

Addiction Treatment Intervention: An Uncontrolled Prospective Pilot Study of Spiritual Self-Schema Therapy with Latina Women

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ABSTRACT. Spiritual Self-Schema (3-S) is a weekly 8-session, mindfulness-based, manual-guided, individual intervention targeting addiction and human immunodeficiency virus (HIV) risk behaviors that integrates cognitive behavioral strategies with Buddhist principles and clients' religious/spiritual beliefs. 3-S is efficacious for reducing drug use and HIV risk behaviors among mixed-gender, methadone-maintained outpatients. The study goal was to conduct a preliminary evaluation of 3-S therapy among urban, low-income Latinas ($n = 13$) in residential addiction treatment. Data gathered via in-person interviews (baseline, 8 and 20 weeks postentry) showed high rates of 3-S acceptability and positive changes in a number of outcomes relevant to recovery from addiction and to HIV prevention, including impulsivity, spirituality, motivation for change, and HIV prevention knowledge. The study findings are promising; however, a controlled study with longer follow-up is needed to rigorously assess the efficacy of 3-S therapy with Latinas in substance abuse treatment.

KEYWORDS. Addiction, Hispanic, HIV prevention, Latino, mindfulness, women

INTRODUCTION

Addiction treatment provides an important opportunity to introduce interventions aimed at decreasing the risk of human immunodeficiency

virus (HIV) infection associated with drug use and unsafe sexual behaviors (1). There is an emerging interest in incorporating spirituality into addiction treatment (2), since spirituality, as a coping strategy, may play a protective role

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in physical and mental health (3). Spiritual Self-Schema (3-S) therapy, a manual-guided intervention delivered in 8 weekly individual sessions, incorporates clients' spiritual beliefs/religious faith. The 3-S framework is based on Buddhist philosophy and was chosen to accommodate a wide variety of theistic and nontheistic religious traditions and spiritual belief systems (3–5). The goal of 3-S therapy is to facilitate a cognitive shift in the client's predominant self-schema from the "addict self," with its associated scripts, action plans, and behaviors that can lead to the transmission of HIV and other infections (3, 6), to the "spiritual self" that is congruent with harm reduction and health promotion attitudes and behaviors (3, 6, 7). 3-S therapy is not solely a "talk-therapy," but also a practical, experiential therapy that helps clients become aware of their spiritual nature as a fundamental basis for ongoing growth and development as well as for preventive, health-oriented behavior. 3-S therapy is expected to improve an individual's spirituality, motivation to change, and HIV prevention knowledge, and to reduce impulsivity that is correlated with risky behaviors such as unprotected sex and drug use.

Examining the acceptability and promise of 3-S therapy with Latinas in treatment was undertaken for several reasons. First, HIV risk behaviors and HIV infection/acquired immune deficiency syndrome (AIDS) rate are disproportionately high among Latina drug users (8–10) and there is a need for effective interventions. Second, previous studies of 3-S therapy were limited to methadone-maintained outpatients, and thus issues of client acceptability and potential efficacy of 3-S therapy among Latina women in residential treatment have not been investigated. Lastly, the spiritual basis of 3-S therapy might make it particularly well suited for Latinas because spirituality has been identified as a powerful motivator for their recovery (11).

The objectives of this uncontrolled prospective pilot study were (1) to assess acceptability of 3-S therapy among Latinas as measured by participants' satisfaction, perceived credibility of the intervention, and perceived effects of the intervention on their addictive behaviors and sense of spirituality; and (2) to assess changes over time in participants' levels of impulsivity,

spirituality, motivation to change drug use and HIV risk behaviors, and HIV prevention knowledge over the 20-week study duration. Because of the pilot nature of the study and the small sample size, we did not expect to detect statistically significant changes overtime.

METHODS

The study was conducted from October 2007 through March 2008 at *Entre Familia*, a program of the Boston Public Health Commission. *Entre Familia* is a gender- and culture-specific residential addiction treatment program for adult Latinas. The program provides long-term (6- to 12-month) integrated treatment for addiction and co-occurring mental health disorders (primarily depression, anxiety, and post-traumatic stress disorder). It has the capacity to house approximately 21 women and 40 of their children at any given time. The program is based on a bio-psycho-social trauma-informed model for the treatment of addiction (12). Standard services consist of a series of skill-based, manual-guided group therapy sessions based on cognitive-behavioral therapy and psychoeducational approaches and include individual counseling and psychotherapy, intensive case management, and supportive services. The treatment is gender and culture specific and is provided under a family-centered model of care.

