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Spirituality and Optimism: A Holistic Approach to Component-Based, Self-Management Treatment for HIV

Jordan Brown¹, Jan E. Hanson, BS², Brian Schmotzer, M.S.³, and Allison R. Webel, PhD, RN⁴

¹Department of Biochemistry – Case Western Reserve University Cleveland, OH

²Department of Anthropology – Case Western Reserve University Cleveland, OH

³Center for Clinical Investigation – Case Western Reserve University Cleveland, OH

⁴Frances Payne Bolton School of Nursing – Case Western Reserve University Cleveland, OH

Abstract

For people living with HIV (PLWH), spirituality and optimism have a positive influence on their health, can slow HIV disease progression, and can improve quality of life. Our aim was to describe longitudinal changes in spirituality and optimism after participation in the SystemCHANGE™-HIV intervention. Upon completion of the intervention, participants experienced an 11.5 point increase in overall spiritual well-being ($p=0.036$), a 6.3 point increase in religious well-being ($p=0.030$), a 4.8 point increase in existential well-being ($p=0.125$) and a 0.8 point increase in total optimism ($p=0.268$) relative to controls. Our data suggest a group-based self-management intervention increases spiritual well-being in PLWH.

Keywords

Self-Management; Spirituality; Optimism; Existentialism

Introduction

Spirituality and optimism are essential factors of health and well-being (McCullough, Hoyt, Larson, Koenig, & Thoresen, 2000; Rasmussen, Scheier, & Greenhouse, 2009). For people living with HIV (PLWH), studies have shown that spirituality and optimism have positive influence on their health and can slow HIV disease progression (G. Ironson, Stuetzle, & Fletcher, 2006; H. Kremer, G. H. Ironson, & M. Porr, 2009; Löckenhoff, Ironson, O’Cleirigh, & Costa, 2009; Szaflarski et al., 2006). While it is critical to find ways to treat and cure the HIV virus, it is also important for infected individuals to be able to live and cope well with HIV disease – a condition which increases individual susceptibility to other types of chronic illness (Ruppik et al., 2011). Many PLWH opt for treatment, whether by use of medication, behavioral interventions, and/or through alternative practices to help slow

Corresponding author: 10900 Euclid Avenue Cleveland, OH 44106-4904, USA, Phone: 216-368-3939, Fax: 216-368-3542, allison.webel@case.edu.

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HIV progression and improve their quality of life. Research has found promising effects of group interventions for PLWH (Laperriere et al., 2005; Weiss et al., 2011), but little has been done to meet the needs of those who are more isolated from their community due to structural barriers including social stigma and discrimination. Spirituality might be a way of reaching these isolated groups.

Previous research has sought to determine the factors affecting the health and well-being of PLWH and has identified spirituality and optimism as critical psychosocial factors (S. H. Dalmida, MM.; Diiorio, C.; Laderman, G, 2009; G. & Ironson & Kremer, 2009; H. Kremer, G. Ironson, & M. Porr, 2009; Yi et al., 2006). Specifically, recent studies found that spirituality and optimism are associated with an improvement in immunological markers and also contribute to slowing disease progression. Quantitatively, among people living with HIV improved immune functioning has been associated with higher levels of spirituality (G. Ironson, et al., 2006) and forgiveness (Owen, Haywood, & Toussaint, 2011). In a pivotal longitudinal study, Ironson et al. (2006) found that PLWH who reported an increase in spirituality had significantly greater preservation of CD4+ T Cells and improved HIV viral load over four years, controlling for medical, behavioral, and demographic variables. These findings have been replicated in other research studies (G Ironson et al., 2011; Trevino et al., 2010). More recently, Owen and colleagues (2011) found that forgiveness, a trait encouraged by many religious communities, predicted an increase in CD4+ T-cell percentages, independent of HIV medication adherence, HIV viral load, and time since HIV diagnosis (Owen, et al., 2011). Similarly, improved immunity and slower HIV disease progression have been positively correlated with high levels of optimism (G. Ironson, et al., 2006; Segerstrom, 2005). Increases in spirituality and optimism have also been associated with lower disturbing HIV-related symptoms including fatigue, fever, pain or numbness, difficulty with memory, rash, headache, stomach pain or gas/bloating, changes in body appearance such as fat deposits, and changes in weight. (Szaflarski, et al., 2006) These distressing symptoms negatively impact HIV medication adherence, quality of life, stress levels, physical health, and mental health in PLWH (Coleman & Holzemer, 1999; Ehri, West, & Sousa, 2009; Gay et al., 2011; J. Park, 2011; Pérez et al., 2009; Tsevat, 2009).

