Living with HIV: Responses to a Mantram Intervention Using the Critical Incident Research Method

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Abstract

Objectives: The objective of this study was to identify and describe ways that a spiritually based intervention of silently repeating a mantram—sacred word or phrase—was used as a coping strategy for managing human immunodeficiency virus (HIV) disease.

Design: The design was a qualitative research method, the critical incident technique.

Settings/location: The study was conducted at an academically affiliated Veterans Affairs Hospital in southern California.

Subjects: The subjects were outpatient adults living with HIV ($n=32$) who were receiving care through HIV clinics, community agencies, and HIV providers.

Interventions: Subjects who participated in the intervention arm of a randomized controlled trial that tested the efficacy of a 5-weekly group mantram intervention were interviewed 2 months postintervention. Follow-up telephone interviews were specifically aimed at identifying instances of mantram use, and also participant perceptions of intervention usefulness or nonusefulness.

Outcome measures: The outcome measures comprised categorization and comparison of the types and frequency of incidents reported, describing ways that the intervention was “helpful” or “not helpful” in managing stressors of HIV disease.

Results: Participants reported a total of 185 incidents. Analysis and classification of the incidents resulted in eight mutually exclusive categories, including Increasing calm and/or peace, Mastering the technique, Changing my viewpoint, Increasing personal awareness, Adjusting behaviors, Managing physical symptoms, Increasing spirituality, and Enhancing relationships.

Conclusions: This study shows support for the benefits of the mantram intervention for adults with HIV. Additionally, the spiritually based mantram repetition intervention was found to be more helpful in providing a convenient, portable tool for managing a wide range of situations related to living with HIV disease.

Introduction

ALTHOUGH GREAT STRIDES have been made in the treatment of human immunodeficiency virus (HIV) disease and in extending both the quality and length of life, HIV/acquired immunodeficiency syndrome (AIDS) remains a stressful and demanding illness.¹ The psychologic and physical demands of coping with complex medication regimens, side-effects of treatment, symptom severity, as well as comorbid illnesses can be overwhelming and may influence

health care behaviors such as medication adherence, substance use, sexual risk taking, or other behaviors that influence health outcomes.^{1,2} In addition, persons living with HIV disease often experience psychosocial challenges such as depression, isolation, and traumatic life events that can impact the course of HIV disease progression.^{2,3} Evidence suggests that stress may hasten HIV disease progression by increasing viral replication and suppressing the immune response.^{4–6}

Intervention studies using combinations of cognitive and relaxation therapies in the era of highly active antiretroviral

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therapy have shown improvements in psychologic quantitative measures in HIV-infected persons.⁷ Limitations of these studies are that (1) they assessed multiple-component interventions (e.g., a variety of relaxation techniques and cognitive-behavioral strategies), making it difficult to conclude which ones accounted for changes in health status; (2) most were conducted on samples of gay and bisexual men, thus failing to study women and heterosexuals; and (3) most were pre-experimental or had a wait-list control group rather than a comparable control group.

Although research findings are not entirely consistent, there is some evidence that spirituality predicts slower HIV disease progression.^{8,9} Patients who have endorsed a greater sense of spirituality after being diagnosed with HIV have shown a slower decline in CD4 cell counts and better control of viral load over 4 years.⁸

Recent attention has been directed toward developing spirituality-based interventions for managing stressors of chronic illness, including HIV/AIDS.^{10–12} Practices such as prayer and meditation, for example, have been cited as commonly used coping strategies by persons living with HIV/AIDS.^{13–15} More research on the healing aspects of spirituality is needed as new methods to measure spirituality are becoming refined.^{16–19}

Objectives

In light of the huge impact of the psychologic burden experienced by persons living with HIV/AIDS, it is important to gain a broader understanding of the specific uses that a mantram-based, spiritual intervention has on the perceptions and behavioral actions of persons living with HIV disease. To provide a more comprehensive picture of the usefulness of a mantram intervention developed by Bormann and colleagues,²⁰ a qualitative component was added to the larger randomized controlled trial (RCT). Follow-up interviews were conducted with participants in the mantram arm of the original study at 2 months postintervention to enhance the quality and credibility of the quantitative findings.²¹ The interviews were specifically aimed at determining how the skills learned from a mantram intervention played out in the real life of study participants. This analysis examined the qualitative interview findings. Specific objectives for this analysis included (1) identifying incidences of mantram use following participation in a spiritually based mantram intervention, and (2) identifying participant perceptions of intervention usefulness or nonusefulness.

