Mixed-Methods Study of Spiritual Food Fasting: Transcending Sociocultural Stressors to Cigarette Smoking Cessation among African American Women

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Are you willing to be sponged out, erased, cancelled, made nothing?
Are you willing to be made nothing…dipped into oblivion?
If not, you will never truly change. D.H. Lawrence

In the quest for cigarette smoking cessation, unique sociocultural stressors foster a disconnection of mind, body, and spirit for African American women smokers. This sequential mixed-methods study explored the efficacy of spiritual food fasting in transcending sociocultural stressors inhibiting cigarette smoking cessation among African American women. Thirty African American women smokers aged 25 to 49 were divided into treatment and comparison groups. The independent variable was a treatment package consisting of a spiritual component within biopsychospiritual education and a spiritual food fast. The dependent variable was the potential attainment of a spiritual coping strategy. Quantitative results indicated no significant increases in coping strategies except for *venting of emotions*. Treatment group's Fagerstrom Test for Nicotine Dependence scores significantly decreased. Qualitative results indicated positive perception of receiving biopsychospiritual education and spiritual food fasting.

Disparities exist between African American women and White women concerning the success rates of traditional cigarette smoking interventions. Despite public health intervention efforts and increased awareness of the health risks of smoking, prevalence of smoking-related disease and mortality rates for African American women remain higher than those of their White counterparts (The Centers for Disease Control [CDC], 2005). Studies show the potential benefit of spiritual food fasting, which is consistent with an Africentric worldview, as a culturally tailored intervention for managing sociocultural stress and sustaining valued health behavior for African American women who desire to cease smoking cigarettes.

What Is Spiritual Food Fasting?

For the purposes of this study, spiritual food fasting was defined as refraining from consuming certain foods and drinks for 3 days and holding the fast within the context of the Individual's spiritual and/or religious orientation. The foods and drinks allowed to be eaten were green leafy vegetables, fruit, and water.

Spiritual food fasting has spiritual value inasmuch as it takes the focus off of the very thing that we depend on to sustain us physically, and brings us into a state of spiritual sustenance. Spiritual food fasting is not merely dieting, nor is it exclusively for spiritual persons or religious occasions; but it must contain a spiritual component for it to be deemed a spiritual food fast (Resnicow, Jackson, & Wang, 2001).

Although there has been literature that addressed the importance of spiritual practices in the lives of African American women in managing daily stressors, as well as literature on traditional smoking cessation interventions, there has been no empirical research that examines how spiritual food fasting can be considered a culturally tailored smoking cessation intervention for African American women.

Spiritual Food Fasting as a Culturally Tailored Smoking Cessation Intervention

Current research indicates that the efficacy of conventional interventions may be a factor in the differential cessation outcomes between African American and White women (Yerger et al., 2008). It is noted that they may be limited in their effectiveness for the African American population because they are grounded in models that are not socioculturally relevant for African American women (Fernander, Bush, Goldsmith-Mason, White, & Obi, 2009). Food fasting as a spiritual practice is consistent with an Africentric worldview concerning the manner in which some African Americans cope with chronic stressors.

Research has indicated that spiritual practices are among the commonly used coping mechanisms within this worldview (Bagley & Carroll, 1998; Barbarin, 1993; Daly, Jennings, Beckett, & Leashore, 1995; Jagers & Mock, 1993; Jennings, 1991; Taylor, Chatters, & Levin, 2004).

Traditionally, fasting has been a spiritual ritual associated with the subduing of one's emotional, psychological, and physical self in an effort for the soul to foster a strong communication or connection with the sacred or Divine (Wiggins, Williams, & Green, 2005). Fasting was practiced by pagan religions (Wedeck & Baskin, 1971), Judaism (von Braun, 2007), Christianity (Shelton, 1974), Islam (Rader, 2005), Buddhism (Wilson, 2004), Hinduism (Denton, 2004), and by Native Americans (Walsh, 2004), although with different practices and understandings. When one fasts, it is believed that one is involved in a multidimensional process that engages the hidden parts of oneself with the essence of the Divine that is within all things. This is done in order to gain the benefit of a deeper sense of self-awareness (Wiggins et al., 2005). In this sense, fasting is not just a means of starving the flesh and instinctual desires, but of feeding the soul and serving as a motivating force toward transformation. The overarching concept is that if you can resist food, you can resist life's temptations.