Participants

All clients receiving services at *Entre Familia*, a Boston-based residential treatment program for adult Latinas, were candidates for inclusion in the study if they (1) had been enrolled in the residential treatment program for at least 2 weeks, (2) were fluent in English, and (3) had an interest in receiving a spirituality-focused therapy. There were no exclusion criteria.

The treatment agency staff informed clients about the study and obtained their permission to be contacted by a study interviewer who explained the study in detail. After the prospective participants agreed to participate in the study, the interviewer obtained signed consent forms prior to conducting the interview. The study protocol

was approved by the Institutional Review Board of Northeastern University. The first 13 women who met the inclusion criteria and agreed to participate were enrolled. Participants were compensated with a \$20 store voucher for their participation in each assessment.

Data reported in this study were obtained via in-person interviews conducted by a Latina researcher. Assessments were conducted at baseline, 8 weeks postentry, and 20 weeks postentry. In addition, data on the following background information were obtained via clinic records: substance abuse and mental health diagnoses, and history of physical, sexual, and emotional abuse.

Intervention

Participants received the 8 weekly 1-hour sessions of 3-S therapy delivered by a single doctoral-level Latino therapist with extensive experience in treatment of addiction and trauma in Latino populations. The clinician received intensive training in 3-S therapy, including a 3-day on-site comprehensive introduction by a certified 3-S therapy trainer and a 2-week advanced training on the delivery of each session from Dr. Arthur Margolin, 3-S therapy developer.

To ascertain fidelity of the study intervention, all sessions were videotaped and 20% were randomly selected for viewing and rating by the 3-S therapy developer, who also held weekly supervision conference calls with the therapist to review videotapes and clinical notes submitted on each client during each intervention session. The 3-S therapy developer's ratings showed high fidelity to the intervention manual for each session (3.5 on a scale from 0 to 4). Detailed information about the intervention, as well as the therapy manuals, is available on the 3-S Web site, www.3-S.us, under the "training" link.

Measures

Baseline Demographics and Clinical Characteristics

At the baseline interview, conducted by the research interviewer, demographic (age and years of education) and clinical characteristic measures were collected.

Addiction severity was measured using the Addiction Severity Index (ASI) composite scores for alcohol and drug addiction severity (13). Scores ranged from 0 (no symptoms) to 1.0 (highest severity) (13). The ASI is a widely used tool to evaluate problems of substance abusers. It demonstrated high interrater reliability (14) and has been used across different populations including homeless substance abusers (15) and substance abusers with mental illness (16). When the ASI was used with clients in a network of inner-city alcohol and drug abuse clinics, reliability scores were .84 for alcohol and .69 for drug addiction severity (17). Cronbach's alpha in the present study was .78 for alcohol and .68 for drug addiction severity.

Posttraumatic stress symptom severity was measured using the Symptom Severity Score (SSC), a subscale of the 49-item Posttraumatic Diagnostic Scale (PDS) (18). The SSC is a 17-item scale that assesses symptom severity from 0 ("not at all" or "only one time") to 3 ("5 or more times a week/almost always"). The SSC yields a total severity score (ranging from 0 to 51) reflecting the frequency of the 17 posttraumatic stress symptoms, with scores 1–10 indicating mild, 11–20 moderate, 21–35 moderate-to-severe, and 36–51 severe posttraumatic stress severity. SSC reliability tested in various racial/ethnic groups was high (Cronbach's alpha > .90) (18). Cronbach's alpha in the present study was .87.

Severity of mental health symptomatology was measured using the Global Severity Index (GSI) of the Brief Symptom Inventory (BSI) (19). GSI was used as a measure of general clinical distress. Using a 0 (not at all) to 4 (extremely) Likert scale, participants rated how much they were bothered by each of 18 mental health problems (symptoms) in the past 7 days, with pathology indicated by a T -score ≥ 63 . BSI subscores for depression, anxiety, and somatization were also reported. Total scores for the GSI and BSI subscores range from 0 through 4, with higher scores indicating more severe mental health symptomatology. The GSI reliability tested with various racial/ethnic groups is high (Cronbach's alpha > .90) (19). Cronbach's alpha in the present study was .93.

