WOMEN'S INTERAGENCY HIV STUDY

SECTION 14: NIDA HEALTH CARE UTILIZATION SUBSTUDY PROTOCOL

A. STUDY PURPOSE

The goal of the NIDA Health Care Utilization Collaborative (WIHS and HERS) Substudy is to investigate the influence of drug use on the utilization of health care services and medication regimen adherence behaviors of HIV-infected women. Specifically, the major issues to be investigated are factors related to drug use (including by injection) which influence: 1) utilization of health care services, and 2) compliance with specified HIV-related treatment (i.e., medication regimen adherence behaviors). This substudy was developed collaboratively by a group comprised of both WIHS and HERS investigators; the substudy protocol will be incorporated into each study.

B. RESEARCH GOALS

1. To describe the difference in use of the health care system between drug using and non-drug using women, including: source of health care, use of multiple sources of health care and frequency of visits.

2. To describe the relationship between drug use, prescription of and adherence to medication regimens.

   To determine if drug users receive less antiretroviral treatment, OI prophylaxis, and pain medication than comparable patients of other risk groups because:

   - drug users are less often offered these medications
   - drug users refuse or drop out of treatment
   - drug users start these later in the course of their disease

3. To assess barriers to utilization of health services and adherence to treatment regimens including:

   - life disruption as a consequence of drug use
   - beliefs concerning AZT and other antiretrovirals
   - perceived barriers to care
   - lack of knowledge of HIV-related treatment and services available

C. BACKGROUND

Since the first cases of AIDS were identified in 1981, advances in the treatment of HIV infection have resulted in effective strategies to reduce morbidity and to extend the lives of people with HIV disease. HIV- and AIDS-related treatment strategies have focused on improvements in antiretroviral and antibacterial therapies in addition to efforts to postpone or prevent initial opportunistic infections.

In 1987 the Untied States Public Health Service issued recommendations for the use of zidovudine for human immunodeficiency virus (HIV) seropositive individuals with CD4 cell counts below 200 uL. Although new recommendations for early use of antiretroviral are evolving, early studies have demonstrated that women are receiving zidovudine significantly less often than men, and may have a shorter survival period after an AIDS diagnosis.

Although treatment studies have continued to show a shorter survival period for women with AIDS, more recent studies have suggested that this shortened survival may be due to lack of HIV treatment as opposed to gender-related differences in HIV mortality. In a study of Maryland Medicaid

recipients by Moore and colleagues, women with AIDS had a median survival of 290 days compared to 490 days for men; however, only 33% of women received zidovudine as compared to 53% of men. Lagakos, et al., reported a median survival of 11.1 months for women with AIDS as compared to 14.6 months for men with AIDS. In this study, women were less likely than men to receive antiretroviral therapy.

In a more recent study of 880 symptomatic HIV seropositive individuals who were receiving care in public health hospitals and community-based organizations in nine cities, Stein and colleagues found that after adjusting for disease severity, injection drug use, insurance status and race, men were three times more likely to have been offered zidovudine than women.

Although new recommendations for early use of antiretroviral medications continue to evolve, the importance of Pneumocystis pneumonia prophylaxis, use of antiretroviral therapy in later stages of HIV disease, and ongoing monitoring of immune parameters remain un-contested. The challenge of understanding factors affecting use of health services remains of critical importance because, unless women are participating in the health care system, they will not receive care as clinical recommendations change.

Preliminary data from two HERS sites (Hopkins and Montefiore) have shown that less than half the women with CD4 counts below 200 report taking antiretroviral medicine. This low rate of antiretroviral use has been seen in other studies with similar populations. There are many hypotheses to account for low rates of utilization of antiretroviral medications, but little data that address these hypotheses definitively. The necessarily brief health care utilization section of the HERS and WIHS core questionnaires does not allow adequate investigation of the determinants and correlates of utilization and adherence, relationships that are likely to be complex and critical to understanding if we are to make useful recommendations for providing care to drug-using women in the ways they find most useful.

Solomon et al., (1955) followed 412 seropositive injection drug users for zidovudine (CD4<200 prior to 12/90 or CD4<500 after 12/90) and found only 173 (42%) were actually taking ZVD. Variables significantly associated with ZVD use were CD4 cell counts under 200 (OR = 3.3), two or more HIV-related symptoms (OR = 2.1), a child living in the participant's home (OR = 1.6), any outpatient visit (OR = 2.3), or any inpatient admission (OR = 1.9). There were no significant differences based on race, gender, age, current IDU, health insurance or employment status. Individuals who did not report a prior health care encounter who used the ER as their only source of care were less likely to use ZVD. The percent that used ZVD was 36.1% for those with more than 100 CD4 cells but 62.6% for those with less than 200 CD4 cells.

Several studies indicate that HIV-infected patients are often not compliant with their prescribed medications. LoCaputo (1993) reported that 53.3% of patients took over 80% of the prescribed AZT, 9.6% took 50-80%, 28.3% took under 50% and 8.8% were intolerant. Vogel (1993) reported that only 35% took all of their AZT doses. Simberkoff (1990) reported a surprisingly high 94% comply with AZT. Samuels (1990) reported 88% comply with AZT, however, medication reactions in 57% resulted in a dose reduction in 44% and cessation in 13%. Spears (1989) found among 59 patients who were IVDU or sex partners IVDU, 66% were compliant with therapy for a mean of 10.5 months.

