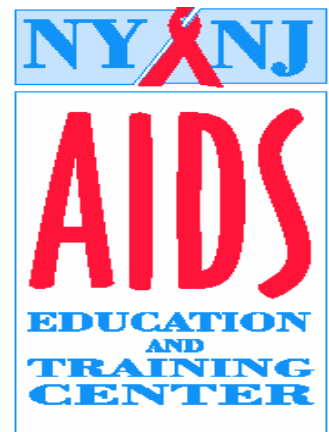


Topics in the Nursing Care of People Living with HIV/AIDS



Module V

Women and HIV

Lucille Sanzero Eller PhD RN

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MISSION: These modules will equip nurses with the basic knowledge needed to provide safe, comprehensive care to clients with HIV/AIDS.

INTENDED AUDIENCE: These five modules are intended for all nurses who work with clients with HIV/AIDS in doctor's offices, hospitals, ambulatory care and correctional settings.

LEARNING OBJECTIVES:

After completing this Module V of V the nurse should be able to:

Module V

1. discuss the specific differences between women and men who are infected with HIV.

OUTLINE

Module V

Women and HIV

- a. Epidemiology
- b. Transmission Factors
- c. Risk Assessment
- d. Testing
- e. Contraception
- f. Pregnancy

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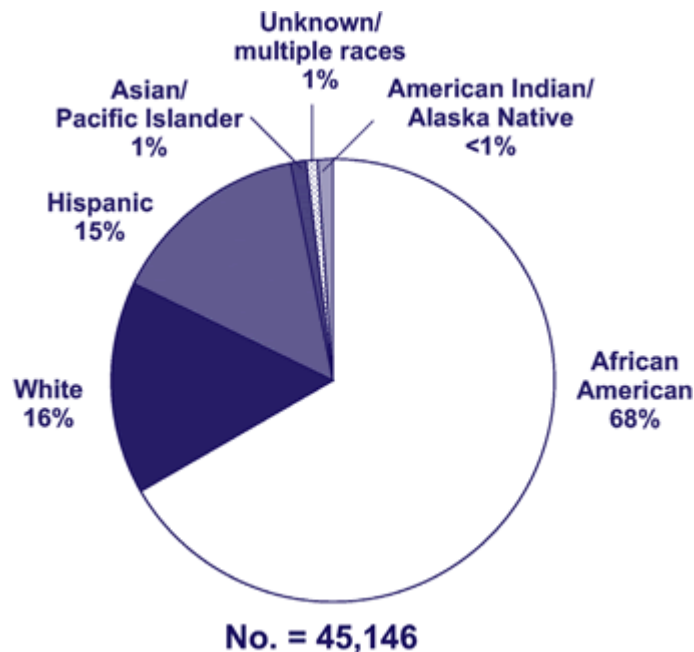
MODULE V

WOMEN AND HIV

Epidemiology

The proportion of AIDS cases in women has steadily increased since the HIV epidemic began. Only 8% of AIDS cases reported in 1985 were women. By 2004, that proportion more than tripled, with 27% of AIDS cases diagnosed among women. Women of color are disproportionately infected: although Hispanic and African American women comprise only 25% of all U.S. women, they represent 80% of women with AIDS. Among African American women, in 2002, HIV infection was the leading cause of death for those aged 25 to 34 years, the 3rd leading cause of death for those aged 35–44 years, and the 4th leading cause of death for African American women aged 45–54 years and for Hispanic women aged 35–44 years (CDC, 2006a). Figure V.1 describes the race/ethnicity of women diagnosed with HIV/AIDS between 2001 and 2004.

Figure V.1. Race/ethnicity of women with HIV/AIDS diagnosed during 2001–2004



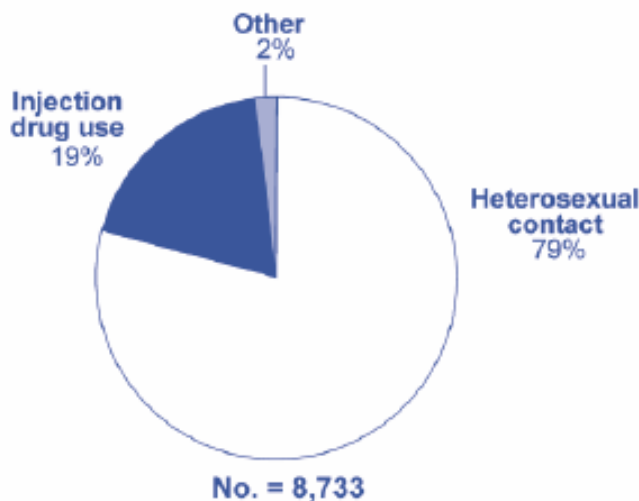
Note: Based on data from 33 states with long-term, confidential name-based HIV.