Primary Outcomes

Acceptability of 3-S therapy was assessed with 3 measures. The first measure, the Participant's Post Intervention Satisfaction Questionnaire, asked participants to indicate how satisfied they were with the services they received during the intervention on a scale of 0 (not at all satisfied) to 10 (extremely satisfied) (4, 7). The second measure, the Treatment Credibility Scale (TCS) (3), assessed participants' confidence about the benefits of the intervention using 7 items with response values ranging from 0 (not at all) to 4 (extremely confident). The TCS was adapted by the developers of 3-S therapy from a scale developed for studies of acupuncture with reported Cronbach's alpha of .88 (20). The TCS score is the average of these 7 items, with a higher score indicating greater confidence. The TCS was administered at baseline and 8 weeks postentry. Cronbach's alpha in the present sample was .87. The third measure was the Post Treatment Questionnaire consisting of 7 items, using a 0 (not at all) to 10 (extremely) Likert scale. It asked participants how satisfied they were with 3-S therapy and how much it helped in reducing addiction and risk for HIV infection. The percentages of participants with positive perceived impact of the therapy were reported. The Participants' Post Intervention Satisfaction Questionnaire and the Post Treatment Questionnaire were used to measure intervention fidelity in a previous 3-S study but no reliability scores were reported (4, 7). In the present study, the reliability scores for the Participant's Post Intervention Satisfaction Questionnaire and the Post Treatment Questionnaire were Cronbach's alphas .83 and .98, respectively.

Secondary Outcomes

Impulsivity was assessed with the 30-item Barratt Impulsivity Scale—Revised (BIS-R), a widely used tool developed “to identify a set of impulsivity items that are orthogonal to a set of anxiety items” and “to define impulsiveness within the structure of related personality traits” (21). Response categories range from 0 (rarely/never) to 4 (almost always/always). A total score was computed by summing the

items, with a higher score implying higher impulsiveness. Its internal consistency coefficients range from .79 to .83 among different populations of undergraduate students, prison inmates, substance abuse patients, and general psychiatric patients (21). Reliability was adequate (Cronbach's alpha .81) in the present study.

Spirituality was assessed using the Expression of Spiritual Qualities in Daily Life, a 10-item questionnaire that measured the following daily-life spiritual qualities: generosity, morality, renunciation, wisdom, effort, tolerance, truth, strong determination, loving kindness, and equanimity (6). Participants were asked to indicate “how much of the time you actually expressed this quality in your own life in the past week.” Response categories ranged from 0 (not at all) to 4 (extremely). A mean score was computed with a higher score indicating higher spirituality. This measure was developed for and evaluated in a 3-S efficacy study with mixed-gender methadone participants in an outpatient setting and showed good reliability (Cronbach's alpha .89) (6), comparable to that found in the present study (.87).

Overall motivation to change drug use and HIV transmission-related behavior was assessed with a scale of 24 items that ranged from 0 (strongly disagree) to 4 (strongly agree). Higher scores indicate higher motivation. This measure was developed for and evaluated in a prior 3-S efficacy study with mixed-gender methadone participants in an outpatient setting in which reliability for the overall mean motivation to abstain from drug use and prevent HIV was adequate (Cronbach's alpha .84) (4). The reliability for overall mean motivation in this prior study was Cronbach's alpha .83. This measure has 3 subscales evaluating (1) motivation for abstinence, a 5-item instrument that measures motivation to abstain from drug use (Cronbach's alpha .78 in the present sample); (2) motivation vis-à-vis cognitive control, a 9-item instrument that measures perceived consequences of actions and ability for self control (Cronbach's alpha .6 in the present sample); and (3) motivation for HIV prevention and HIV transmission-related behaviors, a 10-item instrument that measures motivation for HIV prevention and HIV-related behaviors (Cronbach's alpha .41 in the present

sample). To improve the reliability of the last 2 measures in our sample, we deleted 3 items in each. The final, 7-item measures showed improved Cronbach's alphas (.73 and .68, respectively).

HIV prevention knowledge was assessed with 20 multiple-choice questions evaluating knowledge of drug- and sex-related HIV transmission risks. This quiz is derived from the AIDS Information Sheet developed by the National Institute on Drug Abuse (22). A final score was computed as the percentage of correct answers. There is no reported reliability for this measure. In this study, the internal consistency KR-20 coefficient is high ($>.90$).

Statistical Methods

The size of the sample for this pilot study was determined based on the budget and time line available for the study.