Potential Benefits and Risks of Food Fasting

For the purpose of this research, the benefits of food fasting included biopsychospiritual purification and the opportunity for transformation. One's body was not concerned with ingestion, but elimination. One's mind was not clinging to ego and social influences, but submitting to and connecting with a higher level of consciousness. Fredericks suggested that within this space of expanded awareness, fasting has the potential to facilitate change by causing a paradigm shift in beliefs and values (2011). Thus, fasting prepared one with a more integrated approach (mind, body, and spirit) as one transitioned into one's own unique process of cessation. Two additional benefits of fasting as an intervention included a lower risk of weight gain and no side effects from chemicals contained in traditional nicotine replacement therapies.

Subsequently, participants were made aware of the risks of engaging in a food fast. For instance, they were told that side effects such as headaches, hypoglycemia, insomnia, dizziness, nausea, dehydration, and body aches may be experienced (Salloum, 1992). Additionally, persons who are on certain medications, and/or have eating disorders, liver and kidney diseases, children, and pregnant mothers generally should not engage in a food fast (Salloum, 1992). Finally, they were advised that persons with the rare fatty acid deficiency of the enzyme medium-chain acyl-CoA dehydrogenase (MCAD) should not fast. This is primarily because during a fast, fatty acid oxidation is required as an alternative energy source during fasting (Fuhrman, 1995). As a consequence of the above risks, participants had to get approval from a medical doctor before undertaking the food fast.

Spiritual food fasting and cigarette smoking cessation for African American women smokers

Although there is no scholarly literature that connects spiritual fasting with cigarette smoking cessation for African American women, this research project introduced it as a culturally tailored intervention for overcoming smoking compulsions among Black women. According to Sperry (2001), "Done as a spiritual practice, fasting is defined as abstention from food for the purification of one's motivation. All the great spiritual traditions recognize its merits" (p. 154). Historically, teachings from the Islamic Qur'an and the Christian Old and New Testaments have been the primary sources of religious beliefs for African Americans in the United States (Wiggins et al., 2005). For instance, in the Qur'an, food fasting is an act of self-restraint and safeguard against evil. The 23rd section of the second chapter opens with the statement, "O you who believe! Fasting is prescribed for you as it was prescribed for those before you, so that you may learn self-restraint and guard against evil" (Qur'an 2:183). In the Christian Old and New Testaments there are numerous accounts of prophets, who food fasted for various reasons including a spiritual purpose. For the purpose of this paper, it was essential to mention the Daniel fast of the Old Testament since the food portion of the research was based on what Daniel ate, which promoted a partial fast where some foods were consumed while others were restricted. Daniel challenged King Nebuchadnezzar's royal foods and ate only vegetables and water for 10 days saying that if in the 10 days he did not look better than those eating the royal foods, then they could do with him as they saw fit. At the end of the 10 days, Daniel appeared to be much healthier than those who ate the king's food (Dan. 1:12-15, New International Version). Therefore, since spiritual food fasting has been a component within the spiritual practices of the Islamic and Christian religions, this research assumed that spiritual fasting was more familiar to this population, and thus, also a more effective tool for motivating cessation rather than conventional interventions.

Problem Statement and Hypotheses

Despite the limited culturally targeted interventions available, various studies have documented their efficacy in reducing at-risk smoking behaviors among African Americans (Campbell et al., 2000; Champion, Maraj, & Hui, 2003; Longshore & Grills, 2000; Resnicow et al., 2001; Strecher & Velicer, 2003). This is primarily due to the fact that socioculturally enhanced intervention approaches have the potential to be more effective than standard conventional interventions, by taking into consideration the sociocultural characteristics of the target population (Campbell et al., 2000; Champion, Maraj, & Hui, 2003; Longshore & Grills, 2000; Resnicow et al., 2001; Strecher & Velicer, 2003). Additionally, culturally specific interventions may enhance the effectiveness of established approaches by framing the intervention within a cultural context (Campbell et al., 2000). Hence, based upon the information presented in this paper, it is clear that culturally tailored cessation interventions offer highly promising prospects for addressing sociocultural stress factors associated with cigarette smoking cessation for African American women cigarette smokers.