Source: Centers for Disease Control and Prevention (CDC). (2005).

Transmission Factors

The most common route of HIV infection for women is having sex with an HIV-infected man or sharing injection drug works with someone with HIV. Figure V.2 describes women's risk factors for HIV transmission.

Figure V.2. Diagnoses of HIV Infection in women, by risk, 2003



Note: Based on 33 areas with confidential name-based HIV reporting.

Source: Centers for Disease Control and Prevention (CDC), Division of HIV/AIDS Prevention, 2004.

The effects of HIV are similar for men and women, but some biological and social differences exist. For example, differences exist in the factors affecting susceptibility to HIV. Women's susceptibility to HIV is a function of biological and social factors. Biologically, male-to-female transmission is 1.9 times more efficient than female-to-male transmission because of the way heterosexual sex occurs. So women are almost twice as likely as a man to contract HIV infection during unprotected vaginal intercourse (CDC, 2006b).

Course of disease

Viral load. Several studies have shown that viral loads are lower in women compared to men. A study of viral load concentrations was conducted in women and men from different exposure categories with known durations of HIV infection. Plasma HIV RNA concentrations were lower in women, even when duration of infection was taken into account (Rezza, et al., 2000). After adjusting for differences in measurement methods, baseline CD4+ T cell count, age, and clinical symptoms, HIV RNA levels were 32% - 50% lower in women than in men. Despite lower viral loads, HIV disease progresses at the same rate in women as in men. Rezza, et al. (2000) suggested that these observations support the hypothesis that ART should be initiated in women at lower plasma HIV RNA concentrations than in men. However, current clinical guidelines do not make a distinction by gender for the initiation of ART (Panel on Antiretroviral Guidelines, 2006).

Hormonal Changes. Studies have shown that HIV can affect the body's ability to produce and maintain hormone levels. Changes in the balance of estrogen, progesterone, and testosterone can affect HIV-infected women in many ways. In some cases, hormonal imbalance may lead to the following symptoms (Margolese, 2004):

- Abnormal menstrual cycles, possibly including early menopause
- Weight loss
- Headaches
- Mood swings
- Depression
- Sleep disturbances
- Fatigue

- Decreased bone density
- Vaginal dryness
- Lack of sexual desire
- Difficulty getting pregnant

Menstrual Problems. HIV-infected women frequently report menstrual cycle changes or an increase in premenstrual symptoms. It is unknown whether these changes are due to HIV itself, ARVs, or other factors that may co-occur with HIV disease such as drug use. Hypermenorrhea can predispose a woman to anemia, which may already be a chronic problem in women with HIV. Amenorrhea should be promptly evaluated to determine possible underlying causes such as pregnancy, ovarian cyst, ovarian failure, and premature menopause.

Osteopenia. Arnsten and colleagues (2006) compared bone density in women aged 40 years and older who were or were not HIV infected (n=263 and n=232, respectively). The prevalence of osteopenia was significantly higher in women with HIV (27%) compared to those who were not infected (19%), independent of ART use. Women who were underweight, black, and used opiates were at higher risk of osteopenia. The use of ARVs was not associated with the development of osteopenia. The researchers suggested that calcium and vitamin D therapy should be considered for HIV-infected women entering menopause.

Menopause. Premature menopause appears to be more common in immune-suppressed women. The onset of menopause was studied in the “Ms Study” that examined the natural history of menopause in HIV-infected and drug using women (Schoenbaum, et al., 2005). The sample consisted of 571 women, 52.9% of whom were HIV infected. The median age was 43 years, 53% had a history of illicit drug use, and 89% were women of color. Onset of menopause was earlier (at age 46 years [Interquartile Range (IQR) 39-49 years]) for HIV-infected women than for non-infected women (at age 47 years [IQR 39-48 years]). Those with CD4+ T cell counts <200 cells/mm³ had the earliest onset of menopause (median age 42.5 years). There was no association between receipt of ART and onset of menopause. Earlier onset of menopause combined with HIV disease contributes to a woman’s risk of dyslipidemia and osteopenia.

Complications of HIV. HIV-related complications unique to women include recurrent vaginal candidiasis, severe pelvic inflammatory disease (PID), cervical dysplasia, and cervical cancer. Women with HIV are at higher risk of developing cervical dysplasia, a precursor to cervical cancer. This risk is associated with immune deficiency (declining CD4+ T cell counts and higher HIV RNA levels), and with human papilloma virus (HPV), which occurs in more than 60% of women with HIV (Abularach and Anderson, 2005).

