POSTTRAUMATIC STRESS DISORDER SYMPTOMS AND ADHERENCE AMONG WOMEN LIVING WITH HIV

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Objectives: Posttraumatic stress disorder (PTSD) is an anxiety disorder associated with serious traumatic events. People with PTSD tend to perceive medical interventions as intrusive. Factors such as dose complexity, number of pills, food requirements, patient-health provider relationship, and individual factors influence adherence. This study intends to examine if traumatic experiences affect the way women living with HIV adhere to their medical treatment.

Methods: Adherence to HIV medications was examined with a self-report scale that was administered to a group of women that attend the Maternal Infant Studies Center. Trauma symptoms were measured by using the Trauma Symptom Inventory.

Results: A total of 15 women were studied. Of these, 86.6% were found adherent and 13.4% nonadherent. Both the adherent and nonadherent activated the anger/irritability (7.7% vs 50%), sexual concerns (7.7% vs 50%), and tension-reduction clinical (TRB) scales (15.4% vs 100%). The adherent women also activated the anxious arousal, depression, defensive avoidance, and dissociation scales.

Conclusions: This study reveals differences in trauma-related symptoms among adherent and nonadherent patients. Increases in the TRB index of 100% among the nonadherent may reflect a need for psychological treatment. By lowering this index, they might improve their desire to live and adhere better to their treatment. Because of the limited sample size, we cannot generalize these findings. We will continue to collect data on a desired sample size of 85 women. (*Ethn Dis*. 2005;15 [suppl 5]:S5-47–S5-50)

Key Words: HIV/AIDS, Adherence, Women, PTSD

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INTRODUCTION

Puerto Rico has ranked among the first five in the United States in AIDS cases.[1] Until October 31, 2003, the Puerto Rico Department of Health has reported 28,864 AIDS confirmed cases in the island. Males tend to have higher incidence rates; 76.8% of the cases are males, and 23.2% are females.[2] Women are the fastest growing segment of the adult population with HIV. Most women are infected in their early teens and twenties.[3]

Acquiring a chronic or threatening disease may be a traumatic event or may further compound an ongoing history of trauma.[4] A history of traumatic experiences may impair a patient's ability to handle future stressors. For patients with posttraumatic stress disorder (PTSD), medical interventions may be seen as intrusive and can be traumatizing. PTSD can co-occur with an individual's HIV status, and its psychological effects can lead to increased risk-taking behavior such as substance use, poor eating habits, and unsafe sexual activity. Patients with PTSD may suffer from depression, self-isolation, impairment in trust and attachments, and feelings of anger. These patients may also be clinically depressed or may suffer from anxiety, show a variety of symptoms, and may vacillate between overwhelming emotions caused by memories of the event and emotional numbness and dissociation.

This article presents a preliminary view of the relationship between PTSD symptoms and HIV treatment adherence. The goal of this study is to determine if traumatic experiences influence adherence and to develop a description of the psychosocial risk behaviors and PTSD anxiety symptoms of a group of women living with HIV. People with HIV commonly develop affective, behavioral, cognitive, and motor disorders.[5] With this consideration in mind, studying these aspects and their possible relation to PTSD symptoms is essential. The study targets Puerto Rican women living with HIV who are not pregnant and who attend the Maternal Infant Study Center (CEMI). CEMI is a longitudinal clinic that provides comprehensive and gynecologic services to women living with HIV in Puerto Rico.

Participant adherence was measured by a self-report questionnaire. Depression was assessed with the Center for Epidemiologic Studies, Depression (CES-D) scale. Anxiety was measured with the Spanish version of the Beck Anxiety Inventory.[6] Trauma was assessed with the Spanish version of the Trauma Symptom Inventory (TSI).[7] This is an ongoing study that intends to determine if psychological treatment is a factor worth including as part of HIV treatment.

