

Methods and the transmission of HIV: implications for family planning

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Abstract:

Heterosexual transmission is the predominant mode of spread of the Human Immunodeficiency Virus (HIV) in most of the world. Whether the use of hormonal contraceptives, IUDs and spermicides is associated with an increased or decreased risk for HIV acquisition remains controversial. Several mechanisms whereby contraceptive methods may influence the transmission of HIV have been proposed. As contraceptive use increases among women of reproductive age, the group most vulnerable to HIV infection, any associations between contraceptive method and HIV risk become even more important. The available studies of these associations are predominantly cross-sectional and give conflicting results. We review the published evidence for associations between HIV and individual contraceptive methods. At this time no definitive conclusions regarding these associations can be drawn. Further research, especially prospective epidemiological studies and basic biological research on mechanisms of heterosexual transmission and the effect of contraceptives on these mechanisms, is urgently needed. PIP: The current literature on the transmission of HIV and the use of oral contraceptives (OCs), injectables, IUDs, spermicides, and the female condom was reviewed. Some of the methodological difficulties involved study design (observational studies, cross-sectional, case control, and prospective studies) and confounding factors (age, marital status, sexual partners). The impact of OC use on HIV transmission is likely to be minor, but some factors contributing to transmission include cervical ectropion, which enhances HIV transmission. Nevertheless, in a 1990 Nairobi study of 4404 women no such association was detected. Sexually transmitted diseases (STDs) have been risk factors in HIV transmission. OCs that decrease irregular bleeding may protect against HIV. Progestin-only pills could act on the risk of HIV transmission by thickening cervical mucus and thinning the vaginal epithelial layer. 21 epidemiological studies were identified on the use of OCs and transmission. Except for a 1990 Nairobi study among prostitutes none of them reported a significant association between OC use and HIV seropositivity. Injectables (Depo Provera) could theoretically increase HIV transmission, but no such conclusive evidence has surfaced. Increased risk of transmission or seropositivity has been reported with IUD use, but this needs confirmation by prospective studies. Among spermicides the nonoxynol-9 sponge slightly increased HIV seroconversion in 139 sex workers in Nairobi in a 1992 study. However, this trial was contradicted by other prospective studies conducted in Cameroon and Zambia. Nonoxynol-9 kills HIV but also damages the cervical and vaginal mucosa enhancing HIV transmission. In 1992 in vitro activity in 26 out of 131 other spermicides screened inhibited HIV. The female condom was tested in 104 women in a 1993 prospective study in the US and no recurrences of trichomonas occurred in 20 women who used it consistently over a 6-week period. More prospective epidemiological studies are needed, and the risk of HIV infection should be part of counseling on contraceptives.