Distributional data characteristics were assessed; data showed non-normal distribution, and nonparametric tests were used for analysis. Medians and ranges are reported for the outcome measures due to the nonparametric nature of the data. Friedman's analysis of variance was used to examine the longitudinal changes in scores during the whole study. Significance levels are reported at 2-tailed $P < .05$. Wilcoxon's signed-rank test examined changes between 2 time points. A Bonferroni correction was applied so all P values are reported at a $P < .0167$ level of significance. Because of the exploratory nature of the study, effect size r from the Wilcoxon's signed-rank test was calculated for the secondary outcomes. Effect size was interpreted as follows: small effect for $r < .3$; medium $r \geq .3$ but less than .5; large $r \geq .5$.

RESULTS

Retention and Treatment Attendance

Of the 13 subjects who completed baseline, 10 completed the 8- and 20-week postentry interviews. Analysis focuses on these 10 participants.

Seven of the 13 enrolled participants completed the intervention and all study assessments. Four were discharged from residential treatment

prior to the study completion, but 3 of them completed all study assessments. Two other participants were withdrawn from the intervention due to psychopharmacological medication side effects (i.e., severe drowsiness and attention problems) that interfered with participation and did not complete study assessments. None of the participants, the therapist, or treatment staff reported any adverse or side effects from the intervention.

Baseline Demographics and Clinical Characteristics

Participants' ages ranged from 20 to 40 years (31 ± 7.5). Eleven of the 13 women were mothers with children under 18 years of age; the remaining were pregnant. The mean age of onset of alcohol use and drug use was 14 (± 2.9) and 15 (± 3.7), respectively. Ten women did not complete high school and had a history of homelessness. Eleven women had a history of incarceration and 9 had a history of arrests for drug-related offenses. All the women were Puerto Ricans.

All participants had a diagnosis of both substance use and mental health disorder (primarily depression and anxiety disorders), along with a history of sexual, physical, and/or emotional trauma. See Table 1 for a summary of the demographic and clinical profile of the sample.

Outcomes

Primary Outcomes: Treatment Acceptability

Mean 8-week postentry satisfaction scores (7.6 ± 2.2) indicated a rating between "moderately" and "extremely" satisfied.

Although treatment credibility scores increased across the 3 assessment periods, from "moderately" at baseline, to "very" credible at both 8 and 20 weeks postentry, these changes were not statistically significant. Medians and ranges are presented in Table 2.

After the 3-S intervention (8 weeks postentry), the average score on the 5 questions regarding the perceived effects of 3-S therapy was 2.7 (± 1.5) in a range from 0 to 4. The majority (70%) said that they felt "much closer" or "very much closer" to quitting drugs. In

TABLE 1. Baseline Demographic and Clinical Characteristics ($N = 13$)

Age, mean (SD)	31 (7.5)
Hispanic group, Puerto Rican, n (%)	13 (100)
No high school diploma, n (%)	10 (76.9)
Has history of homelessness, n (%)	10 (76.9)
Has history of incarceration, n (%)	11 (84.6)
Consumed alcohol in the past 30 days, n (%)	4 (30.8)
Used illegal drugs in the past 30 days, n (%)	8 (61.5)
Injected drugs in the past 30 days, n (%)	2 (15.4)
Alcohol Addiction Severity Index, score, mean (SD)	0.07 (0.1)
Drug Addiction Severity Index, score, mean (SD)	0.14 (0.1)
Posttraumatic stress symptomatology (PDS-SSC), total score, mean (SD)	34.33 (8.6)
Reexperiencing, subscale score, mean (SD)	9.92 (3.3)
Arousal, subscale score, mean (SD)	11.58 (3.4)
Avoidance, subscale score, mean (SD)	12.83 (4.8)
Mental health symptomatology (BSI-GSI), total score, mean (SD)	0.86 (0.9)
Depression, subscale score, mean (SD)	0.88 (0.9)
Anxiety, subscale score, mean (SD)	0.93 (0.9)
Somatization, subscale score, mean (SD)	0.78 (0.9)

addition, a majority reported that the following variables were affected “a lot” or “extremely” by participation in 3-S therapy: decreased craving for drugs (70%), increased experience and expression of spirituality (70%), experience of a shift from the addict self to the spiritual self (80%), and increased motivation to prevent the transmission of HIV (70%). Further, 60% reported that their drug use decreased “extremely” as a result of participation in 3-S therapy. The majority (80%) of participants indicated that they would like to continue 3-S therapy.