Several studies have focused on differences between drug users and non-users. Samet (1992) found that overall 67% of patients were over 80% compliant with AZT. Those who did not use intravenous drugs were more likely to comply (OR = 3.7), as were those who believed that AZT prolongs life (OR = 9.3), and those with a diagnosis of AIDS or ARC (OR = 5.5). Boers (1992) looked only at those with under 300 CD4 cells. Among drug users 44.7% received AZT as compared to 50.9% among non-drug users.

The proposed study will assess whether the utilization of health care services and compliance with HIV treatment regimens is influenced by substance use.

D. PARTICIPANT ELIGIBILITY AND ENROLLMENT

Due to the wide variation in the standard of care for those with CD4 counts over 200, we have chosen to focus our attention on women whose CD4 cell count has ever been equal to or under 200. This should reduce the variation between the HERS and WIHS sites in terms of recommended therapy.

All HIV positive participants within the WIHS and HERS longitudinal cohort studies who have ever had CD4 (T cell) counts $\leq$ 200 will be considered eligible for enrollment in to the Collaborative NIDA subcontract.

The study will be implemented at several sites within the WIHS and the HERS. The goal is to accrue 200 women each in WIHS and HERS for a combined accrual of 400 participants. The following sites on each study will implement this protocol: WIHS: Chicago, Washington, DC, Los Angeles and New York/Bronx; HERS: New York, Detroit and Baltimore.

The NIDA collaborative study will be prospective, collecting data at six-month intervals. Women will initially be identified for this collaborative NIDA substudy and will be eligible for enrollment when their CD4 cells fall under 200; they will be retained on this substudy for all subsequent interviews. Additional women will be accrued as their CD4 cell counts reach 200 or below.

After participants are identified, supplementary data — consisting of an additional form (discussed below) in the core interview packet — will be collected at each participant's subsequent study visit.

Drug use history will not be used as a subject selection criterion. In many prior studies, cases have been categorized as drug using based on infection by means of IDU. This categorization is useful in terms of transmission but not in terms of health care services utilization. We will use wave one data to classify women into several strata of drug use that encompass substance identity and time period. This will include women who report injection drug use within the past six months, women who report past drug use, and women who have never used illicit drugs. In addition, among the drug using and non-drug using women we will be able to identify women with significant alcohol problems. We anticipate that at least 50% of the women will be current substance users or will have used in the past five years.

E. OVERVIEW OF VISIT — INTERVIEW

Once a participant has been enrolled into the NIDA Collaborative Substudy, she will proceed with her regular WIHS or HERS follow-up visit schedule. An additional interview form (NI01) will be added to existing set of WIHS or HERS core interview forms. We estimate that this will add 15 minutes to the interview time. The remainder of the woman's visit will proceed as scheduled with no further specimen collections or draws.

The NIDA Collaborative Substudy will add an interview form to the existing core interview of both the HERS and WIHS. A $10 stipend will be given to each participant for her participation in this NIDA component.

The interview currently administered as part of the WIHS and HERS protocols is both lengthy and detailed. Many of the covariates needed in the NIDA Collaborative Substudy are already assessed on that interview. Nevertheless, many of the issues addressed in the existing core forms are not assessed in sufficient detail to answer the questions posed this substudy and some of the issues are not addressed at all. The supplementary NIDA form — which will take approximately 15 minutes to administer — has been developed to address these issues and research questions.

Areas to be addressed in the NIDA HCU substudy include:

1. UTILIZATION OF HEALTH CARE

   Participant self-report will be used to characterize the use and continuity of health services, as well as the type and mix of services used. One characteristic that indicates poorer care is lack of continuity of care. This may be characterized by multiple providers, or reliance on the use of emergency departments for care. Information regarding the participant's utilization of health care will be collected in Section B of WIHS Form F25. The areas to be reviewed include:

   - Number of different clinics/facilities utilized in the intervening six months for **outpatient** care

2. PAIN ASSESSMENT

   The participant will be asked a series of questions asking her to rate the level of pain she is currently experiencing, as well as that which she has experienced in the past week and the past six months. She will also be asked about medications and therapies she may be taking or have taken for pain.

3. MEDICATION ADHERENCE FOR SELECT HIV-SPECIFIC MANIFESTATIONS

   The provision and adherence to medications most commonly utilized for the treatment of selected HIV-related conditions are assessed for this protocol during administration of the Medication History (F22MED) portion of the WIHS interview. Antiretroviral, OI prophylaxis, anti-fungal agents, alternative/complementary therapy use, etc., will be recorded to assess whether the participant was: offered, refused, started, and complied with, as well as her reasons for refusing or stopping, including side effects encountered. We will specify a limited number of the most commonly used medications and ask more detailed information concerning only these medications.

4. ATTITUDES TOWARD TREATMENT

   There are several attitudes that influence patient's receptivity to medical treatment, specifically for HIV. The attitudes that women hold prior to developing HIV may be influenced by women's socioeconomic and educational levels as well as by their history of drug use. In addition, their experience regarding specific HIV treatment needs to be measured. Attitudinal variables may be mediators of that process. In addition to the measures already included in the WIHS and HERS core studies, we will add several scales designed to assess beliefs and attitudes regarding aspects of care. Specifically these will include attitudes about HIV medications and treatment — including questions designed to assess perceived efficacy of various HIV-related medications — negativity toward the medical establishment, and symptoms, disclosure and beliefs about HIV.