Protocol Title:

Improving the health of South African women with traumatic stress in HIV care (NCT02223390)

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Protocol

Background

HIV-infected women in South Africa report high rates of sexual trauma. The experience of sexual trauma (childhood sexual abuse and/or adult sexual assualt) negatively impacts mental health and potentially influences engagement in HIV care (retention in care and adherence to antiretroviral therapy) and the sexual risk and substance use behaviours that can lead to HIV transmission. Research among HIV-infected populations with trauma histories in the U.S. demonstrates that a coping approach, particularly one that reduces the use of avoidant coping strategies, is efficacious in reducing traumatic stress and improving health behaviors. Although South Africa faces these dual epidemics of HIV and sexual violence, trauma treatment has not been well-integrated into HIV care. Addressing the sequelae of sexual trauma within the context of HIV clinical care can potentially both improve the well-being of this patient population, and also increase engagement across the continuum of HIV treatment and reduce the forward transmission of HIV.

Purpose of the study

The objective of this study is to develop and pilot test Improving AIDS Care after Trauma (ImpACT), an intervention based on theories of stress and coping, and evidence-based treatment for traumatic stress. ImpACT will target women who are newly initiating antiretroviral therapy (ART) in order to take advantage of a window of opportunity in HIV care and maximize care engagement. The aims are:

Specific Aim #1: Develop a brief and scalable coping intervention (ImpACT) for delivery in the South African HIV care setting for women with sexual trauma histories, in order to reduce avoidant coping and traumatic stress, and improve care engagement and reduce HIV risk behaviors.

Specific Aim #2: Establish the methodological details of an experimental protocol for a robust RCT to test the ImpACT intervention.

Specific Aim #3: Pilot test the ImpACT intervention with 60 HIV-infected women with histories of sexual trauma who are initiating ART to: a) determine feasibility and acceptability in the HIV care setting, and b) explore the impact on avoidant coping, traumatic stress, engagement in care, and HIV risk behaviors.

Overview of the study procedures and participants

The proposed research will last for three years and be conducted within the Cape Town metropolitan region, in a public, primary care clinic where HIV-related care and treatment services are offered. The study will enroll 117 human subjects in three study phases: (1) intervention and protocol development with 45 participants; (2) trial run of the intervention with 12 participants; and (3) ImpACT intervention pilot with 60 participants.

Phase 1: Intervention and Protocol Development (months 1-9)

45 individuals will take part in in-depth interviews (IDIs) or focus group discussions (FGDs) as part of the ImpACT intervention development phase. The purpose of this phase is to collect information from the target population and other stakeholders about the experience of living with HIV, initiating ART and having a history of sexual trauma. The IDIs and FGDs will include open-ended questions and follow-up probes about personal and professional experiences related to sexual trauma and engagement in care, coping strategies used by women to deal with traumatic stress, and insight into how ImpACT may best be refined and integrated into the clinic setting. These data will be used to develop a culturally-tailored intervention to address elevated stress among HIV-infected women initiating ART who have experienced sexual trauma and to inform our study protocol. As part of this phase, a screening procedure for sexual trauma will be developed and tested to confirm appropriate use in the study to determine eligibility.

Phase 2: Trial Run (months 10-18)

After the qualitative phase for the intervention development, we will conduct a trial run of ImpACT to assess its reception by the target population and the logistics of delivery. The 12 women who participate in the trial run of ImpACT will have the following characteristics: are ≥18 years old, are HIV-infected, are patients initiating ART at the study clinic, report a history of sexual trauma, and have elevated traumatic stress. To ensure the safety of the patients and the integrity of the data, participants will be excluded if they are at high risk for suicide.

Phase 3: Pilot Test of the ImpACT intervention (months 19-36)

For the pilot of the intervention, we will enroll 60 HIV-infected women in a longitudinal intervention study. The participants will be initiating ART at the study clinic, report a history of sexual trauma, and have

elevated traumatic stress. To ensure the patient safety and the integrity of the data, participants will be excluded if they are at high risk for suicide.