Cervical Cancer. The incidence of cervical cancer in HIV-infected women is up to 9 times higher than expected and the cancer presents at more advanced stages, metastasizes to unusual locations, and is less responsive to therapy in women who also have HIV. Women with HIV and cervical cancer tend to be younger than uninfected women with cervical cancer, and are younger and less immunosuppressed than HIV-infected women with other AIDS-indicator conditions. A prospective cohort study from Italy found that the incidence of invasive cervical cancer as a first AIDS-defining condition continued to increase after the introduction of ART (Dorrucchi, 2001). All HIV-infected women should have a complete gynecologic evaluation, including a Pap smear and pelvic exam, as part of their initial evaluation. Further recommendations of PAP smear screening and colposcopy can be accessed at <http://hab.hrsa.gov/publications/womencare05/WG05chap6.htm#WG05chap6a> (Abularach and Anderson, 2005).

Oral Symptoms. Studies have shown a significant relationship between high viral load, oral candidiasis, and hairy leukoplakia (Greenspan, Komaroff, et al., 2000; Patton, McKaig, Strauss, Rogers, and Eron, 2000). Recurrence and incidence of candidiasis are reduced by ART, and that recurrence is reduced independent of CD4+ T cell count and HIV RNA level. ART does not reduce the incidence of hairy leukoplakia or oral warts in women (Greenspan, Grange, et al., 2004).

Treatment

The proportion of women included in HIV-associated research is increasing but is still low. In 1997 the FDA said that women could no longer be kept out of clinical trials. In the early 1990s, two research projects were started to study women and HIV. The Women's Interagency HIV Study (WIHS) recruited 2066 HIV-infected and 575 HIV-uninfected women from six sites in the U.S. (Cejtin, et al., 2003). The Women and Infants Transmission Studies (WITS) enrolled HIV-infected pregnant women and their children (Sheon, et al., 1996). Both studies focused on women living in inner cities in the U.S., and more studies of women with HIV are underway. In addition, NIH-funded clinical trials networks and pharmaceutical companies are trying to enroll more women into their clinical trials.

According to a recent CDC study of more than 19,500 patients with HIV in 10 U.S. cities, HIV-infected women were less likely than infected men to receive prescriptions for the most effective treatments for HIV infection (CDC, 2006b.) Data were collected from 10 primary care sites in the HIV Research Network (HIVRN). The median sample size per site was 985 patients. Patients younger than 40 years of age, women, African-Americans, IDUs, and those who were uninsured or had private insurance were less likely to receive clinically indicated ART than were older patients, men, whites, Hispanics, those with risk factors other than IDU, or those who had Medicare coverage (Gebo, et al., 2005).

Recommendations of the Panel on Antiretroviral Guidelines for Adults and Adolescents (2006) for treatment of women of reproductive age include the following:

- Indications for initiation of therapy and the goals of treatment are the same as for other adults and adolescents
- Efavirenz should be avoided for the woman who desires to become pregnant or who does not use effective and consistent contraception
- For the woman who is pregnant, an additional goal of therapy is prevention of mother-to-child transmission, with a goal of viral suppression to <1,000 copies/ μ L
- Selection of an ARV combination should take into account known safety, efficacy, and pharmacokinetic data of each agent during pregnancy

Clinicians should consult the most current Public Health Service Task Force guidelines when designing a regimen for a pregnant patient. The Recommendations for Use of Antiretroviral Drugs in Pregnant HIV-1-Infected Women for Maternal Health and Interventions to Reduce Perinatal HIV-1 Transmission in the United States(2006) is available at

<http://www.hivatis.org/Guidelines/Default.aspx?Menuitem=Guidelines>.

Lipodystrophy syndrome. Lipodystrophy syndrome has a number of metabolic and clinical features. These include insulin resistance, impaired glucose tolerance, type 2 diabetes, hypertriglyceridemia, hypercholesterolemia, increased free fatty acids (FFA), decreased high density lipoprotein (HDL), fat redistribution, and hyperandrogenemia (Behrens and Schmidt, 2003-2006). These metabolic effects of ART were observed to be more pronounced in women than in men (Pernerstorfer-Schoen, 2001). Although lipodystrophy is most often observed in patients receiving a regimen that includes nucleoside analogues and protease inhibitors, all ART regimens can be associated with fat redistribution. Duration of treatment, age, and degree of immune compromise increase the risk of lipodystrophy syndrome

(Behrens and Schmidt, 2003-2006). HIV-infected women are nearly twice as likely as men to have symptoms of lipodystrophy, and report fat accumulation in the abdomen and breasts, whereas men are more likely to describe fat depletion from the face and extremities (Hendi, Whaley, and Obagi, 2006).