Recent evidence highlights the need for a better understanding of how to improve spirituality in this population. Recently, a spirituality-based, self-management intervention was tested in 32 PLWH. In this randomized clinical trial PLWH were taught about the use of mantras, the words or sounds repeated to aid concentration in meditation, and were encouraged to use them. In evaluating their usefulness, Kemppainen and colleagues (2012), found mantra repetition to be a convenient, cognitive tool for managing a wide range of stressful situations related to living with HIV disease (Kemppainen et al., 2012). Ninety-nine percent of participant evaluations were positive reports for enhancing the respondent's coping with HIV. This effective, spirituality-based intervention documents the potential usefulness of spirituality to improve the well-being of PLWH.

In this secondary analysis we will build upon previous research and further explore spirituality and optimism in people living with HIV. Here, spirituality will be outlined using the existential framework of well-known philosopher, theologian and religious author, Søren Kierkegaard. He defined spirituality as a multi-dimensional, individualized and self-critical

inner awareness which may be understood as the most sensitive core of all knowledge and understanding (J. L. Park, 2012). Similarly, spirituality “typically refers to the subjective, non-church-centered experiences of the transcendent which imbue everyday life with a sense of deeper meaning” (Lockenhoff, et al., 2009; p 1413) (Löckenhoff, et al., 2009). Optimism will be defined as the expectancy-based-outlook that good things will happen (Scheier & Carver, 1985).

We aim to describe longitudinal changes in spirituality and optimism after participation in the SystemCHANGE™-HIV intervention for PLWH—a group based self-management intervention for men and women living with HIV. In the present analysis, we focus on the effects of this intervention on the spirituality and optimism in 40 PLWH. Building upon previous research documenting the importance of these resources, our research questions were 1) How does a group-based intervention impact spirituality and optimism in PLWH? 2) How does that effect change over time? 3) What other factors may be associated with that change? Our hypothesis was that participants in the SystemCHANGE™-HIV intervention will have improved spirituality and optimism compared to those in a control group.

Data and Methods

Participants

The parent randomized clinical trial was approved by the Institutional Review Board at University Hospitals, Case Medical Center. Participants included 40 HIV+ adults in Northeast Ohio who met the following inclusion criteria: being 18 years of age, speaking fluent English, and having a confirmed HIV diagnosis. We had no additional exclusion criteria. Sample participants were recruited via flyers and physician referrals at Infectious Disease clinics, AIDS Service Organizations, and through approved letters to members of an HIV research registry. All participants provided informed consent and completed a baseline assessment (measurements are described below). After completing the baseline assessment, participants were randomized to either an intervention or control group. The participants returned for a follow-up assessment immediately following the conclusion of the intervention (10 weeks). Participants were paid \$50 for completion of their assessments (per assessment) for a total of \$150.

Intervention and Control Conditions

The intervention was designed to assist individuals in focusing on changing the daily routines in their lives (systems, events, circumstances) that affect the following health behaviors: physical activity, sleep hygiene, and mental wellness activities which included emphasis on spirituality and optimism. The sessions focusing on spirituality and optimism discussed: 1) How spirituality can be used to increase mental wellness (through non-denominational spirituality activities, meditation, music, prayer, and participation in Alcoholics Anonymous/Narcotics Anonymous groups); and 2) Altruistic activities including “giving back” to prevent HIV transmission, public speaking, working with addiction groups, pursuing professional degrees/jobs (i.e. counseling). These variables were based on our previous qualitative research on HIV self-management (A. Webel & Higgins, 2011; A. R. Webel, Dolansky, M., Henry, A. & Salata, R., 2011). Those randomized to the control group

received a copy of the *HIV Symptom Management Strategies: A Manual for People Living with HIV/AIDS* (Wantland et al., 2008). After receiving the manual, a research assistant oriented the participants in the control group on how to effectively use the manual to alleviate burdensome symptoms.