The three assessments (baseline, 3-, 6-months) will include questions about demographics, traumatic stress, avoidant coping, medication adherence, sexual behaviors, substance use, traumatic experiences, stigma, disclosure, and mental health symptoms. Study staff will review medical records for information regarding clinic and pharmacy visits, medication adherence, CD4 counts, viral load, AIDS-defining illnesses, and other facets of HIV-related care at the clinic during the study period. This information will be abstracted for the period starting with the participant's intake visit at the clinic and ending approximately 6 months after initiating ART. At 6 months, dried blood spots (DBS) will be collected from participants and tested for the presence of ART, to test for the feasibility of using a biomarker for adherence.

Study conditions. Random assignment to condition will occur following the baseline assessment so that study staff are blind to assignment during recruitment and baseline assessment. Participants have an equal chance of being assigned to a condition. The study coordinator will select a sealed envelope that contains the condition assignment for a participant.

For the control condition, we will use the standard of care (SoC) provided to all patients initiating ART, which is comprised of three adherence counseling sessions conducted by adherence counselors employed in the study clinic. Patients attend these three sessions at approximately weekly intervals. The sessions are delivered by the adherence counselors and include content on education about HIV and ART, adherence to ART, the importance of full engagement in HIV care, and strategies for HIV disclosure. If counselors are informed of a woman's trauma history, they may take the opportunity to address adherence issues related to traumatic stress and sexual trauma experiences during the SoC counseling sessions, as well as provide relevant referrals. For counselors to be prepared to address trauma history during the SoC adherence counseling, they will receive training on psychological issues related to trauma. This will include psycho-educational information as background for counselors and discussion of appropriate patient referrals. Participants assigned to the intervention condition will receive the SoC, plus the ImpACT intervention that addresses the effect of sexual trauma on coping with HIV, engagement in care, and health protective behaviors. The ImpACT facilitators will be psychiatric nurses who are hired and trained as study staff. The psychiatric nurses will conduct four individual sessions delivered every other week over the course of two months after the initiation of ART and two additional group booster sessions delivered on a monthly basis afterward. The ImpACT intervention content will address stress and coping related to both sexual trauma and HIV. The sessions will last 60-90 minutes each and will be conducted in a private room.

Statistical Analysis Plan

Exploratory data analysis to evaluate potential intervention efficacy

Study data will be double-entered using REDCap, a secure, web-based application hosted at Duke University. Descriptive statistics will be used to characterize the sample at baseline, with t tests and $\chi 2$ tests examining between-group differences for continuous and categorical variables, respectively. The conditions will be compared based on demographic factors, abuse histories, and HIV history. Although exploratory in approach, our primary hypotheses will examine the short term effects of ImpACT on mental health outcomes. To assess the changes in PTSD symptoms, coping, and adherence motivation by intervention condition, we will fit linear mixed models using the PROC MIXED procedure in SAS software version 9.4 (SAS Institute, Inc., Cary, NC). To explore differences between conditions in clinically significant change of PTSD symptoms, we will use $\chi 2$ tests to compare proportions of participants with a > 20 point reduction in the total severity score from baseline to 3-month and baseline to 6-month assessments. Participants will be retained in these analyses regardless of intervention exposure, following an intent-to-treat analysis of the outcomes. For our secondary outcomes, analysis of self-reported adherence will exclude participants who do not initiate ART, and care engagement measures will exclude both participants who did not initiate ART and those who officially transferred care to another clinic. To explore differences in adherence and care engagement, we will use $\chi 2$ tests to compare proportions between conditions at 3-month and 6-month.

We will also examine biomarkers at the 6-month assessment among participants newly initiating ART, excluding participants who either do not initiate ART after baseline or are re-initiating ART after defaulting. Biomarkers of adherence will be based on DBS results testing for presence of ART (TNF, FTC, and EFV) at the 6-month assessment or, if DBS is not collected, VL suppression (defined as $\leq$40 copies/ml) within +/- 90 days of the 6-month assessment.