Contraception

Limited data are available on the effects of sex steroids on the progression of HIV infection. Cejtin and colleagues (2003) examined the effects of hormonal contraceptives on HIV RNA and CD4+ T lymphocyte counts in 1721 women from the Women's Interagency HIV Study (WIHS). The women were 50 years of age or less and not menopausal. After controlling for CD4+ T cell count, tobacco use, age, race, ART use, and a history of AIDS-defining illnesses, hormonal contraceptive use was not associated with viral load changes over time. There was a small significant increase in the CD4+ T lymphocyte count, but investigators noted that this was not clinically relevant and probably caused by selection bias of contraceptive use by healthier women.

The effect of hormonal contraceptive use on the effectiveness of ART was examined in a sample of 77 hormonal contraceptive users in the WIHS Study who were matched with non-users on age, race, and pre-ART CD4+ T cell count and viral load (Chu et al., 2005). The women were followed from the point of ART initiation. There was no effect on CD4+ T cell count and viral load responses to ART.

Hormonal contraceptives can have significant drug interactions with ARVs, resulting in either decreased contraceptive effectiveness or increased or decreased concentrations of the co-administered drug. For example, amprenavir increases blood levels of both estrogen and progesterone, but oral contraceptives also decrease amprenavir levels. These drugs should not be co-administered. There is minimal information about drug interactions with use of newer hormonal contraceptive methods (e.g., patch, vaginal ring). Drug interactions among ARVs and hormonal contraceptives are also an issue (PHS Task Force, 2006).

Copper IUDs are associated with increased menstrual flow and duration, possibly contributing to transmission risk and anemia in HIV-infected women (Morrison, et al., 2001).

Stigma, social support, and depression

The stigma of HIV disease and the resultant secrecy and unwillingness to disclose serostatus has numerous negative consequences. Fear of being identified as having HIV results in isolation, reduced access to care, difficulties with medication adherence, and unwillingness to seek social support (Carr and Gramling, 2004).

Research findings suggest that women with HIV receive less social support than women who are demographically similar, and that this support decreases as symptoms of HIV increase (Hough, et al., 2003; Klein, Pena, Thornton, and Sauer, 2003). Social support includes the provision of emotional (esteem and affiliation), instrumental (financial and housing), and informational (advice and information) support. Social support reduces psychological distress and is a critical element in effective coping with HIV (Hough et al., 2005).

A recent study demonstrated the major role of social support in facilitating effective ART use in IDUs. The sample was 34% female, 69% non-Hispanic black, 26% recently homeless, with a median age of 43 years. Adjusted odds of an undetectable viral load (UVL) were at least 3 times higher among those with high social support, stable housing, and CD4+ T cell count $> 200/\text{mm}^3$; UVL was approximately 60% higher among those reporting better patient-provider communication. Interventions promoting social support functioning, patient-provider communication, stable housing, and drug abuse treatment may facilitate effective ART use in this vulnerable population (Knowlton, et al., 2006).

Hough and colleagues (2005) studied social support in 147 poor, young (M=36, SD=7), urban, African American (87%) mothers with HIV. Nearly half (47%) of primary support networks and most salient support were children, with few friends, and almost no health care providers reported as sources of social support. Nursing assessment should include an evaluation of social support. One scale that has been used in women with HIV and abused women is the Interpersonal Support Evaluation List (ISEL; Cohen, Mermelstein, Kamarck, and Hoberman, 1985). This scale can be retrieved at <http://www.psy.cmu.edu/~scohen/ISEL.html>.

The mere presence of friends, family, and significant others is insufficient and may, in fact, be detrimental in some cases. Unsupportive social interactions from family were found to have a main effect predicting more depressive symptoms. In addition, when negative or unsupportive interactions from a lover/spouse as well as from friends occurred, they predicted high levels of depressive symptoms (Scrimshaw, 2003).

