

Strategy for AIDS Prevention and Treatment

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Abstract: HIV/AIDS has been circulating in China for over 25 year. While making progress and achievements on HIV/AIDS prevention, there still are great challenge and difficulties such as HIV epidemic controlling and vaccine research.

Key words: HIV/AIDS; Prevention and care; Infection; Vaccine; Drugs

In 1982, HIV in Factor VIII entered China from USA and 4 Chinese Hemophilic patients were infected with HIV through injection of this factor VIII during 1983-1985. In 1985, the first AIDS patient came to China from USA (2). Afterward HIV came to China and transmitted through drug users, CSWs, and blood plasma donors, then spread all over China. The cumulative estimated members of people living with HIV/AIDS had reached 650 000 in 2005. The cumulative reported cases living with HIV/AIDS were 214 300 by the end of July 2007. These reports indicate that the HIV/AIDS epidemic is spreading in the general population and that the proportion of female HIV cases has increased considerably in recent years. Although the government was slow respond to the epidemic in the late 20th century, it has made a vigorous response in the early 21st century, a series of important strategies and policies in fighting HIV/AIDS have been adopted by the central government, such as strengthening leadership, surveillance and information systems, clarifying responsibilities, establishing comprehensive HIV/AIDS prevention and control system, providing treatment, care and support

for AIDS patients and increasing funding for HIV/AIDS.

A major issue is how to control the HIV/AIDS epidemic. Thailand's great achievement in response to HIV/AIDS is a good example. Since 1990, Thailand has launched a nation-wide HIV education and intervention campaign led by the prime minister along with all levels of the government. They took all kinds of effective measures of education and intervention, especially the 100% Condom Use Program. As a result, STD infection decreased dramatically, and the HIV infection rate also markedly reduced. UNAIDS remarked that Thailand had initiated active educational and intervention programs that prevented several million people from being infected. On the contrary, South Africa government did not take effective measures to response HIV infection; the HIV infection rate is as high as 20%-25% in South Africa. One study estimated that from 2002 to 2010, without sufficient education and interventions, the global number of HIV infection would raise to 48 million by 2010; but if with effective interventions, 29 million people could be prevented from HIV infection (1).

Received: 2007-06-29, Accepted: 2007-10-10

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From this, we can see the importance of HIV education and interventions. Thus, the major strategy is to initiate educational and intervention action widely and profoundly. The point is to undertake these measures among rural areas, migration population and the youth. Education and interventions are long-term works that a casual attitude cannot be adopted.

In terms of HIV vaccine, no successful vaccine has been invented yet after long period of research. Then why we spend enormous efforts and funds on vaccine research?

1. We must realize that, in a macro scope, human is the most intelligent creature, and human will continuously deepen their understanding of the rules that how the objective matters develop, and formulate various effective measures to conquer difficulties. Diseases, such as Smallpox and poliomyelitis, had once caused great loss to human, but at last, human have defeated, prevented and controlled over them. Things will be the same with HIV/AIDS. In the end, human will win the battle from AIDS.

2. The most sufficient methods to prevent HIV/AIDS at present are undertaking active education and interventions. However, 1/3 of the infections are hard to prevent. Therefore, we need successful vaccine to prevent HIV. Human has invented many effective vaccines, which have played very important roles in fighting against major infectious diseases. In addition, China should take part in this vaccine research actively.

3. Due to the mutation of HIV, the vaccine is still not available; besides, people still know little about the pathogenesis and immuno-response of HIV. For these reasons, we should focus more on fundamental research, which is significant to the vaccine study.

4. The vaccine is not yet available, which brings a major challenge to scientists. Chinese scientists should

devote themselves with their wisdom in fighting against HIV/AIDS, and invent HIV vaccine with our own patent, as the contributions to all.

At present, more than 20 drugs have been used to treat HIV/AIDS, which decrease HIV-1 viral load, or even reduce to undetectable level; increase the number of CD4 cells and improve patients' life quality, meanwhile prolong their life. The decrease of the viral load also reduces the transmission of the virus. However, mutations occur easily, drug resistance happens during the treatment, hence more and chipper new drugs will be needed. China now does not have drugs with our own patent, but the Government has listed HIV/AIDS control and prevention as a major program. As a result, China should strengthen the research of HIV/AIDS drugs, which should include the traditional Chinese medicinal herbs and synthetic drugs. I believe China certainly would succeed in anti-HIV drugs invention.

China's present control and prevention strategies of infectious diseases are in favor of controlling and researching severe infectious diseases now; meanwhile, we should emphasis more on cooperation and communications in research. This very issue of *Virologic Sinica* has published HIV/AIDS essays by experts in this field; and I believe enhance academic exchange would benefit our HIV/AIDS prevention and control.

References

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