There was one central proposed research question for this study. The question inquired: Can the tool of spiritual food fasting be considered an effective culturally tailored cessation intervention for influencing the transcendence of sociocultural stressors experienced by African American women who desire to cease smoking cigarettes? The following two research hypotheses were tested:

H1: By receiving biopsychospiritual education and the spiritual tool of spiritual food fasting, there will be an increase in spiritual coping strategies toward cigarette smoking cessation for the treatment group.

H2: By receiving biopsychoeducation, post-intervention there would be some improvement for the comparison group's FTND scores.

Research Method

This study used a sequential mixed-methods design which was conducted in two phases. The first phase was a component analysis of a treatment package that was a combination of two parts. The first component was the spiritual module in biopsychospiritual education and the second was the spiritual food fast. This phase adopted a quantitative standpoint that sought to establish the efficacy of spiritual food fasting by analyzing the statistical relationship between two comparison groups. A pre and posttest control group comparative design consistently using the same tests was conducted. The tests that were utilized were the Fagerstrom Test for Nicotine Dependence (FTND), the Perceived Racism Scale (PRS), and the Coping Orientation of Problem Experience (COPE) Inventory. The second phase added a qualitative aspect to the research process. In phase 2, the qualitative component, a content analysis was conducted from selected participants' responses drawn from semi-structured interviews and journal entries. Participants were selected based on identified unique transformative experiences.

In phase 1 of the study, data were collected using the Assessment of Motivation: Readiness to Quit Ladder questionnaire, the Perceived Racism Scale (PRS), the Coping Orientation of Problem Experience (COPE) Inventory, and the Fagerstrom Test for Nicotine Dependence. The target population from which the participants were chosen was African American women cigarette smokers aged 25 to 49 from various locations in New York City and New Jersey. Selection was conducted based on the researcher's observation of African American women smokers, who were then asked to answer a brief questionnaire to assess their readiness to quit smoking. Individuals with high motivation to quit were asked to participate in the study. At least 30 selected participants were randomly assigned to two comparison groups (i.e., using random numbers tables); each group consisted of 15 persons per group. Only those chosen for the treatment group were informed that spiritual food fasting would be involved as part of the cessation process.

The areas of literature that informed this study consisted of key studies conducted by the CDC and Surgeon General concerning African American women who smoke cigarettes. Additionally, this research drew upon the numerous studies concerning the unique sociocultural stressors that exist for African American women cigarette smokers; description of and efficacy of conventional/traditional cigarette smoking cessation interventions among African American women; definition and identification of the current types of culturally tailored smoking cessation interventions; and the identification of different types of spiritual food fasts contained within various world religions and spiritual beliefs. Included in the description of spiritual food fasting are the documented benefits and risks of same.

Phase 2 was qualitative. It reported significant subjective experiences that emerged and evolved throughout the intervention. According to Anderson (2001), "a satisfactory Thematic Content Analysis portrays the thematic content of interview transcripts (or other texts) by identifying common themes in the text provided for analysis" (p.1). Thus, the researcher conducted Thematic Content Analysis from five selected journal accounts and semi-structured interviews. It was anticipated that the qualitative analysis of experiences throughout the study resulting from prior negative coping strategies and the newly found coping strategies after the spiritual fast (as evidenced from the resulting posttests, semi-structured interviews, and journal accounts) supported the findings from the quantitative aspect of the study. Data analysis in the qualitative aspect of the study was an ongoing process, involving documenting the researcher's own observations, feelings, intuitive impressions, and biases throughout the research. Data were gathered from recorded and transcribed interviews with Thematic Content Analysis to follow.

Instruments

Assessment instruments that were used are described in the following section. Information about their development and reliability is included.

Assessment of Motivation: Readiness to Quit Ladder Questionnaire (RQLQ). The Assessment of Motivation: Readiness to Quit Ladder Questionnaire is an intact brief questionnaire adapted by the Center for Tobacco Independence and was reprinted with permission from Abrams et al. (2003). This scale includes 10 one-sentence items with only one answer for each question. The answers range on a scale from 1 to 10 with 1 being the *least motivated* and 10 being the *most motivated.* Generally, an individual who reports interest in quitting within 30 days is considered ready to begin treatment planning. An individual's readiness to quit can fluctuate greatly—an individual who reports no interest in quitting at the beginning of a session may be ready to quit by the end of the session (Abrams et al., 2003).