Questions that assess the frequency of unsupportive illness-related social interactions can be used (Siegel, Raveis, and Karus, 1994 and 1997). Responses to each item range from *never* (1) to *all the time* (5). The woman should be asked whether, during the past month, others:

- were trying to be overly optimistic or cheerful,
- were avoiding you or were uncomfortable being with you
- were unwilling to listen to you talk about the illness
- resented the demands the illness placed on them
- said or did things that you found unhelpful or disturbing
- made you more dependent on assistance than you needed to be

Women with HIV have higher rates of depression compared to men. The rate of chronic or intermittent depression in women with HIV has been reported at 77% (Ickovics, et al., 2001). Depression was significantly associated with poorer virologic response, increased likelihood of immunologic failure, incident AIDS-defining illness, and a higher risk of all-cause, but not HIV-related, death. Depression following ART initiation was associated with a greater likelihood of ART discontinuation (Anastos, et al., 2005; Ickovics, et al., 2001). Diagnosis and treatment of depression in women with HIV are critical given the association of depressive symptoms with HIV-related mortality and decline in CD4+ T lymphocyte counts. Psychotherapy, pharmacotherapy, or a combination of these can be used to treat depression. Self-care strategies for management of depressive symptoms used effectively by people with HIV include prayer, meditation, talking to others, using distraction, and exercise (Eller et al., 2005).

Pregnancy

Approximately 80% of women with HIV are of childbearing age. Part of their care should include routine and regular education and counseling about pregnancy and contraception. They should also be assessed for factors that are associated with unplanned pregnancies, including substance abuse by the woman or her partner, mental illness, and domestic violence. Almost one-third of HIV-infected women and men receiving medical care in the U.S. desire children in the future (Chen, Phillips, Kanouse, Collins, and Miu, 2001). Furthermore, 20% of serodiscordant couples said they would practice unsafe sex in order to conceive (Klein, et al., 2003). Table V.1 outlines issues to address in counseling women of childbearing age (Anderson, 2005).

Table V.I: HIV and Pregnancy Counseling Issues

- Impact of HIV on pregnancy course/outcome
- Impact of pregnancy on HIV progression
- Other reproductive issues based on maternal factors
 - coexisting drug/alcohol use
 - advanced maternal age
 - hypertension, diabetes, etc.
- General preconception issues
 - nutritional counseling (e.g. folic acid)
 - importance of early and intense prenatal care
- Long-term health of mother and care for children (guardianship issues)
- Perinatal transmission
- Use of ARVs and other medications in pregnancy
- Safe conception if partner does not have HIV

In women of reproductive age, ARV regimen selection should account for the possibility of planned or unplanned pregnancy. The most vulnerable period for the fetus is early in gestation, often before pregnancy is recognized.

A meta-analysis of seven studies of the effects of pregnancy on HIV disease found no overall significant differences in death, HIV disease progression, progression to an AIDS-defining illness, or fall in CD4+ T cell count to below 200/mm³ between cases and controls (French, 1998). Similarly, there was no difference observed in viral load, CD4+ T cell count, or clinical disease progression in women with repeat pregnancy, compared to those with only one pregnancy (Minkoff, et al., 2003).

General principles for ART in pregnancy (Public Health Service [PHS] Task Force, 2006) can be found at <http://www.hivatis.org/Guidelines/Default.aspx?Menuitem=Guidelines>.

Decisions regarding use of ARV therapy during pregnancy should be made by the woman after detailed discussion of benefits and potential risks of therapy. Anderson (2005) recommends that the following be considered:

- treatment recommendations for health of the HIV-infected woman
- current information regarding efficacy of ART in reducing perinatal transmission
- known or potential effects of ARV drug exposure on the pregnant woman
- known or potential effects of ARV drug exposure on the fetus/newborn
- the importance of adherence to any prescribed ARV regimen.

A study of 497 HIV-infected pregnant women enrolled in a perinatal clinical trial found that risk factors for adverse pregnancy outcomes (preterm birth, low birth weight, and intrauterine growth retardation) in ARV-treated women are similar to those reported for uninfected women (Lambert, 2000).

Some studies describe adverse pregnancy outcomes related to untreated HIV infection, finding evidence for risk for spontaneous abortion and intrauterine growth restriction. With advanced disease, there is a risk of low birth weight and preterm delivery. In developing countries there is evidence of greater risk for stillbirth, perinatal/infant mortality, and chorioamnionitis. There is no evidence of increased risk of fetal malformation (Anderson, 2005; PHS Task Force, 2006). Other potential maternal adverse events are listed at <http://hab.hrsa.gov/publications/womencare05/WG05chap7.htm>.

The goals of ART during pregnancy are two-fold: (1) treatment of maternal infection, and (2) reduction in the risk of perinatal transmission. Pregnant women meeting the criteria outlined for other adults and adolescents should be offered standard combination ART, generally including two nucleoside reverse transcriptase inhibitors (NRTIs) and a protease inhibitor (PI) or a non-nucleoside reverse transcriptase inhibitors (NNRTI) excluding efavirenz (Anderson, 2005). However, because of considerations related to prevention of mother-to-child transmission and to maternal and fetal safety, timing of initiation of treatment, and selection of regimens may differ. The curriculum of the WHO and HHS/CDC Prevention of Mother-to-Child Transmission of HIV Generic Training Package (CDC, 2006c) is available at <http://www.cdc.gov/nchstp/od/gap/pmtct/>.