METHODS

Data collection targeted the female population since more females suffer from PTSD than males. An estimated 7.8% of Americans experience PTSD at some point in their lives, and women (10.4%) are twice as likely as men

(5%) to develop PTSD. An additional reason for targeting females is that the incidence of HIV is on the rise among females because of their biological, economic, social, and cultural vulnerability. Power analysis was used to determine the number of subjects needed.[8] The determined alpha for this study is .05; a medium effect was observed. With these specifications, the appropriate sample size is 85.

The study was reviewed and approved by the Puerto Rico Medical Science Institutional Review Board. The sample consists of women that visit CEMI for their HIV care, which includes gynecologic evaluations. Participants were between the ages of 21–55 years, were on any combination of anti-HIV drug therapies, were not too ill to participate, and had at least a fifth-grade reading level.

CEMI patients were invited by a staff member to participate in the study. Inclusion/exclusion criteria were assessed directly by the CEMI staff member. After the participant agreed and signed the consent form, the questionnaires were administered. The sociodemographic form was given first, followed by the Spanish version of the CES-D. Patients' anxiety levels were then assessed by the Beck Anxiety Inventory.[6] The TSI[7] was administered to measure patients' trauma-related symptoms. A self-report adherence questionnaire was then administered. A monetary compensation of $15 was given to the participants to cover expenses such as a meal and transportation. The completion of the survey took 45–60 minutes.

Statistics

Data analyses consist primarily of calculating descriptive statistics of the participants' sociodemographic characteristics, including frequencies and averages for adherence levels and PTSD symptoms. Comparisons between levels of PTSD symptoms among adherent and nonadherent groups were also performed.

Table 1. Population sociodemographic characteristics (*N*=15)

Range	(24–51 yrs)
Mean age	34.8 yrs
Education (completion of High School)	66.7%
Marital Status	
Single	46.7%
Married	6%
Consensual	26.7%
Divorced	6.7%
Annual income <$5,000	73.3%
Adherent (by self report)	86.7%
Currently Smoking	40%
Have used drugs	26.7%
Age at first coitus	16.4 yrs
Lifetime # sexual partners ≤3	33.4%
Transmission of HIV	
Sexual relations with IDU	53.3%
Injection Drug Use	13.3%
Sex with MSM	6.7%
Blood transfusion	6.7%

RESULTS

Demographic data of the 15 interviewed women were gathered to identify the sample's age, marital status, annual income, drug and cigarette use patterns, age of first sexual intercourse, number of sexual partners, and mechanism of HIV acquisition. These data are presented in Table 1. The demographic data show that the age range of these women is between 24 and 51 years. Most of the women (66.7%) have completed their high school education. Most of the women are single (46.7%). The population consists of a lower income group (73.3% had an annual income <$5,000). Most of the women report that they are adherent (86.7%). Most of the women do not smoke (60%) and have not used drugs (73.3%). The mean age at first intercourse was 16.4 years. Most of the participants have had more than three lifetime sexual partners (66.6%). The most common risk behavior for HIV acquisition was reported to be sexual relations with injection drug user (53.3%), followed by injection drug use (13.3%).

The TSI questionnaire includes measures about the patient's traumatic symptoms. Briere divided the inventory into 10 clinical scales. The anxious arousal index measures symptoms of anxiety (AA), especially those associated with posttraumatic hyperarousal. Depression (D) measures depressive symptoms in terms of both mood state and depressive cognitive distortions. The anger and irritability index (AI) measures self-reported anger or irritable affect, as well as associated angry cognitions and behavior. The intrusive experiences index (IE) measures intrusive symptoms associated with PTSD, such as flashbacks, nightmares, and intrusive thoughts. The defensive avoidance (DA) measures posttraumatic avoidance, both cognitive and behavioral. The dissociation index (DIS) measures dissociative symptoms, such as depersonalization, derealization, out-of-body experiences, psychic numbing. Sexual concerns (SC) measures self-reported sexual distress, such as sexual dissatisfaction, sexual dysfunction, and unwanted sexual thoughts or feelings. The dysfunctional sexual behavior index (DSB) measures sexual behavior that is in some way dysfunctional, whether because of its indiscriminant quality, its potential for self-harm, or its inappropriate use to accomplish nonsexual goals. The impaired self-reference index (ISR) measures problems in the self domain, such as identity confusion, self-other disturbance, and a relative lack of self-support. The tension-reduction behavior index (TRB) measures the respondent's tendency to turn to external methods of reducing internal tension or distress, such as self-mutilation, angry outbursts, manipula-

