living with HIV (UNAIDS/WHO, 2004). Life expectancy has

fallen to below 50 years. Nearly 10% child mortality is HIV-associated, with a negative impact on the progress in child survival made during the past decades. In Southeast Asia, there are more than seven million people infected, and further spread could lead to millions more becoming infected in the coming decade. The epidemic in Latin America is well-established, with nearly two million people being infected, while rapid growth has been observed in recent years in Eastern Europe and Central Asia. Globally, the major mode of HIV transmission is through sexual intercourse, intravenous drug use, mother-to-child transmission, and contaminated blood in the health-care setting. The relative importance of the different modes of transmission varies between and within regions of the world.

HIV/AIDS and Society

In all affected countries with either high or low HIV prevalence, AIDS hinders development, exacting a devastating toll on individuals and families (US Agency for International Development, 2004). In the hardest-hit countries, it is eroding decades of health, economic, and social progress—reducing life expectancy by years, deepening poverty, and contributing to and exacerbating food shortages. Sub-Saharan Africa has the world's highest prevalence of HIV infection and faces the greatest demographic impact. In seven African countries where HIV prevalence is more than 20%, the average life expectancy of a person born between 1995 and 2000 is now 49 years, which is 13 years lower than in the absence of AIDS. In Swaziland, Zambia, and Zimbabwe, which lack access to antiretroviral programs, average life expectancy is predicted to drop below the age of 35.

In some of the worst-affected countries, the living standards of many poor people deteriorated before they experienced the full impact of the HIV epidemic. In general, HIV/AIDS-affected households are more likely to suffer severe poverty than non-affected households; this is true for countries with low as well as high prevalence rates. HIV/AIDS reduces the income and production of family members who are ill, at the same time creating extraordinary care needs, rising household medical expenses, and other costs which, on average, absorb one-third of a household's monthly income.

The HIV/AIDS epidemic is also a significant obstacle to the universal access of children to primary education. In many countries of Africa, the epidemic is expected to contribute substantially to the future shortage of primary school teachers. As skilled teachers fall ill and die, the quality of education suffers. Children, especially girls, from AIDS-affected families are often withdrawn from schools to look after the home and

Key Words

Oral disease, HIV/AIDS, oral health care, prevention, WHO.

Presented at the Fifth World Workshop on Oral Health and Disease in AIDS, Phuket, Thailand, July 6-9, 2004, sponsored by Prince of Songkla University, Thailand, the International Association for Dental Research, the World Health Organization, the NIDCR/National Institutes of Health, USA, and the University of California-San Francisco Oral AIDS Center.



Fig. 1 - Adults and children estimated to be living with HIV as of end 2004.



Fig. 2 - Estimated number of adults and children newly infected with HIV during 2004.

to compensate for the loss of income through a parent's illness and the expenses incurred to care for ill relatives.

Health-care Systems

The HIV epidemic has created a need for robust, flexible health-care systems. The health sector in many affected countries is facing severe shortages of human and financial resources, especially in the worst-affected countries of Africa and Asia. Many health services and facilities are struggling to cope with the growing impact of HIV/AIDS. In sub-Saharan Africa, people with HIV-related illnesses occupy more than 50% of hospital beds (UNAIDS/WHO, 2004). At the same time, demand for health services is increasing, as more health-care personnel are dying themselves or are unable to work as a result of AIDS. Therefore, more health-care personnel will need to be trained and new categories of health-care workers established (e.g., primary health workers, assistants, and health counselors). Lack of resources, too many competing demands, and lack of influence within government decision-making are demoralizing some health ministries, thereby hindering the overall national response to the pandemic.

In many developed countries, the availability of antiretroviral treatment has meant dramatic reductions in HIV/AIDS-related mortality and morbidity (WHO, 2004a). As a result, more people with HIV are able to enjoy better health and lead productive lives. This is in marked contrast to the developing countries, where there is little treatment access. Although prevention is the mainstay of the response to AIDS, fewer than one in five people worldwide have access to HIV prevention services. For young people, knowledge and information about prevention are the first line of defense. Meanwhile, AIDS

TABLE - The Key Elements in Comprehensive HIV Prevention (WHO/UNAIDS, 2003)

- AIDS education and awareness
- Behavior change programs, particularly for young people and populations at higher risk of HIV exposure, as well as for people living with HIV
- Promoting male and female condoms as a protective option along with abstinence, fidelity, and reducing the number of sexual partners
- Voluntary counseling and testing
- Preventing and treating sexually transmitted infections
- Primary prevention among pregnant women, and prevention of mother-to-child transmission
- Harm-reduction programs for those using drugs by injection
- Measures to protect blood supply safety
- Community education and changes in laws and policies to counter stigma and discrimination

education is still far from universal: Youth need access to sound health information as well as to condoms. The Table highlights the key elements in comprehensive HIV prevention.