The participants randomized to the intervention group attended the SystemCHANGE™-HIV intervention. This was a 10-week, group-based self-management intervention, which taught methods consistent with the social ecological theory (M. S. Alemi F, Baghi H., 2008; N. D. Alemi F, Ardito S, Headrick L, Moore S, Hekelman F, Norman L., 2000; Humpel, Owen, & Leslie, 2002). The SystemCHANGE™ theory uses a small step-change approach aiming to create large lifestyle improvements; it is a holistic approach designed to improve healthy lifestyle habits (N. D. Alemi F, Ardito S, Headrick L, Moore S, Hekelman F, Norman L., 2000). Each week, participants would gather in a classroom-style setting for one hour, to learn applicable techniques and make small amendments to their daily living habits. Strategies focused on participatory learning with various exercises designed to help the participants understand how to make simple environmental changes which would impact their health management. The topics of each of the weekly sessions are summarized in Table 1. The participants were encouraged to experiment with what they learned in the intervention in real life situations throughout the week. At the next meeting period, they shared their experiences of their environmental changes experiments with the group and determined if and how to incorporate these changes into their daily routine.

Intervention participants were divided into three groups (8–10 participants per group) which consistently met on separate days throughout the week (i.e. Tuesday, Wednesday, Thursday groups). Each session was facilitated by one trained female interventionist who followed the same outline protocol for each of the 10 sessions. Most relevant to the present analysis are sessions 6 and 8 which focused on mental wellness and spirituality, respectively.

Session 6 focused on meditative ways of improving mental wellness and adhered to the following intervention outline: Gathering the group and a short ice-breaker exercise, describing and reflecting on how participants applied the previous week's contents to their daily habits over the past week (approximately 20 minutes), and learning about meditative ways of improving mental wellness (approximately 40 minutes). Each activity was experiential and participants were given exercises to practice and discuss during the session.

Session 8 focused on spirituality and followed a different approach because of the sensitive nature of the topic. First, the topic was introduced as spirituality and the instructor clarified “ground rules” for respecting other group members by not promoting any individual's beliefs over another; this was necessary in order to guide discussion and to set the tone for a positive, interactive learning environment. Next, the participants collectively created a working definition of spirituality by discussing and brainstorming their own thoughts about spirituality within their own lives and community. The instructor then shifted discussion towards altruism and defined this for the group as “giving back” to the community, to friends and/or to family by means of public speaking, participating in community activities, and even by being research participants. She emphasized giving back with small scale environmental changes in order to make long-term impacts on their daily routine. At the

conclusion of this session, the participants were encouraged to apply spirituality and altruism to their daily living and were asked to share their application of the two themes the following week. Additional information on the sample, procedures, and the intervention can be found in previous publications (AR Webel et al., 2012).

Measures

Sociodemographics and health characteristics were assessed with a brief demographic survey and medical chart abstraction form. This instrument consisted of 26 items about demographics and illness characteristics. It included questions on age, gender, race, ethnicity, education, income level, and health insurance. Additionally, participants consented to allow the research team to abstract the following data from their medical chart: date diagnosed with HIV, current CD4 count, viral load, comorbid health conditions, and health care utilization. These variables were used to describe the sample and adjust for potentially confounding sociodemographic factors.

Spirituality was assessed using the *Spiritual Well-Being Scale*, a validated and widely-used, 20-item instrument measuring quality of spiritual well-being (Ellison, 1983). It has two 10-item subscales (measuring religious well-being and existential well-being) and it uses a 6-point Likert-scale format ranging from “strongly disagree” to “strongly agree”. Higher scores reflect greater spiritual well-being. There were 9 negatively worded items on this scale; these items were reverse coded to be consistent with higher scores indicating greater spiritual well-being. Examples of items from this scale include: “I feel a sense of well-being about the direction my life is headed in” or “I believe there is some real purpose for my life” for positively worded questions and “I feel unsettled about my future” or “I don’t enjoy much about life” for negatively worded questions. We used the overall spiritual well-being scale as well as the two subscales for a total of three subscales to analyze the effect of the intervention on spirituality. Reliability coefficients for this scale and the 2 subscales ranged from 0.82–0.99 for our study.

Optimism was assessed using the *Life Orientation Test-Revised*. This 10-item (with 4 filler questions), psychometrically sound scale, assesses optimism using a 5-point (0 to 4) Likert response scale. After removal of the 4 filler questions, all items were summed to create a total optimism score. Items are summed for a total score ranging from 0 to 24; higher scores reflect greater optimism (Carver, 2010; Scheier & Carver, 1985). We found a reliability coefficient of 0.80 for the *Life Orientation Test-Revised* in this study.