Fagerstrom Test for Nicotine Dependence (FTND). The Fagerstrom Test for Nicotine Dependence (FTND) was developed by Fagerstrom in 1991 and is a non-invasive and easy-to-obtain self-report tool that conceptualizes dependence through physiological and behavioral symptoms. The higher the Fagerstrom score, the more intense is the person's physical dependence on nicotine. The current version includes six items and has a high sensitivity for women smokers (Heatherton, Kozlowski, Frecker, & Fagerstrom, 1991).

Test-retest reliability of the FTND was assessed in five studies (Buckley et al., 2005; Etter, Duc, & Perneger, 1999; Haddock, Lando, Klesges, Talcott, & Renaud, 1999; Hudmon, Pomerleau, Brigham, Javitz, & Swan, 2005; Mikami et al., 1999). An outstanding example for a study was carried out by Mikami et al. (1999), wherein the correlation coefficient was 0.75. For its internal consistency, the Cronbach's alpha coefficient ranged from 0.55 to 0.74, which indicate weak to moderate internal consistency (Buckley et al., 2005; Etter et al., 1999; Haddock et al., 1999; Hudmon et al., 2005; Mikami et al., 1999).

Perceived Racism Scale. The Perceived Racism Scale (PRS) is an intact instrument that was constructed by McNeilly et al. in 1996 to assess the experience of racism on African Americans in a multidimensional manner. The scale provides a measure of the frequency of exposure to many manifestations of racism. It more comprehensively measures the experience of racism by assessing emotional and behavioral coping responses to racism (McNeilly et al., 1996). The PRS is a self-administered instrument, which contains 43 items that are rated on a Likert-type scale ranging from 0 (not applicable) to 5 (several times a day). PRS scores can range from 0 to 215, with higher PRS scores reflective of more frequent perceptions of exposures to racism. The PRS has demonstrated very good internal consistency (alphas ranged from .87 to .95) and 2-week test-retest stability levels ($r = .70 - .80$; Utsey, 1998).

Coping Orientation of Problem Experience (COPE) Inventory. The Coping Orientation of Problem Experience Inventory (COPE) is a 52-item questionnaire that uses a 4-point forced choice scale, with anchors for the scale that is used to assess the different ways in which people respond to stress. The COPE measures 13 individual coping styles/subscales that can be grouped into three metastrategies: problem-focused coping, emotional coping, and less useful/avoidant coping. It instructs participants to indicate what they normally do and feel when they experience stressful events.

The COPE was chosen as the coping measure for this study as it has a clear focus in the items and was developed through a theoretical approach.

It was also desirable as it assesses a range of specific coping strategies which can be grouped under the three main coping metastrategies that were of interest to this study (problem focused, emotion focused, and avoidant). However, it should be noted that the treatments employed in this study were not specifically designed to improve coping skills measured by this instrument. The COPE has good reliability (α.45 - .60) and test re-test scores (r = .45 - .86) over an 8-week period in a university sample (Carver et al., 1989). Correlations between questions were satisfactory. The COPE showed good convergent validity with the Cope Strategy Indicator (Tobin, Holroyd, & Reynolds & Wigal,1984) and the Ways of Coping Revised (Lazarus & Folkman, 1984; r = .55 - .89) as well as strong divergent validity.

Results

A quantitative measure was used to test the mediating effects of the independent variable of spiritual food fasting on smoking cessation. For the quantitative component of the study, pre-intervention (Time 2) and post-intervention (Time 3) scores were compared using a 2 x 2 mixed ANOVA design. The 2 x 2 mixed ANOVA design was chosen because two randomly assigned categorical variables were being compared (Treatment and Comparison groups) and two dependent variables (COPE and FTND) were being administered pre- and post-intervention. Additionally, during Time 2, the Mann Whitney *U*-test was chosen to evaluate the differences in the PRS scores for the treatment and comparison groups in order to establish the equivalency of both groups. The study sought to determine if it can prove the hypotheses within the conventionally accepted significance level of 0.05 or 5% that the intervention was in fact efficacious.

For the qualitative component, transcribed post-intervention interviews and journal entries were analyzed using Thematic Content Analysis. The purpose of this analysis was to permit the data to reveal a pattern of the sociocultural, psychological, biological, and spiritual experiences that occurred for the participants during the course of the study. The intention was to identify any unique experiences of transcendence as a result of partaking in a spiritual practice. This approach allowed an authentic and idiosyncratic perspective from within the larger group experience.