Secondary Outcomes: Impulsivity, Spirituality, Motivation, and HIV Prevention Knowledge

Results of Friedman’s analysis of variance (ANOVA) showed statistically significant improvement over the course of the intervention (8 weeks) and at 20 weeks postentry in spirituality ($P < .05$), overall motivation to change drug use and HIV transmission–related behavior

($P < .05$), and HIV prevention knowledge ($P < .01$). Other measures showed trends suggesting improvement but these did not reach statistical significance.

Ancillary Analyses: Effect Size r from Wilcoxon’s Signed-Rank Test

As shown in Table 3, results from pairwise comparison (Wilcoxon’s test) showed statistically significant changes in HIV prevention knowledge at 8 ($P < .0167$) and 20 ($P < .0167$) weeks postentry compared to baseline. No other pairwise comparisons were statistically significant.

For impulsivity, calculations showed medium effect size at 8 weeks and small effect size at 20 weeks compared to baseline. For spirituality, we found a medium effect size at 8 weeks and no effect at 20 weeks compared to baseline. Overall motivation to change drug use and HIV transmission–related behavior showed medium effect sizes at both 8 and 20 weeks compared to baseline. Finally, for HIV prevention knowledge, we found large effect sizes at both 8 and 20 weeks compared to baseline. Results of the Wilcoxon test and the effect size r scores are summarized in Table 3.

DISCUSSION

This study was an uncontrolled prospective pilot study of the 3-S therapy with 13 Latinas. It assessed the acceptability of the 8-week individual 3-S intervention as gauged by participant’s satisfaction, perceived credibility of the intervention, and perceived effects of the intervention on their addictive behaviors and sense of spirituality. Overall, participants were satisfied with the 3-S intervention. Postintervention satisfaction scores indicated that participants were “moderately” to “extremely” satisfied. Ratings on credibility of the therapy and participants’ perceptions on the effects of 3-S therapy were positive and consistent with the high satisfaction ratings.

The study also assessed changes over time in participants’ levels of impulsivity, spirituality,

TABLE 2. Results of Friedman's ANOVA Comparing Outcomes Across Measurement Points ($n = 10$)

Outcome measures	Baseline	8 weeks postentry	20 weeks postentry	χ^2_F	P
Treatment credibility, score, median (min–max)	2.0(1.1–3.9)	2.6(0.7–4.0)	2.9(1.0–4.0)	1.7	.433
Level of impulsivity, score, median (min–max)	73.5(65.0–106.0)	71.0(52.0–91.0)	73.5(51.0–91.0)	1.4	.500
Spirituality, score, median (min–max)	3.5(1.8–4.0)	3.8(2.6–4.0)	3.3(2.1–4.0)	6.2	.045
Overall motivation to change drug use and HIV transmission–related behavior, total score, median (min–max)	2.4(1.9–3.2)	2.8(2.2–4.0)	2.9(1.5–3.4)	6.2	.045
Motivation for drug abstinence, subscale score, median (min–max)	2.7(0.8–3.6)	3.0(2.0–4.0)	3.1(1.0–3.6)	1.7	.428
Motivation vis-à-vis cognitive control, subscale score, median (min–max)	2.6(1.7–3.4)	3.0(1.6–4.0)	2.7(1.7–4.0)	3.9	.139
Motivation for HIV prevention and decreased HIV-related behaviors, subscale score, median (min–max)	2.1(1.4–3.3)	2.6(1.7–4.0)	2.9(1.0–3.1)	5.0	.083
HIV prevention knowledge, total score, median (min–max)	57.5(45.0–85.0)	77.5(55.0–95.0)	82.5(60.0–95.0)	16.7	.001

motivation for abstinence from drug use, HIV risk behavior, and HIV prevention knowledge. Self-reported changes from baseline to 20 weeks postentry showed statistically significant

changes in the levels of spirituality, motivation, and HIV prevention knowledge among participants. No significant changes were observed in impulsivity measures.