Materials and Methods

Procedures

In the original RCT, Bormann and colleagues examined the efficacy of a group-based mantram intervention on HIV outcomes with a sample of HIV-infected adults receiving outpatient care through HIV clinics, community agencies, and HIV providers.²⁰ The study was conducted through the VA San Diego Health Care System and the University of California San Diego. Human subject approvals were obtained from university and VA hospital committees.

In the original RCT, participants were randomly assigned to either a mantram-based intervention or to an attention-matched education control group. Participants attended a

series of 5 weekly 90-minute sessions, followed by 4 weekly automated phone calls from co-facilitators, and a final booster session in week 10. Sessions consisted of how to (1) choose and use a mantram, (2) practice slowing down one's thinking to help set health-related priorities, and (3) develop one-pointed attention for stress management. Participants were given *The Mantram Handbook*,²² a list of mantrams to choose from and course manual with homework exercises. Weekly assignments included practicing mantram repetition at non-stressful times, such as each night before sleep or while waiting in lines. Other strategies taught were slowing down mentally and behaviorally, to make wiser choices, set priorities, and decrease hurried behavior, and one-pointed attention to increase concentration for repeating the mantram or engaging in one task at a time. For a more complete description of the intervention, see Bormann, 2006.²⁰ The qualitative data in this analysis were obtained through follow-up telephone interviews conducted at 2 months postintervention to assess the uses and sustainability of mantram practice.

Based on the findings of a larger RCT, it was anticipated that this spiritually based intervention would foster the continued use of positive coping behaviors in persons with HIV/AIDS.

Interviews

A qualitative research method, the critical incident technique,²³ was chosen for its ability to pinpoint specific behaviors and benefits of the mantram. This valid and reliable interviewing format is a very practical and efficient method for obtaining information quickly and in the participants' own words.²⁴ Critical incident interviews may be very brief, perhaps as short as 10–15 minutes. They are designed to pinpoint facts and eliminate personal opinion or generalizations.²³ They require only simple types of judgments and responses from the participants, and are used to increase knowledge about little-known phenomena, such as mantram repetition.

The critical incident technique has been applied in a variety of health care settings to examine patients' met and unmet psychologic needs,²⁵ predict patient perceptions of nurse behaviors,²⁶ and gather information about extended care nursing²⁷ and long-term care facilities.²⁸

In the current study, critical incident interviews were conducted as follows. Participants were contacted 2 months after the final group session by a research nurse, trained in the critical incident interviewing method. Telephone audiotaped interviews were conducted on all participants, asking them to recall specific incidents of mantram use. Participants were asked to describe as many situations as could be remembered and to give examples of successful outcomes, as they defined it. Standard probes were used to obtain a more complete description of the context of the incident. The critical incident interviews lasted approximately 15 minutes and were transcribed for analysis. A critical incident expert was consulted prior to and during the study to guide the methods and analysis (e.g., taught the interviewer how to ask questions and assisted with data interpretation).

Data preparation and analysis

The data obtained through the critical incident interviews were analyzed through an inductive classification process developed by Flanagan.²³ This careful process enabled the

researchers to build a comprehensive picture of the behavioral dimensions of mantram use.²⁹

First, the transcribed interview data were audited to ensure that each of the incidents included complete behavioral descriptions and also demonstrated a linkage between what the respondent did or did not do and the resulting outcome. The members of the research team and a doctorally prepared nurse with expertise in the critical incident research method made these judgments. Only 185 incidents out of 200 or 93% met Flanagan's criteria and were included in the analysis.

Incidents, which were judged to be nearly identical or very similar, were grouped together. Similar groupings were then combined to form subcategories of behaviors. Subcategories were sorted and grouped together to define more inclusive major categories of mantram use. Members of the research team and two doctoral-prepared nurses with expertise in HIV/AIDS and research methods independently re-sorted the incidents, and their disagreements were used to refine and determine the final set of eight mutually exclusive and exhaustive major behavioral categories.

As a check on the comprehensiveness of the classification system, 10% of the incidents were randomly selected using a table of random numbers and were independently categorized by 2 expert reviewers. The percent of inter-rater agreement was 95%.

Results

Subjects

Table 1 shows the demographic and severity of illness characteristics for the participants included in this analysis ($n=32$). The majority of the sample was male (78.1%) with a mean age of 44.1 years (standard deviation [SD] 6.7). Forty-three percent (43%) of the participants were nonwhite. The mean CD4 count for the sample was 517/mm³ (SD 280.43), with an average time since acquiring an HIV diagnosis of 8.3 years (SD 5.96). At the time of the study, 23 of 32 participants (71%) were receiving highly active antiretroviral therapy. The majority of the respondents reported that they were never married or partnered (59.4%; $n=19$), while 81% ($n=70$) indicated that they completed some college. Sixty-nine percent (69%) ($n=22$) identified with a religious group. Approximately 41% of participants scored above the cutoff for depressive symptoms on the Clinical Epidemiology Study-Depression scale.

