



Hormonal Contraception and HIV: More Research Needed; No Changes in Family Planning Practices Currently Warranted

- *No conclusive evidence exists that hormonal contraceptive use increases the risk of HIV acquisition, transmission, or disease progression.*
- *Current knowledge does not indicate a need to change existing recommendations that women at risk of HIV infection or those who are HIV-infected may safely use hormonal contraception.*
- *Hormonal contraceptive users at elevated risk of HIV infection should also use condoms consistently and correctly.*

Background on Topic

Scientists seeking to identify factors that could contribute to the spread of HIV have raised the possibility of an association between hormonal contraceptive use and HIV acquisition. Research on the topic has been conflicting and inconclusive. Recently, however, data from the largest prospective study ever conducted specifically on hormonal contraceptive use and HIV acquisition has helped clarify this issue. These findings, as well as the current knowledge concerning a potential relationship between hormonal contraception and HIV transmission or HIV disease progression, do not warrant changing current family planning recommendations stating that women at risk of HIV infection or those whom are HIV-infected may safely use hormonal contraception.¹

Hormonal Contraceptive Use and HIV Acquisition

Numerous studies have investigated a possible relationship between hormonal contraceptive use and HIV acquisition, but understanding of this matter has remained poor. Study results have been inconsistent, in part because nearly all of these studies have been designed to investigate other research questions and have had important methodological shortcomings.

A study, published in the January 2, 2007 issue of the journal *AIDS*, clarifies this issue. It found no overall statistically significant association between the use of either combined oral contraceptive (COC) pills or depot medroxyprogesterone acetate (DMPA) and HIV acquisition. This four-year, prospective study, funded by the National Institute of Child Health and Human Development, was conducted among some 6,100 HIV-negative women in Uganda, Zimbabwe, and Thailand. The primary finding of this study provides the best reassurance to date for women in need of highly effective contraception in settings of high HIV risk. The results from the study do not indicate that any changes should be made in the provision or use of DMPA or COCs. Neither the World Health Organization (WHO) nor the International Planned Parenthood Federation, which have reviewed the study results, plans at this time to change its guidelines for hormonal contraceptive use.

Notably, this study was conducted among family planning clients, who are considered to be at low risk of HIV infection and are similar to most women worldwide who use hormonal contraception. In contrast, while results of other studies have been conflicting, those that have indicated an increased HIV risk associated with hormonal contraception were generally conducted among high-risk populations of women, such as sex workers.

Hormonal Contraceptive Use and HIV Transmission

Whether hormonal contraceptive use by HIV-infected women increases their risk of infecting sexual partners remains unknown. Only two studies of this issue have been prospective, and the results of four cross-sectional studies of HIV shedding from the genital tract (thought to be a marker of increased infectiousness) are conflicting, perhaps due to relatively small study samples.

Hormonal Contraceptive Use and HIV Disease Progression

The association between hormonal contraceptive use and clinical progression of HIV infection has not been studied directly. The only evidence so far that hormonal contraceptive use might affect HIV disease progression comes from a prospective study conducted among sex workers in Mombasa, Kenya.² In a subset of 156 HIV-infected sex workers, use of either oral contraceptives or DMPA (depot medroxyprogesterone acetate) at the time of HIV infection was associated with acquiring genetically diverse virus populations from a single partner. The women who acquired these



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genetically diverse virus populations also had significantly higher viral set points and significantly lower CD4 cell counts 4 to 24 months after infection than did those with only one strain of the virus. Both low CD4 cell counts and high viral set points are predictors of HIV disease progression. More research is needed to confirm this finding.

Interactions between Hormonal Contraceptives and Antiretroviral (ARV) Drugs

Limited evidence suggests that certain ARV drugs can either raise or lower concentrations of contraceptive hormones in the blood of HIV-infected women using combined oral contraceptives (COCs). Theoretically, lower contraceptive hormone levels could reduce contraceptive efficacy and increase pregnancy risk, while higher levels could increase hormone-related side effects. One of the concerns is a relatively modest reduction in blood hormone levels of 20 percent to 30 percent among women on COCs taking the commonly used ARV nevirapine. However, no studies have looked at actual clinical outcomes of these interactions, such as occurrence of ovulation and actual pregnancies. Few studies have looked at the question of how hormonal contraceptive use affects response to ARV therapy. But in the largest prospective study of the impact of HIV infection on U.S. women, hormonal contraceptive use did not reduce the effectiveness of the combinations of three or more different ARV drugs known as highly active antiretroviral therapy (HAART).³

Programmatic Considerations

No conclusive evidence exists that hormonal contraceptive use increases risk of either HIV acquisition or transmission. However, because hormonal contraception does not protect against HIV, uninfected hormonal contraceptive users at elevated risk of acquiring HIV should also use condoms consistently and correctly with each sexual act if they are not in a mutually monogamous relationship with an uninfected partner. HIV-infected women (regardless of the contraceptive method they use) also should use condoms consistently and correctly to reduce any possible risk of HIV transmission to their partners.

Hormonal contraceptive users who are HIV-infected and who—in the absence of definitive data about disease progression and hormonal contraceptive/ARV drug interactions—wish to continue hormonal contraceptive use can be counseled to do so. However, unanswered questions about the effects of ARVs on oral contraceptive effectiveness have led the WHO to caution that, although women on ARV therapy generally may use oral contraceptives, medical follow-up may be appropriate.⁴

HIV-positive hormonal contraceptive users who wish to switch methods should be counseled about other available contraceptive methods. Some of these women may prefer using a contraceptive method that is highly effective since the prevention of pregnancy by HIV-positive women plays a critical role in the prevention of mother-to-child transmission of the virus. In such cases, the intrauterine device and sterilization may be important contraceptive options from which to choose. Finally, the use of HIV voluntary counseling and testing services should be encouraged so more individuals can determine their HIV status.

¹ World Health Organization (WHO). Improving Access to Quality Care in Family Planning: Medical Eligibility Criteria for Contraceptive Use. Third Edition. Geneva, Switzerland, WHO, 2004. (Available: <http://www.who.int/reproductive-health/publications/mec/>)

² Baeten, J., Lavreys, L., Sagar, M., et al. Effect of contraceptive methods on natural history of HIV: Studies from the Mombasa cohort. *Journal of Acquired Immune Deficiency Syndromes* 38(Suppl 1):18-20. 2005.

³ Chu, J., Gange, S.J., Anastos, K., et al. Hormonal contraceptive use and the effectiveness of highly active antiretroviral therapy. *American Journal of Epidemiology* 161(9):881-90. 2005.

⁴ WHO.

Where to get more information:

<http://www.fhi.org/en/RH/Pubs/booksReports/hcandhiv.htm>

Other technical briefs can be found at: <http://www.maqweb.org>

Last Revised: 03/30/07

Produced in association with The Maximizing Access and Quality Initiative

Designed and produced by: The INFO Project at the Johns Hopkins Bloomberg School of Public Health/Center for Communication Programs

Published with support from the United States Agency for International Development (USAID), Global, GH/PRH/PEC, under the terms of Grant No. GPH-A-00-02-00003-00.



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