TABLE 3. Results of the Wilcoxon Test for Post Hoc Comparison and Intervention Effect Sizes ($n = 10$)

Outcome measures	Comparison time frame	t -statistic	z -score	P	r
Treatment credibility, score	Baseline–8 weeks postentry	11.0	–1.0	.326	–.2
	Baseline–20 weeks postentry	14.0	–1.4	.167	–.3
Level of impulsivity, score	Baseline–8 weeks postentry	7.5	–2.0	.041	–.4
	Baseline–20 weeks postentry	19.0	–0.4	.678	–.1
Spirituality, score	Baseline–8 weeks postentry	7.5	–1.8	.075	–.4
	Baseline–20 weeks postentry	22.0	–0.1	.953	.0
Overall motivation to change drug use and HIV transmission–related behavior, total score	Baseline–8 weeks postentry	10.0	–1.8	.074	–.4
	Baseline–20 weeks postentry	15.0	–1.3	.202	–.3
Motivation for drug abstinence, subscale score	Baseline–8 weeks postentry	7.5	–1.5	.141	–.3
	Baseline–20 weeks postentry	14.5	–0.5	.624	–.1
Motivation vis-à-vis cognitive control, subscale score	Baseline–8 weeks postentry	8.5	–1.7	.097	–.4
	Baseline–20 weeks postentry	8.0	–1.4	.159	–.3
Motivation for HIV prevention and HIV transmission-related behaviors, subscale score	Baseline–8 weeks postentry	11.5	–1.6	.103	–.4
	Baseline–20 weeks postentry	14.5	–0.9	.342	–.2
HIV prevention knowledge, total score	Baseline–8 weeks postentry	0.0	–2.8	.005	–.6
	Baseline–20 weeks postentry	0.0	–2.8	.005	–.6

Note. A Bonferroni correction was applied so all P values are reported at a $P < .0167$ level of significance.

Primary Outcomes: 3-S Intervention Acceptability

We found evidence indicating acceptability of 3-S therapy among this sample of Latinas in addiction treatment. Scores from the Treatment Credibility Scale and the Post Treatment Questionnaire indicated that the majority benefited from the intervention, found it acceptable and useful, and reported a desire to continue this form of therapy. These findings are consistent with reported high levels of acceptability in a previous 3-S therapy study with a different population (6). Latina participants in the current study found many of the spirituality-promoting aspects of 3-S therapy useful. 3-S therapy's use of visualization, mindfulness, cognitive reframing, and meditation practices were generally well received and appeared to be a good fit for this client population. Previous studies using these approaches with men and women, patients in the methadone maintenance program, reported similar findings (6, 23).

Secondary Outcomes: Potential Promise with Latina Women

We found a trend indicating a reduction in impulsivity over the course of the intervention period. However, at 20 weeks postentry, impulsivity returned to baseline values. It is possible that the effects faded over time or never took place. Controlled studies are needed to evaluate this issue.

The decrease in impulsivity over the course of intervention is consistent with the findings of another study of 3-S therapy that focused on impulsivity as an outcome (7). Analysis of baseline and 8-week postentry data in that study suggested that 3-S therapy not only increased spiritual practices that were antithetical to impulsivity but it also significantly reduced impulsivity scores compared to those of nonclinical samples.

Consistent with our findings, a previous 3-S therapy study found improvement in the frequency of spiritual qualities practice in daily life from baseline to 8 weeks postentry (3). As with impulsivity, in the present study, the return to baseline values at 20-week follow-up suggests

that these individuals may benefit from "booster sessions."

Findings of increased motivation to reduce high-risk behaviors and drug use throughout the present study are also consistent with findings of the previous studies of 3-S therapy (4, 7, 24).

In addition, HIV prevention knowledge increased significantly between baseline and 8 weeks postentry, and these improvements were maintained at 20 weeks postentry. Because the rates of HIV risk behaviors and HIV infection are disproportionately high among Latina drug users (9, 10), development of effective HIV prevention interventions is critical for this population. Although knowledge alone is not predictive of behavior change, it is an important first step because studies (25–27) have documented misconceptions and lack of accurate information regarding HIV prevention knowledge in this population. These educational gaps can undermine reduction of HIV-related high-risk behaviors.

Main limitations of this pilot study include the lack of a control group, small sample size, and a relatively short follow-up period. The choice of Latinas treated in residential settings as the studied population limits generalizability of our findings to Latinas in other treatment settings. Finally, the sample was comprised of Puerto Rican women and findings may differ for other Latina groups.

CONCLUSIONS

Findings from this pilot study suggest that 3-S therapy was well received by Latina women in residential treatment and may be a useful intervention for reducing impulsivity, increasing motivation for abstinence and spiritual practices, reducing high-risk behaviors, and increasing receptivity for HIV-prevention knowledge. Based on these findings, 3-S therapy warrants a controlled study in this clinical population.

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