Potential maternal adverse effects include the following (Anderson, 2005):

Hepatotoxicity/skin rash. Analysis of data from 17 trials of nevirapine therapy showed that women, particularly those with higher CD4+ T cell counts ($>250/\text{mm}^3$), were 9.8 times more likely than those with lower CD4+ T cell counts ($<250/\text{mm}^3$), to experience symptomatic, rash-associated, nevirapine-related hepatotoxicity (Public Health Service Task Force, 2006). Deaths from hepatic failure have been reported in pregnant women receiving regimens including nevirapine. Some early symptoms of hepatotoxicity are nonspecific and can be confused with common symptoms of pregnancy. Pregnant women receiving nevirapine should be monitored for clinical symptoms and hepatic transaminases (i.e., ALT and AST), particularly during the first 18 weeks of therapy, when toxicity is most likely.

Lactic acidosis/hepatic steatosis. Lactic acidosis and hepatic steatosis (fatty liver), may have a higher incidence in women. These syndromes are thought to be due to the damage to the mitochondrial DNA (mitochondrial toxicity) that is caused in varying degrees by long-term nucleoside analogue use (Arenas-Pinto, Grant, Edwards, and Weller, 2003; McComsey and Lonergan, 2004). Documented maternal deaths related to lactic acidosis/hepatic steatosis were all in women receiving a combination of d4T/ddI as part of ART at the time of conception and for the duration of pregnancy (Anderson, 2005). Non-fatal cases of lactic acidosis have also been reported in pregnant women receiving this combination. Typical initial symptoms of mitochondrial dysfunction are nonspecific and include nausea, vomiting, abdominal pain, dyspnea, and weakness. Pregnancy itself can mimic some of the early symptoms of lactic acidosis/hepatic steatosis. Pregnant women receiving nucleoside analogue drugs should have liver enzymes and electrolytes evaluated more frequently during the last trimester of pregnancy and any new symptoms should be evaluated promptly and thoroughly (Anderson, 2005).

Interaction of drugs with pregnancy-related side effects/physiologic changes. Drugs that cause gastrointestinal upset may not be well tolerated in early pregnancy when morning sickness is common and may increase the risks for nonadherence or inadequate blood levels from vomiting. In this situation, all ARVs should be discontinued and restarted when the nausea and vomiting is gone or has been effectively treated.

PIs and hyperglycemia. PIs are associated with the development or worsening of hyperglycemia or diabetes. Pregnancy also increases risk for glucose intolerance. It is not known conclusively whether the use of PIs in pregnancy will exacerbate risk for development of gestational diabetes. A preliminary report of a study by the AIDS Clinical Trials Group suggests that glucose intolerance and diabetes are not more common among pregnant women receiving PIs (Hitti et al., 2006). Women receiving PIs in pregnancy should have glucose levels monitored closely and be asked regularly about symptoms of hyperglycemia.

Assessment and counseling

Women infected with HIV may have more difficulty accessing health care due to fear of disclosure, lack of financial resources, lack of transportation, and the added burden of caring for others, especially children. Socially, women, especially young women, often have difficulty negotiating protective sex due to power differentials (CDC, 2006a). They are more likely to:

- be forced to have sex against their will
- have sex without a condom
- have sex with a man without knowing whether he has high-risk behaviors (unprotected sex with men, sex with many other partners, IDU)
- trade sex for drugs or money
- be unable to talk to their partners about abstinence, faithfulness, and condom use.

Assessment of and counseling for women with HIV who are or are not pregnant should include consideration of the following (Anderson, 2005):

- **Support systems.** At the initial visit the health care provider should assess the patient's support system — who knows her HIV status, problems encountered with disclosure, family and/or friends to whom she turns for ongoing support, and barriers to disclosure to sexual or needle-sharing partners. These issues should be readdressed at regular intervals.
- **Contraception.** Discussion about contraception and, if pregnant, postpartum contraceptive plans should be ongoing. Education and counseling about available options should be provided to permit informed decision making.
- **Condom use.** Sexual activity should be reviewed at each visit and condom use reinforced.
- **Drug use/treatment.** History of and/or ongoing substance abuse, including tobacco and alcohol, as well as illicit drugs, should be assessed at the initial visit and at intervals if indicated. Type of substance(s), amount of use, route of administration, and prior drug or alcohol treatment should be documented. The patient should be counseled about specific risks associated with substance abuse in pregnancy. Treatment should be encouraged and facilitated for active substance use problems.
- **Adherence.** The importance of adherence to prescribed medications, particularly ARVs, should be discussed before they are initiated and medication adherence should be assessed and reinforced at each visit.
- **Clinical trials.** HIV-infected women should be informed about the availability of and offered participation in clinical trials for which they are eligible.
- **Advance directives.** The issue of advance directives for care in the event of sudden deterioration in the woman's health, as well as guardianship plans for children in the event of the mother's incapacitation or death, should be discussed. Legal assistance should be facilitated, if needed.