The uniqueness of reported experiences being referenced here concerns the subjective idiosyncratic journey of the individual participant whereby she expressed elements such as what she was feeling, sensing, and contemplating during her entire process. The identifiable transformation experienced concerns transformative experiences such as pre-intervention dependence on a negative stress-coping strategy (e.g., at-risk health behavior of cigarette smoking), being replaced with a positive spiritual-coping strategy (e.g., cessation that lasted for a period of at least 10 days).

Quantitative Findings. It was hypothesized that the use of positive coping mechanisms would increase across time for participants in the spiritual food fasting condition but not for participants in the comparison condition. This hypothesis was only partially supported. The analysis found support for the first hypothesis in only 1 of the 12 subscales, the use of *venting of emotion*s. This finding indicated that in comparison to participants in the comparison condition, participants in the spiritual food fasting condition only increased their use of venting mechanisms. The increase in venting for the treatment group may be seen as being due to potentially the cathartic nature of the fasting process. This is primarily because although this study acknowledged that venting can be a negative coping strategy, the researcher was left to posit that in this case post-intervention *venting of emotions* was not some random explosive release. Rather, it was used as a positive coping strategy based on educated, spirit-filled, and purposeful contemplation with intent for change. Considering that the participants in both groups had not been able to identify and express their core stressors pre-intervention, this is of special significance to this study. This is mainly because since individuals smoke to relieve psychological stress (Childs & deWit, 2009; Fernander & Schumacher, 2008), if one can identify and address their stressors in a constructive manner, then there would be no need for the comfort and dependency sought after in cigarette smoking.

Additionally, in comparison to participants in the comparison group, the findings indicated that participants in the spiritual food fasting condition did not increase the use of positive mechanisms such as active coping, planning, seeking instrumental social support, seeking emotional social support, religion, positive reinterpretation and growth, and acceptance. Nor did the findings indicate a decrease in the negative coping strategies of suppression of competing activities, mental disengagement, and behavioral disengagement for this group. However, construct validity and internal validity issues occurred, which the researcher should have anticipated prior to the final research design.

Specifically, the treatments employed in this study were not particularly designed to improve coping skills measured by the COPE, raising the question of internal validity of causal connection between the independent and dependent variables. Therefore, because of non-equivalency issues at baseline, ANOVA results of the COPE are invalid.

It was hypothesized that by receiving biopsychoeducation there would be some improvement for the comparison group's post-intervention FTND scores. Also, by receiving biopsychospiritual education and the spiritual tool of spiritual food fasting, there would be a higher rate of improvement post-intervention FTND scores for the treatment group.

This hypothesis was supported. Although reported dependence on nicotine decreased for participants in the comparison condition, the drop in reported dependence on nicotine was steeper for those in the spiritual food fasting condition. The drop in the FTND score for the comparison group may be attributed to the conventional component of the treatment, and the additional drop in the FTND score for the treatment group may be attributed to the spiritual fasting component.

This finding was favorable since the goal of reducing nicotine dependence was achieved. For future studies, it could be recommended that either coping skills training be actively incorporated in the spiritual food fasting process, or another measure other than the COPE be used. The latter requires a more thorough analysis of the spiritual food fasting package/process concerning what it targets and identifying these elements and finding a tool that measures them more validly.

Qualitative Findings: Thematic Content Analysis. Twenty-three themes emerged from the responses from the 11 questions and their respective sub-questions. The findings support that the participants were all positively affected by their spiritual food fasting experiences on multiple levels in addition to quitting smoking. Positive effects included a sense of regaining an inner locus of control, an effective spiritual coping strategy that can be utilized to transcend life's challenges, and personal empowerment and growth as a result of their fasting experiences. The findings support the hypothesis that spiritual food fasting would lead to less reported dependence on nicotine.

Post-intervention, a subset of 5 treatment group participants were asked to respond to a semi-structured qualitative interview. This was conducted in order to assess any unique transformative involvement they felt they may have experienced due to engaging in the practice of spiritual food fasting. This transformative involvement would be evidenced by any biopsychospiritual changes they personally observed and reported about themselves. In order to explore whether the spiritual food fasting experience did in fact have positive effects, a Thematic Content Analysis was conducted. The results of the qualitative analysis revealed that the spiritual food fasting experiences of the participants in the treatment group had positive effects on quitting smoking. The treatment also had positive effects on regaining an inner locus of control, an effective spiritual coping strategy that could be utilized to transcend life's challenges and for personal empowerment and growth.