Statistical Analyses

Descriptive statistics were used to summarize participant’s demographic and clinical characteristics. We reported means and standard deviations for variables measured on a continuous scale, and were reported frequencies and percentages for variables measured dichotomously or categorically. All analyses maintained subjects in the original treatment groups (intent to treat). The treatment effect (intervention group minus control group) on each endpoint was estimated using ANCOVA models looking at the difference between baseline and end-of-study responses. Unadjusted analyses included only the baseline value of the endpoint and the treatment assignment as covariates. Adjusted analyses included age,

sex, and years since HIV diagnosis as additional covariates. These additional covariates were chosen *a priori* as they have been shown to impact spirituality and optimism (Cotton et al., 2006; Fiori, Brown, Cortina, & Antonucci, 2006).

Results

We conducted a two-group randomized clinical trial to test the effect of the SystemCHANGE™ intervention on spirituality and optimism in 40 adults living with HIV. Assessments were replicated for comparison at baseline and the end-of-treatment (10-weeks) for 43 HIV positive adults, of whom 40 completed each study procedure (7% attrition). Our sample was prominently unemployed (93%), single (79%), male (58%), and African-American (84%). Most participants had health insurance (86%). Medically, participants had lived with HIV for an average of 14.2 years (+/-6.6), most were prescribed HIV anti-retroviral medications (95%), and 67% had an undetectable HIV viral load. For additional details regarding demographic and medical characteristics, refer to Table 2.

Mean spiritual well-being, existential well-being, and optimism for the members of the SystemCHANGE™-HIV intervention group vs the control group tended to be lower (90.2 +/-20.4 vs. 91.5+/-13.6; 42.8 +/-10.9 vs 44.8 +/-7.7; and 15.8+/-3.2 vs 16.8 +/-2.5), but not statistically significant, at baseline. Conversely, one of the subscales of the *Spiritual Well-Being Scale*, religious well-being, in members of the SystemCHANGE™-HIV intervention group vs. the control group tended to be higher, but not statistically significant, at baseline (Table 3).

At the end of the intervention, participants in the SystemCHANGE™-HIV intervention experienced a 11.5 point increase in overall spiritual well-being ($p=0.036$), a 6.3 point increase in religious well-being ($p=0.030$), a 4.8 point increase in existential well-being ($p=0.125$) and a 0.8 point increase in total optimism ($p=0.268$) relative to the control group, based on the model estimates of the treatment effect adjusted for age, sex, and years since HIV diagnosis. Additional outcome statistics are reported in Table 4.

Discussion

We found that a group-based self-management intervention significantly improved spiritual well-being in adults living with HIV, compared to a control group. Our results are similar to those of Tarakeshwar and colleagues (2005) who found that an 8-session spiritual coping group intervention significantly improved spirituality in 13 PLWH (Tarakeshwar, Pearce, & Sikkema, 2005). Taken together, these robust findings indicate that, in this vulnerable population, it is possible to improve overall spirituality in a group-based intervention. This is significant because improving spirituality may be an important step in improving the overall immune function, mental health, and quality of life in PLWH (S. H. Dalmida, MM.; Diiorio, C.; Laderman, G, 2009; G. Ironson, et al., 2006), perhaps via the mediating effects of positive reappraisal coping and benefit finding (Carrico et al., 2006). In contrast to Tarakeswar's spiritual coping group intervention, this intervention used was not focused on spirituality or optimism; rather it was focused on improving the system of health behavior for PLWH, thus forcing participants to think holistically about their health. By couching the

intervention in these terms, our intervention may have helped participants focus on a range of positive aspects of their well-being, including spirituality.

Increasing spiritual well-being is an important aspect to not only slowing HIV disease progression but also mental and physical health. Recently, Kudel and colleagues (2011) tested the hypothesis that spirituality is a mediating variable that results in improved mental health, which in turn, improves physical health in PLWH. They found significant evidence supporting this model and concluded that increased levels of spirituality after HIV diagnosis have both direct and indirect relationships with important outcomes in patients with HIV. Taken with our evidence, we can conclude that a systems-based self-management intervention may improve the health of PLWH directly by modifying environments and indirectly, by impacting their mental and subsequently, physical health (Kudel, Cotton, Szaflarski, Holmes, & Tsevat, 2011) and gives service providers one more tool with which to improve the health of PLWH.

Currently, providers may be reluctant to approach the topic of spirituality in PLWH, given religion's controversial history with the HIV epidemic, and a general acceptance that the scientific field of medicine should not rely on religious belief (Eke, Wilkes, & Juarlyn, 2010; Sloan, 1999). As alternative medicines, which often emphasize a mind-body interaction become more widely accepted, discussion of spiritual health as a mechanism to improve physical health may become a regular component of clinical practices (Tang, 2011; Bedford, 2012).

