Multidisciplinary approach to contain HIV-1 and other STIs in China: Multipurpose Prevention Technologies

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BACKGROUND

In China, the HIV prevalence continues to rise despite increasing efforts to contain the epidemic, and other sexually transmitted infections (STIs) are also on the increase. Furthermore, antibiotic-resistant STI pathogens are on the increase and many STIs facilitate the acquisition and/or transmission of HIV-1. Multipurpose prevention technologies (MPTs), including drugs, devices and vaccines that simultaneously prevent unintended pregnancies, HIV and other STIs, would provide effective approaches to meet these public health challenges.

METHODS

The Initiative for MPTs developed Target Product Profiles (TPPs) to define key product attributes appropriate for those regions of the world hardest hit by unintended pregnancy, HIV, and other STIs. The TPPs considered priority combinations of indications, mechanisms of action, dosing and administration, and formulation and delivery. Current and historic data from China were reviewed to determine which product attributes in an MPT would best meet the needs in China.

RESULTS

1) Sexual transmission of HIV-1 has become the major route for new infection in China, and other STIs have increased more than 40 times from 1985. The increase in STI rates is associated with population mobility, and the geographic distribution of STIs overlaps with that of HIV, suggesting the possibility of co-infection.

2) As the Chinese society goes through a drastic social transformation, the STI epidemic profiles are changing too. Syphilis became the major STI, with more than 200,000 reported cases in 2008, a 200-fold increase over 1990.

3) IUD and sterilization are the dominant contraceptive methods though condom usage increased with urbanization, increased income and easy access.

CONCLUSIONS

The continuing rise in prevalence and rates of STIs, including HIV, poses serious public health challenges to China, where sustained economic development has resulted in dramatic social transformation and unprecedented population mobility. MPTs that specifically target HIV and other STIs, coupled with contraception, could provide an effective approach to meeting critical public health challenges in China. Based upon research on the contraceptive usage, the preferred dosing form would be long-acting implant or IUD-based delivery.