Critical incident analysis

A total of 185 incidents describing mantram use behaviors were obtained from 32 participants who completed the mantram intervention. The analysis and classification of the incidents resulted in 8 mutually exclusive categories, and 16 subcategories.

Major categories of mantram use included the following: *Increasing calm and/or peace*, *Mastering the technique*, *Changing my viewpoint*, *Increasing personal awareness*, *Adjusting behaviors*, *Managing physical symptoms*, *Increasing spirituality*, and *Enhancing relationships*. A review of the incidents that were sorted into each category determined the definition. The taxonomy of major mantram repetition behaviors is presented in Table 2.

The largest category, *increasing calm and/or peace*, accounted for 36% of the total number of incidents. Two thirds

TABLE 1. DEMOGRAPHIC DATA ($N=32$)

Variable	Range	Mean (yrs)	SD	Frequency
Age	29–57	44.1	6.7	32
Years with HIV	0.5–25	8.3	5.96	32
Sex				
Male				25 (78%)
Female				7 (22%)
Ethnicity				
White				18 (56.3%)
Black				11 (34.4%)
Hispanic				3 (9.4%)
Risk factors				
Male/male sex				18 (27.3%)
Heterosexual				11 (16.7%)
Don't know				8 (12.1%)
IV drug use				5 (7.6%)
Transfusion recipient				1 (1.5%)
Education				
High school or less				8 (25.0%)
Some college				18 (56.3%)
College degree or higher				6 (18.8%)
Marital status				
Never married/partnered				19 (59.4%)
Ever been married/partnered				13 (40.6%)
Employment				
> 20 hrs/wk				14 (43.8%)
≤ 20 hrs/wk				9 (28.1%)
None				9 (28.1%)
CD4 cell count				
≥ 200				27 (84.4%)
< 200				5 (15.6%)
HIV-PCR				
< 400				21 (65.6%)
401–30,000				7 (21.9%)
30,000–100,000				3 (9.4%)
> 100,000				1 (3.1%)
Receiving HAART				
Yes				23 (71.9%)
No				9 (28.1%)
Depression (CES-D)				
None				13 (40.6%)
Mild to moderate				6 (18.8%)
Major				13 (40.6%)
Identifies with a religious group				
Yes				22 (68.8%)
No				10 (31.3%)

SD, standard deviation; IV, intravenous; HIV-PCR, human immunodeficiency virus–polymerase chain reaction; HAART, highly active anti-retroviral therapy; CES-D, Center for Epidemiological Studies Depression Scale.

of the incidents placed within this category ($n=42$; 64%) described behaviors where mantram repetition increased a sense of peace or calm in response to an identified stressor, including waiting for a doctor appointment, encountering a stressful situation while riding on public transportation, or being late for an appointment because "someone was late picking me up." As one of the participants stated:

TABLE 2. CATEGORIES OF MANTRAM REPETITION BEHAVIORS (N=185 INCIDENTS)

Major category	Number of incidents	Percent
<i>I. Increasing calm and/or peace (66 incidents; 36%)</i>		
1. Increasing calm and/or peace with an identified stressor	42	64%
2. Increasing calm and/or peace <i>without</i> an identified stressor	11	17%
3. Replacing anger with peace	11	17%
4. Calming others around me	2	3%
<i>II. Mastering the technique (39 incidents; 21%)</i>		
1. Practicing Mantram repetition	20	51%
2. Using one-pointed attention	16	41%
3. Renewing previous mantram training	3	8%
<i>III. Changing my viewpoint (36 incidents; 19%)</i>		
1. Changing perspective and "letting go of concern"	23	64%
2. Increasing patience	7	19%
3. Controlling thoughts	6	17%
<i>IV. Increasing personal awareness (15 incidents; 8%)</i>		
1. Becoming aware of emotional states	12	80%
1. Becoming aware of physical state	3	20%
<i>V. Adjusting behaviors (14 incidents; 7.6%)</i>		
1. Changing a specific behavior	12	86%
2. Slowing down	2	14%
<i>VI. Managing symptoms (10 incidents; 5%)</i>		
1. Inducing sleep	8	80%
2. Finding pain relief	1	10%
3. Breathing easier	1	10%
<i>VII. Increasing spirituality (4 incidents; 2%)</i>		
	4	100%
<i>VIII. Enhancing relationships (1 incidents; 0.05%)</i>		
	1	100%

When I am really frustrated or in a line or something, I don't let that bother me. I just say my mantram, and before you know it, I am right up at the front of the line. It has really worked for me.