Like health care providers, not all PLWH feel comfortable using spirituality to improve health (Sloan, 1999). Both researchers and clinician must tailor interventions to the specific needs of the individual patient. Spirituality can be addressed by everything from bible studies and prayer to yoga and mantras by people from every race, age, and creed. These variations should be considered to maximize the efficacy in using spiritual practice to improve health (Ridge, Williams, Anderson, & Elford, 2008).

In tailoring spiritual interventions for PLWH, it may be helpful to use Ellison's framework (Ellison, 1983). Within this framework, a person's spiritual well-being is separated into two components, existential and religious well-being. The existential well-being focuses on a person's sense of meaning and purpose and therefore, may contribute some control over their health. We found that our group-based self-management intervention only significantly impacted one aspect of spirituality, religious well-being, although improvements were seen in both dimensions for intervention participants. This could be due to our participants strongly relating spirituality with religion, perhaps evidenced in higher baseline religious well-being scores, compared to their baseline existential well-being scores. The same pattern of scores on the spiritual well-being scale was found by Phillips and colleagues (2006) in 107 PLWH and by Dalmida and colleagues (2011) in 118 African American women living with HIV (S. Dalmida, Holstad, DiIorio, & Laderman, 2011; Phillips, Mock, Bopp, Dudgeon, & Hand, 2006). These consistent findings may suggest the importance of examining different aspects of spirituality, with an emphasis on religious well-being, when tailoring spiritual interventions for people living with HIV.

Limitations

Only two sessions were allotted for the discussion of spirituality and optimism. After witnessing the extensive discussion and interest this topic generated, it would have been beneficial to include more discussions on this topic which covered a wider range of spiritual practices. Participants may also have benefited from taking part in these practices, rather than largely relying on description and discussion. Additionally, we did not elicit any qualitative data on the impact of the intervention on spirituality or optimism, which would have aided in our understanding of how our intervention led to our findings. Lastly, our pilot study was only conducted in one site, Northeast Ohio, where the spiritual and religious culture for those living with HIV, may be different than that of those PLWH living elsewhere. However, previous studies have found similar levels of baseline spiritual well-being in PLWH in different locations and times, which minimizes this possibility.

In conclusion, the diagnosis and development of a chronic, progressive illness, such as HIV, is an emotionally and spiritually challenging experience, and interventions that improve spirituality may have a significant impact on the overall health and well-being in this population. Our study provides evidence that a novel, group-based self-management intervention can improve spiritual well-being in people living with HIV. This improvement was seen with a very small intervention dose and future studies should examine the role of spirituality in environmental change interventions as it may provide a mechanism for increasing intervention efficacy in this population.

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Biography

Dr. Webel earned her PhD from the University of California, San Francisco in 2009 and is now working as an instructor and Clinical Research Scholar at the Frances Payne Bolton School of Nursing at Case Western Reserve University. She is an expert in the promotion of self-management among people living with HIV and has made great strides in her studies looking at the specific needs of women living with HIV, the application of System-CHANGE theory in the improvement of HIV self-management, and in explaining the implications of social and behavioral factors on health.

Table 1

SystemCHANGE™ 10-Week Intervention Study Outline

<u>Session:</u>	<u>Focus:</u>
1	Describing SystemCHANGE™ Theory
2	Establishing Social Support
3	Discussing Physical Activity & Creating Plans for Increasing Exercise
4	Discussing Personal Patterns for Exercise & Increasing Awareness of Fitness
5	Tracking and Improving Sleep Behaviors
6*	Learning Meditative Ways for Improving Mental Wellness
7	Establishing Personal Time
8*	Understanding Spirituality
9	Relapse Prevention
10	Social Gathering & Celebration of Changes