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SELF ASSESSMENT TEST

MODULE V: WOMEN AND HIV

DIRECTIONS: Please select the one best answer and circle your response directly on the self assessment test. To obtain Continuing Nursing Education credit, a minimum of 70% of the questions must be answered correctly. To assure your receipt of Continuing Nursing Education credit, please complete the self assessment test, program evaluation (reader information form) and HRSA participant information form (3 pages total).

This activity is eligible for nursing credit thorough **June 30, 2007**. Individuals who mail the required documentation noted above after this date will be ineligible for credit. The estimated time for completion of this activity is 1 hour. There is no fee for the nursing continuing education credit for this module.

Rutgers University mailing information is on the reverse side of this document.

1. **During 2001-2004 in the United States, the highest proportion of HIV/AIDS diagnoses in women occurred among:**
 - A. Hispanics.
 - B. African Americans.
 - C. Asian/Pacific Islanders.
 - D. Whites.
2. **What is the most common route of HIV infection in women in the United States?**
 - A. Injection drug use
 - B. Perinatal transmission
 - C. Heterosexual contact
 - D. Blood transfusion
3. **As compared to men, plasma HIV RNA concentrations in women are:**
 - A. lower early in HIV disease.
 - B. lower only later in HIV disease.
 - C. higher throughout the course of HIV disease.
 - D. higher only later in HIV disease.
4. **Premature menopause in women with HIV:**
 - A. is associated with highly active antiretroviral therapy (HAART).
 - B. occurs earliest for women with CD4+ counts >200 cells/mm³.
 - C. contributes to risk of dyslipidemia and osteopenia.
 - D. has been observed at a median age of 40 years.
5. **A feature of lipodystrophy syndrome in HIV positive women is:**
 - A. type I diabetes.
 - B. fat redistribution.
 - C. hypolipidemia.
 - D. hyperandrogenemia.
6. **Depressive symptoms in women with HIV:**
 - A. are more prevalent than in men with HIV.
 - B. have no effect on morbidity and mortality.
 - C. are related to highly active antiretroviral therapy (HAART) initiation.
 - D. are not associated with the incidence of AIDS-defining illness.
7. **Adverse pregnancy outcomes related to untreated HIV infection include:**
 - A. fetal malformation.
 - B. preeclampsia.
 - C. gestational diabetes.
 - D. spontaneous abortion.
8. **One of the goals in the use of antiretroviral drugs during pregnancy is:**
 - A. prevention of maternal HIV infection.
 - B. reduction in the risk of perinatal transmission.
 - C. reduction of symptoms of lactic acidosis.
 - D. use of standard monotherapy.
9. **Which of the following statements is TRUE about hormonal contraceptives?**
 - A. They have no significant drug interactions with antiretrovirals.
 - B. Their use with antiretroviral therapy can increase contraceptive effectiveness.
 - C. Their use with antiretroviral therapy can result in either increased or decreased concentrations of the antiretroviral drug.
 - D. They are not influenced by the co-administration of amprenavir (Agenerase).
10. **Considerations in the assessment of the support system of a woman with HIV include:**
 - A. problems encountered with disclosure of her HIV status.
 - B. guardianship plans for her children.
 - C. condom use and sexual activity.
 - D. names of needle-sharing partners.

OVER

PROGRAM EVALUATION & READER INFORMATION FORM

MODULE V: WOMEN AND HIV

To assure your receipt of Continuing Nursing Education credit, please mail your completed self assessment test, program evaluation/reader information form and HRSA participant information form (3 pages total) to: **Dr Gayle A Pearson, Assistant Dean, Rutgers, The State University, College of Nursing, Center for Professional Development, 175 University Avenue, Conklin Hall 244, Newark, New Jersey 07102** or scan and email to: cpdn@rutgers.edu. Please allow 6 to 8 weeks for education credit processing. An attendance certificate will be emailed to you at that time. If you have any questions, contact 973-353-5895 or cpdn@rutgers.edu.