Mantram repetition was also used for managing emotions related to driving in heavy traffic or encountering "road rage." Many participants found that briefly repeating a mantram generated a sense of calm, and reduced negative feelings toward other drivers. Although Easwaran²² did not endorse using mantram while driving, mantram repetition appeared to be more helpful than harmful. No one reported any accidents attributed to mantram repetition while driving. The following example describes a traffic-related incident:

Instead of shouting or yelling or swearing at somebody in traffic, I just start using my mantram to bring myself off that cliff. I use it just about every time.... Instead of throwing words out the window, I can just sort of say it to myself....I don't drive away from the situation with my blood boiling, all mad and upset,

because I realize that I keep myself down and don't let myself get to that hyped-up point.

Additional incidents placed into this category involved *increasing calm without an identified stressor* ($n=11$; 17%). As one participant stated:

Sometimes when I get stressed out....like if I was having a really, really bad day...I deal with the anxiety and stress by using the mantram.

An additional 17% of the incidents in this category described the use of mantram repetition to replace anger with a sense of peace or calm. As one participant stated:

The mantram, in itself, was very helpful. It helped out in a lot of different situations...being confronted by rude people, like in the public, and to keep from promoting violence, you know, just to back off and repeat it.

Two (2) additional incidents grouped within this major category describe the effectiveness of mantram repetition in calming others.

The second category, *mastering the technique*, reflected incidents where subjects practiced the primary skills of the mantram course intervention, including practicing mantram repetition ($n=20$; 51%), using one-pointed attention ($n=16$; 41%), and renewing previous mantram training ($n=3$; 8%).

The third category, *changing my viewpoint*, accounted for 16% of the total number of incidents. The majority of the incidents within this category ($n=23$; 77%) described circumstances where the study participants changed perspective about a circumstance or event. As 1 participant stated:

I used to stress out about going to the doctor but don't do that anymore. I say my mantram instead. I had a colon test that I put off for a year and a half. I was so afraid thinking, "Oh my God, what if I have colon cancer?" And I scared myself so bad. I thought I'm going to get this done. And I called the doctor and I scheduled it. In the past, I would have been such a drama person about this and afraid that I had something before I went in....I changed my whole thing of having a negative thing and going into a positive and not putting that much worth on it.

The fourth category, *increasing personal awareness*, included 15 (8%) incidents that described the linkages between mantram use and an increasing awareness of emotional and physical states. As 1 participant stated, "It taught me to feel how different my brain felt when I was calm so then I could sense that when I was getting angry."

Incidents that described behavior changes related to mantram repetition were placed in the fifth category. The following examples of changing behaviors include:

When I get ready to eat, I turn the TV off and I just eat and just enjoy my meal. Instead of like eating and watching TV or listening to music, now I just relax and take time for myself.

I am trying to be more patient with people that are not as quick as I need them to be at the moment or when I am talking to someone who is a little slower in understanding. I'm trying to also stop interrupting people and finish things for them.

A sixth category contained incidents that described the impact of mantram repetition on managing physical symptoms. Within this category, eight incidents described the use of mantram repetition as a sleep aid:

It helps me to use the mantram instead of just lying in bed and tossing and turning. I can use my mantram and just repeat my mantram and I fall back asleep....The next thing you know, it's the next morning.

One (1) participant described the successful use of mantram repetition to "ease breathing" during an episode of *Pneumocystis carinii* pneumonia (PCP), while a second participant reported using mantram repetition to ease physical pain. The two remaining categories included *increasing spirituality* ($n=4$, 2%) and *enhancing relationships* ($n=1$).

Perceptions of usefulness or nonusefulness of mantram program

Of the total number of reported incidents, the majority (99%) were positive reports of instances when mantram repetition enhanced the respondent's coping. Two (2) negative incidents associated with mantram use were reported, including the following:

One of the things I was presented with was single task activity. I can't say that it was helpful and it was certainly contrary to everything I have ever done. I find it difficult to utilize that concept and I don't see how it can be used effectively.

I learned the futility of trying to document the times and numbers of the mantra use. I thought it was distracting and counterproductive."

Discussion

This critical incident study represents a comprehensive effort to identify specific patterns of mantram use by persons living with HIV disease following participation in a spiritually based education program. This practical and efficient qualitative method allowed the researchers to gain a greater depth of understanding about the perceptions of study participants, as well as precise descriptions of behavioral outcomes of the mantram intervention. Participants reported using mantram repetition up to 2 months following the intervention, suggesting the sustainability of the intervention. An additional important finding is that the major categories of mantram use reflected the content of the educational program designed to teach this competency, as well as the findings of the larger RCT.