* denotes significant relation to present analysis

Table 2

Demographic Characteristics of Study Participants

	Control Group(n=22)	Intervention Group(n=21)
	Frequency (%) ^a	Frequency (%) ^a
<i>Mean Age, years(±SD)</i>	47.8 (6.4)	49.1 (7.4)
<i>Female</i>	9 (40.9)	9 (42.9)
<i>Have Children</i>	11 (50.0)	11 (52.3)
<i>Race</i>		
<i>African American</i>	18 (90.0) ^b	18(85.7)
<i>White/Angelo</i>	2 (10.0) ^b	2 (9.5)
<i>Other</i>	0	1 (4.8)
<i>Marital Status</i>		
<i>Single</i>	17 (77.3)	17 (81.0)
<i>Divorced</i>	4 (18.2)	2 (9.5)
<i>Other</i>	1 (4.5)	2 (9.5)
<i>Education Level</i>		
<i>11th grade or less</i>	7 (31.8)	6 (28.6)
<i>High School or higher</i>	15 (68.2)	15 (71.4)
<i>Annual Income</i>		
<i>No monthly income</i>	5 (22.7)	3 (14.3)
<i>\$1–\$599</i>	6 (27.3)	4 (19.1)
<i>\$600–\$999</i>	9 (40.9)	13 (61.9)
<i>\$1000 or more</i>	2 (9.1)	1 (4.8)
<i>Currently Works for Pay</i>	3 (13.6) ^c	1 (4.8)
<i>Has Permanent Housing</i>	17 (77.3) ^d	21 (100)
<i>Has Health Insurance</i>	17 (77.3)	20 (95.2)
<i>Type of Health Insurance</i>		
<i>Medicaid</i>	9 (40.9)	11 (52.4)
<i>Medicare</i>	2 (9.1)	3 (14.3)
<i>Private, not by work</i>	3 (13.6)	2 (9.5)
<i>Other</i>	1 (4.5)	1 (4.8)
<i>Medical Characteristics</i>		
<i>Mean Duration Diagnosed with HIV, years (±SD)</i>	13.1 (7.2)	15.4 (5.8)
<i>Currently Prescribed Anti-Retroviral</i>	21 (95.5)	20 (95.3)
<i>Mean Duration since ART Initiation, years</i>	10 (6.0)	9 (5.6)
<i>Therapy (ART) (+/-SD)</i>		
<i>Undetectable HIV Viral Load</i>	15 (68.2)	14 (66.7)
<i>Median HIV Viral Load for those with detectable values/mL (IQR)</i>	1,645 (780; 3,570)	19,065 (2,816; 155,000)
<i>Mean CD4 cells/μl (±SD)</i>	500 (261.1)	529 (309.5)
<i>Have Comorbidities</i>	18 (81.8)	20 (95.2)
<i>Admitted to Hospital in Past 12 months</i>	4 (18.2)	5 (23.8)

^a Descriptive statistics are reported as frequency and per cent of total sample, unless otherwise noted;

^b 20 of 22 participants in the control group reported race;

^c 19 of 22 participants in the control group reported employment status;

^d 19 of 22 participants in the control group reported housing status;

Table 3

Baseline and follow-up scores for outcomes by treatment assignment

Endpoints	Control	Intervention	Control	Intervention
	<u>Baseline Outcomes</u>		<u>Follow-up Outcomes</u>	
Spiritual Well-Being (+/-	91.5 (± 13.6)	90.2 (± 20.4)	87.5 (± 17.5)	97.8 (± 13.8)
SD) Religious Well-Being (+/-	46.7 (± 6.6)	47.5 (± 10.2)	45.2 (± 9.6)	51.8 (± 7.6)
SD) Existential Well-Being	44.8 (± 7.7)	42.8 (± 10.9)	42.2 (± 10.1)	46.0 (± 8.6)
Optimism (+/- SD) (+/- SD)	16.8 (± 2.5)	15.8 (± 3.2)	16.1 (± 2.1)	17.0 (± 2.0)

^a 18 of 20 participants in the control group had complete data;

^b 19 of 20 participants in the control group had complete data

Table 4

Mean change in outcome variables by treatment assignment (n=40)

Endpoint	Control Group		Intervention Group		Adjusted for baseline score and group assignment		Further adjusted for demographic variables ^b	
	n	Mean (±SD) ^a	n	Mean (±SD) ^a	Interventi on Control	p-value	Interventi on Control	p-value
Spiritual Well-Being	20	-4.0 ± 18.4	20	7.5 ± 21.5	10.6 (0.8, 20.5)	0.036	11.5 (1.2, 21.9)	0.030
Religious Well-Being	20	-1.4 ± 9.7	20	4.3 ± 10.4	6.3 (1.0, 11.6)	0.022	6.3 (0.6, 11.9)	0.030
Existential Well-Being	20	-2.5 ± 11.1	20	3.2 ± 13.4	4.0 (-2.0, 10.1)	0.186	4.8 (-1.4, 11.0)	0.125
Optimism	18	-0.7 ± 3.5	20	1.2 ± 3.8	0.9 (-0.5, 2.2)	0.204	0.8 (-0.7, 2.3)	0.268

^a Mean change from baseline to 10-week follow up;

^b adjusted for age, sex, and years since HIV diagnosis