Treatment, Care, and Support for People Living with HIV

Access to antiretroviral treatment and other HIV-related disease care remains low in developing countries. The WHO estimates that nine out of ten people who need urgent HIV treatment are not being reached (WHO, 2003a, 2004a). Approximately five to six million people in developing countries will die in the next two years if they do not receive antiretroviral treatment. Yet the global movement to scale up access to HIV treatment has made critical gains during the past few years. Never before have there been such high levels of financial resources to fund treatment, care, and support, or the strength of political will in countries to provide them. The price of many medicines and diagnostics has fallen dramatically. The '3 by 5' initiative was launched by the WHO and UNAIDS in September, 2003, with the aim of providing antiretrovirals to three million people in developing countries by the end of 2005. The aim was an interim target only, the initiative being part of a global movement to mobilize support for, ultimately, universal access.

National Responses to AIDS—The Political Context

Political commitment has recently increased in the hardest-hit countries. In sub-Saharan Africa, as well as in some countries of Asia and the Caribbean, more leaders have taken personal responsibility for implementing a national AIDS response. However, in most countries where HIV is spreading quickly—for example, in Asia and Eastern Europe—the lack of leadership may result in a delayed response. Furthermore, in low-prevalence countries, where the epidemic is concentrated in key populations at high risk, especially sex workers and intravenous drug users, many political leaders remain detached from the response to AIDS.

Conscious of the need to define and strengthen the role of the health sector within a broad multisectoral response to HIV/AIDS, the World Health Assembly adopted a resolution in May, 2000 (WHA 53.14), requesting that the WHO develop a strategy for addressing HIV/AIDS as part of the United Nations Special Session on HIV/AIDS in 2001. The aim of the so-called 'Global Health—Sector Strategy' (WHO, 2003b,c) is to strengthen the response of the health sector to the challenges posed by HIV/AIDS as part of an overall multisectoral effort. The strategy describes the support that the WHO will offer,

and outlines a series of steps, issues, and action points for health ministries and others in the health sector to consider, especially during the development or updating of national strategic plans for HIV/AIDS. The major action points are: prevention and health promotion, diagnostic services and treatment, health standards and health systems, and informed policy and strategy development.

Oral Health in HIV/AIDS

Several studies have demonstrated the negative impact of HIV infection on oral health (Johnson *et al.*, 2006). Approximately 40-50% of HIV-positive persons have oral fungal, bacterial, or viral infections that occur early in the course of the disease. Oral lesions strongly associated with HIV infection include pseudo-membranous oral candidiasis, oral hairy leukoplakia, HIV gingivitis and periodontitis, Kaposi's sarcoma, and non-Hodgkin's lymphoma (Coogan and Sweet, 2002). Dry mouth has been frequently observed in the course of HIV infection (Glick *et al.*, 1994). Decreased salivary flow rate may not only increase the risk of dental caries but may also have a further negative impact on quality of life, because of difficulty in chewing, swallowing, and tasting food. There is a need for immediate oral health care and referral, the treatment and prevention of oral disease, and health promotion, particularly among the under-served, disadvantaged population groups of developing countries. In those countries, availability of and access to oral health care are generally low, because of shortages of oral health manpower.

The World Health Organization (WHO) has worked to control HIV/AIDS-related oral conditions through several activities. The WHO Oral Health Program has prepared a guide (Melnick *et al.*, 1993) which is intended to provide a systematic approach to the implementation of epidemiological studies of oral conditions associated with HIV infection; to provide guidelines for the collection, analysis, reporting, and dissemination of data from such studies; and to facilitate comparison of findings from different studies. It also aims to encourage oral health personnel and public health practitioners to make oral health status an integral part of optimum care management and the introduction of the surveillance of oral diseases associated with HIV infection.

Capacity-building for the Oral Health Response to HIV/AIDS

Oral health services and professionals can contribute effectively to the early diagnosis, prevention, and treatment of HIV/AIDS. Members of the oral-health-care professions, especially their medical and nursing colleagues, are powerfully placed to help ensuring that they and others understand the facts about AIDS and their responsibilities. They also are in a position to care for patients and to design and direct appropriate prevention and health promotion programs.