PLEASE COMPLETE THIS FORM BY COMPLETELY FILLING IN THE CIRCLES WITH BLACK PEN OR PENCIL.	STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE	NOT APPLICABLE
1. As a result of completing the program, I am able to meet the following program goal: to equip the correctional nurse to arrange the necessary care and services to optimize the health of the HIV-infected patient.	①	②	③	④	⑤
2. As a result of reading this module, I am able to discuss the specific differences between women and men who are infected with HIV.	①	②	③	④	⑤
3. The objective of this program was relevant to the overall goals of the program.	①	②	③	④	⑤
4. The module was an effective learning tool for me.	①	②	③	④	⑤
5. The author of this module was an effective teacher.	①	②	③	④	⑤
6. The slides that accompany the module are helpful.	①	②	③	④	⑤

Time required to complete this learning activity: _____ minutes

Comments: _____

READER INFORMATION FORM

(Please print legibly as all information is needed for education credit processing.)

Name: (first and last): _____

Degree: _____ (NP, RN, LPN) Other: _____

Facility Name: _____

Facility Address: _____ Street

City _____ State _____ Zip Code _____

Email Address: _____

Please proceed to the next page and complete the HRSA participant information form.

Please completely fill in the circles (●) when answering the questions.

1. To create your unique ID number, use the month of your birth, the day of your birth, and the last four digits of your social security number. For example, May 29, 123-45-6789 has the ID number 05296789.
Unique ID Number

Today's Date

2. Your Profession/Discipline (Select one)
Advanced Practice Nurse Pharmacist
Dentist Physician
Mental Health Professional Physician Assistant
Nurse Social Worker
Nurse Practitioner Substance Abuse Professional
Other Dental Professional Other (specify)

3. Your Primary Functional Role (Select one)
Administrator/Supervisor Student/Graduate Student
Care Provider/Clinician Teacher/Faculty
Case Manager Other (specify)
Intern/Resident Not Working
Researcher

4. Your Principal Employment Setting (Select one)
Community/Migrant Health Center Substance Abuse Treatment Prog.
Community Mental Health Center STD/Family Planning Clinic
Correctional Facility Tribal/Indian Health Service
HMO/Managed Care Organization Other Community-Based Service Organization (CBO)
Hospital or Hospital-Based Clinic Other Public Health Agency
Rural Health Center Other Health Care
Solo/Group Private Practice Non-health
State/Local Health Department Not Working

Questions 5-7 are about your principal employment setting

5. Is it a faith-based organization? Yes No Don't Know

6. Zip Code/Setting Rural Urban

7. Does the agency receive Ryan White CARE Act funding? Yes No Don't Know

7a. If you don't know, write the full name of your employer:

8. Are you of Hispanic, Latino, or Spanish origin? Yes No

8a. Your Racial Background (Select all that apply)
White Native Hawaiian/Other Pacific Islander
Black or African American
Asian American Indian/Alaska Native

9. Your Gender Female Male Transgender

10. Which of the following statements describes the way in which you most often provide services for HIV/AIDS patients (Select one).
Not applicable/Do not see patients (Skip the rest of this form)
Refer/transfer HIV+ patients for all medical care
Provide primary care and refer/transfer HIV+ patients for HIV treatment only
Provide all HIV treatment and refer/transfer for primary care
Provide all medical care and refer/transfer when antiretroviral treatment fails
Provide all medical care throughout the course of the disease

11. Estimate the NUMBER of HIV+ clients/patients you have personally treated/managed in practice in the past month.
Don't Know

For questions 12-18, estimate the PERCENTAGE of your HIV+ clients/patients in the past YEAR who were:

12. Racial or Ethnic Minorities
None 1-24% 25-49% 50-74% ≥75% Don't Know

13. On Antiretroviral Therapy
None 1-24% 25-49% 50-74% ≥75% Don't Know

14. Severely/Persistently Mentally Ill
None 1-24% 25-49% 50-74% ≥75% Don't Know

15. Substance Users
None 1-24% 25-49% 50-74% ≥75% Don't Know

16. Uninsured
None 1-24% 25-49% 50-74% ≥75% Don't Know

17. Women
None 1-24% 25-49% 50-74% ≥75% Don't Know

18. Incarcerated/Parolees
None 1-24% 25-49% 50-74% ≥75% Don't Know

PUBLIC BURDEN STATEMENT: An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB number. The OMB control number for this project is 0915-0281. Public reporting burden for this collection of information is estimated to be 10 minutes per form. These estimates include the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

For Office Use Only
May 2004
AETC Subsite Program Number Agency RWCA
Yes No Don't Know