Eight (8) major categories of mantram use behaviors emerged from the critical incident interviews. The major categories from most to least frequent number of incidents included the following: *Increasing calm and/or peace*, *Mastering the technique*, *Changing my viewpoint*, *Increasing personal awareness*, *Adjusting behaviors*, *Managing physical symptoms*, *Increasing spirituality*, and *Enhancing relationships*. The fact that these major categories of mantram use were made up of multiple, similar behaviors lends credibility to their reports.^{23,29} In addition, the reliability checks and the rigor of the critical incident technique suggest that the categories also

have a consistent meaning to the study participants, as well as to the members of the research team who derived them.²⁹

The largest category of mantram repetition behaviors, *Finding calm or peace*, reflected some findings that were not as clearly identified in the larger RCT. For example, results from the critical incident analysis revealed that study participants used mantram repetition to manage specific stressful situations and to decrease feelings of anxiety. In the quantitative measures, however, there were decreases of anxiety and perceived stress over time, but these results were found in both mantram and control groups, and could not be attributed to only the intervention. On the other hand, the qualitative critical incident data indicated that participants used mantram repetition to manage emotions other than stress, including anger and frustration. These findings are similar to the larger RCT,^{20,30} where significant improvements were found in reducing anger, and these reductions were mediated by increased appraisal coping.

The second most frequent category of mantram repetition behaviors, *mastering the technique*, described incidents where study participants continued to practice strategies taught during the intervention. This finding further expands the quantitative outcome results of Bormann and colleagues,²⁰ who found significant relationships between frequency of mantram practice using wrist counters and quality of life, spiritual well-being, and subscales of meaning/purpose and faith/assurance. Although the frequency of mantram practice may have had a valuable, therapeutic effect on psychologic distress, this interpretation must be viewed with caution because participants who practiced mantram more frequently were self-selected.

The majority of the remaining categories directly reflect how the group-based mantram intervention was designed to promote increased metacognitive awareness to stressors as well as to strategies for evaluating cognitive and emotional responses to stressors. In the third most frequent category, *Changing my viewpoint*, participants reported that the use of mantram repetition led to changes in their primary appraisals of stressful events, as well as changes in their appraisals of methods for coping with those events. The critical incidents in the fourth most frequent behavioral category, *Increasing personal awareness*, indicated that mantram repetition cultivated increased metacognitive skills and heightened awareness of stressful events and to their own internal responses to stressors. A fifth category, *Adjusting behaviors*, reflected changes in their coping skills. Linkages were noted between the major categories, *Changing my viewpoint*, *Increasing personal awareness*, and *Adjusting behaviors* and the quantitative study findings from the RCT. In a secondary analysis performed on quantitative data from the original RCT, Bormann and Carrico³⁰ found significant increases in positive reappraisal coping in the mantram arm participants over the 5-week intervention period.

Analysis of the critical incident data also reflects consistency between the eighth category, *Increasing spirituality*, and the quantitative findings of the larger RCT. Bormann and colleagues^{20,31} found that participants in the mantram arm of the RCT increased both spiritual faith/assurance and spiritual connectedness as well as significant correlations between frequency of mantram practice sessions and improvements in spiritual well-being subscales (i.e., meaning/peace and faith/assurance).

Although linkages were found between the many behavioral categories and the quantitative findings of the larger RCT, a difference was noted for the incidents in category six, *Managing symptoms*. A clear connection between the incidents in this category and the quantitative data in the larger RCT was not evident. The influence of spirituality on the management of physical symptoms, however, has received increased attention in the literature.^{32–34} Wachholtz and Pargament³⁵ found spiritual meditation was related to greater decreases in both migraine headache frequency and severity compared to secular meditation. Coleman and colleagues^{13,36} found that prayer was used as a self-care strategy for managing HIV-related symptoms, including depression, fatigue, and nausea. Wolf and Abell³⁷ found that repetition of the mantra compared to a placebo mantra or no-treatment control resulted in decreased depression and anxiety in adults.

Conclusions

Study findings support the integration of qualitative methods within a RCT to expand quantitative outcome results, and also to gain a broader understanding of how an intervention plays out in the real life of the study participants. In this study, mantram repetition was identified as a coping strategy for managing stressors associated with HIV disease. Participants applied mantram repetition to their lives, targeting areas of most bothersome distress. Study findings also contribute to a further refinement of the spiritually based intervention with veterans, and lay a foundation for use with broader populations.

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