Recently, the WHO published a global overview of oral health, and the report also outlined the approach of the WHO Global Oral Health Program to promoting oral health during the 21st century (Petersen, 2003). The WHO sees oral health as an integral part of general health, and an essential component of quality of life. Oral manifestations of HIV/AIDS are considered a most important challenge to improved health in the future, particularly in developing countries.

In 1995, the WHO outlined some basic principles for developing a country-specific approach to capacity-building to control HIV/AIDS-related oral disease (WHO, 1995). Four areas were identified: (1) health promotion and health education, (2) patient care, (3) infection control, and (4) epidemiology and surveillance. Health promotion and health education are particularly needed to limit the spread of HIV and AIDS. Health promotion, education, and infection control must therefore be incorporated into the delivery of oral health services to patients.

An overriding principle in patient care is the need for oral health providers to remain up-to-date on both the diagnosis and treatment of oral conditions associated with HIV infection, through consulting the scientific literature and attending continuing education courses. Infection control practices are based on the application of four principles of infection control: (a) take action to stay healthy, (2) avoid contact with blood, (c) limit the spread of blood, and (d) make objects safe for you. All members of the oral health team should be familiar with these guidelines for local infection control. Finally, surveillance of oral disease related to HIV infection, as well as risk factors, is essential to the planning and evaluation of public health programs. The WHO Oral Health Program has designed appropriate surveillance forms and systems based on sound epidemiological tools. Robust diagnostic criteria have been developed for the more common oral lesions found in HIV-infected individuals, and these criteria may provide for the establishment of an oral health component of global information systems in HIV/AIDS.

Recently, several countries have established guidelines for the control of the oral manifestations of HIV disease (WHO, 1995). Oral health professionals have been exposed to continuing education programs to improve their knowledge and skills to serve HIV-infected patients, and to prevent cross-infection in health-care settings. Such national programs are mostly available in industrialized countries, and still remain challenges in several developing countries. However, special efforts were made to strengthen control of HIV/AIDS-related oral disease in India, through the preparation of a handbook on HIV disease for dental professionals (Viswanathan and Ranganathan, 1999).

In developing countries, oral health services are mostly offered from regional or central hospitals of urban centers. The importance of preventive or restorative dental care is not stressed. Many countries in Africa, Asia, and Latin America have a shortage of oral health personnel, and the capacity of the systems is generally limited to pain relief or emergency care. In countries of Central and Eastern Europe, privatization of oral health services has taken place during recent years: Third-party payment systems have been introduced, but priority is not given to preventive oral care. Globally, the WHO Oral Health Program supports the development of oral health services that match the needs of the country, including the need to provide appropriate oral-health care for HIV-infected people.

Strengthening the Prevention of HIV/AIDS-related Oral Disease

According to the World Oral Health Report 2003 (Petersen, 2003), priority is given by the WHO Global Oral Health Program to effective prevention of oral manifestations of HIV/AIDS through additional actions. These actions are integral components of the WHO and joint United Nations global programs for control of HIV/AIDS (WHO, 2003b,c; Joint Nations Program on HIV/AIDS [UNAIDS], 2004).

The WHO Global Oral Health Program, in collaboration with other WHO technical programs and WHO Collaborating Centres in Oral Health, will facilitate and coordinate the expansion of successful initiatives through technical and managerial support. Such activities may focus on:

- identification of the most indicative oral manifestations of HIV/AIDS
- involvement of oral health personnel in the documentation of HIV/AIDS to ensure appropriate medical evaluation, prevention, and treatment
- training of other health professionals and primary health-care workers on how to screen for oral lesions and extra-oral manifestations; the 'Train the trainer' approach is used to reach health-care workers at local village community level. The WHO Oral Health Program has designed an oral health component of the project, Integrated Management of Adolescent and Adult Illness (WHO, 2004b). This project

intends to develop the capacity in primary health care of first-level-facility health workers, focusing on essential care and referral for advanced diagnosis and treatment.

- dissemination of information on the disease and its prevention through every possible means of communication. The WHO Oral Health Program has developed a manual for oral health through schools (WHO, 2003d), being a component of the WHO Global School Health Initiative (WHO, 2004c) and the World Bank activities (World Bank, 2003).
- WHO technical support of meetings, at regional or interregional levels, aimed at sharing country experiences in monitoring HIV/AIDS prevention and lifestyle modification through campaigns and community programs
- assistance to countries in their efforts to develop oral health systems that incorporate oral health care, health promotion, and oral disease prevention aimed at disadvantaged people infected with HIV.

Further information on the WHO Oral Health Program can be found at http://www.who.int/oral_health.

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