Table 2. Clinical scale symptoms

	Adherent (n=2)	Non-adherent (n=13)
Anxious arousal	0/2=0	1/13=7.7%
Depression	0/2=0	2/13=15.4%
Anger/irritability	1/2=50%	1/13=7.7%
Intrusive experiences	0/2=0	0/13=0
Defensive avoidance	0/2=0	3/13=23.1%
Dissociation	0/2=0	1/13=7.7%
Sexual concerns	1/2=50%	1/13=7.7%
Dysfunctional sexual behaviors	0/2=0	0/13=0
Impaired self reference	0/2=0	0/13=0
Tension reduction	2/2=100%	2/13=15.4%

tive behavior, and suicide threats. Table 2 shows the clinical scales activated in adherent and nonadherent patients.

Activation was seen in seven of the clinical scales in the adherent patients. The clinical scales and percentage of the cases activated include: AA scale (7.7%), D scale (15.4%), AI scale (7.7%), DA scale (23.1%), DIS scale (7.7%), SC scale (7.7%), TRB scale (15.4%). The nonadherent women activated three of the clinical scales. The clinical scales and percentage of the cases activated include: AI scale (50%), SC scale (50%), TRB scale (100%). The three scales activated in the nonadherents were also activated in the adherents.

DISCUSSION

The preliminary clinical profile of the nonadherent women is characterized by anger and irritability (often associated with PTSD or a more chronic angry state). This state is seen internally and externally (wanting to hurt or threaten someone) and indicates that they are not entirely in control of their emotions. The nonadherent women are also characterized by sexual distress and dysfunction, which includes negative thoughts and feelings during sexual activity, confusion regarding sexual issues, and sexual problems in relationships; a tendency to externalize distress through suicide, aggression, inappropriate sexual behavior, and/or self mutilation; a tendency to act out negative emotions; and the potential to injure themselves or others when stressed or dysphoric.

The preliminary clinical profile of the adherent women is characterized by depressed mood and depressive cognitions; a history of aversive internal experiences that they repeatedly seek to avoid (common way of managing PTSD); not being entirely in control of their emotions; sexual distress and dysfunction; a tendency to act out negative emotions; and the potential to injure themselves or others when stressed. Symptoms of anxiety and autonomic hyperarousal associated with PTSD are also present.

Elevations in the TRB index of 100% among the nonadherent are of concern and may reflect a need for psychological treatment. By working on lowering their TRB index, women might improve their desire to live and not harm themselves and adhere better to their HIV treatment. Two of the 13 adherent patients had a tendency to externalize distress through suicide, aggression, inappropriate sexual behavior, and self-mutilation. These women could develop a greater desire to harm themselves and stop taking their HIV medications.

This study reveals differences in trauma-related symptoms among adherent and nonadherent patients. A high TRB index reflects a possible need for psychological treatment. By lowering this index, women might improve their desire to live and adhere better to their treatment. Because of the limited sample size, we cannot generalize these findings. We will continue to collect data on 85 women, which is the desired sample size.

In the future, we are interested in using a mixed study design that would incorporate qualitative measurements. We would also like to examine other factors such as social support systems and life-event stressors. We also intend to add a control group (eg, patients with diabetes) to examine if these findings are due to issues unique to HIV or to the chronic nature of the illness in the presence of therapy. In addition, we intend to extend this study to other conditions such as breast cancer.

Our findings contribute to reducing health disparities in women with HIV, since adherence affects quality of life in HIV patients. Adherence has been examined in diverse ways, but our research shows that other psychological factors such as trauma need to be examined further in order to fully understand and enhance adherence.

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