Conclusions and Recommendations

Research has suggested that the primary reason for smoking is to alleviate psychological stress (Childs & deWit, 2009; Fernander & Schumacher, 2008). Empirical evidence has shown that perceived racism and discrimination are stressors that have adverse effects on African American health (Brondolo, et al, 2009; Paradies, 2006; Williams & Mohammed, 2008). One of the ways in which perceived racism affects health is by encouraging health-damaging behaviors such as tobacco and alcohol consumption as a means of managing or coping with heightened levels of psychosocial stress from perceived racial discrimination individuals may encounter throughout their life course (Guthrie et al., 2002). Quitting smoking can be an emotionally disturbing experience and persons who have quit and have subsequently relapsed often report that their return to smoking was triggered by a stressful experience or negative affective state (Baer & Lichtenstein, 2005; U.S. Department of Health and Human Services, 2001). For African American women smokers this may be a crucial aspect concerning sustaining cessation, because often times they are not prepared to manage the sociocultural triggers that may occur for them (Shervington, 2005). Hence, it was necessary to investigate the impact of receiving biopsychospiritual education and the spiritual tool of spiritual food fasting as a potential culturally tailored coping strategy for the participants versus the more traditional smoking cessation interventions.

Nicotine Replacement Therapy (NRT) and Cognitive Behavioral Therapy (CBT) are two of the more popular conventional smoking cessation interventions.

NRT is defined as smoking cessation therapy that delivers a measured nicotine dose, intended to reduce nicotine cravings during withdrawal from cigarettes. NRT is available in several forms including the transdermal patch, gum, lozenge, inhaler, and nasal spray (Yerger, Wertz, McGruder, Froelicher, Sivarajan & Malone, 2008). One critique of NRT concerns the fact that NRT is recommended in clinical guidelines as an aid to behavioral interventions for smoking cessation (Yerger et al., 2008). However, most clinical trials of NRT have focused on White, middle-class smokers and there is little data addressing how gender and race/ethnicity affect the efficacy of this treatment (Yerger et al., 2008). Additionally, NRTs such as the transdermal patch and nicotine gum have become available over the counter. The challenge with over-the-counter availability of these medications is that it now potentially renders them inaccessible to African Americans living in poverty. Therefore, in comparing this with the intervention considered in this study, the combination of biopsychospiritual education and the spiritually based food fasting could be more accessible to African American women who have limited access to resources. Since the intervention promotes fasting on healthy food such as green-leafy vegetables, this could also aid other aspects of African American women's health. Moreover, since this intervention has impacted the coping strategy of venting of emotions and decreased the nicotine dependence of participants, it could be a less resource-intensive means to reduce or to eliminate cigarette smoking among African American women.

Cognitive Behavioral Therapy (CBT) for smoking cessation includes coping skills training (e.g., the generation of strategies to successfully manage urges to smoke), problem-focused coping (e.g., cognitive reframing, minimizing the impact of abstinence violation), behavioral contracting, and relapse prevention strategies (Brandon et al., 1995; Brandon et al., 1987; Zelman et al., 1992). Therefore, while Cognitive Therapy was originally developed by Aaron T. Beck (1964) as a structured, short-term, present-oriented psychotherapy for depression, directed toward solving current problems by modifying dysfunctional thoughts, Cognitive Behavior Therapy encompasses a wide range of therapies based on Beck's original model. These therapies aim to bring about enduring behavioral and emotional change by modifying cognitive processes and structures (Dobson, 1988; Hays, 1995). Some of the approaches used include problem solving therapies, coping skill therapies, and cognitive restructuring methods (Dobson, 1988; Hays, 1995).

In critiquing the effectiveness of this therapy with the named population, research has suggested that although CBT has demonstrated efficacy for Caucasian smokers, it is unknown whether it can be generalized to African American women who smoke cigarettes (Yerger et al., 2008). One of the reasons why this intervention may be ineffective is because it is a value-neutral approach to intervention (Kantrowitz & Ballou, 1992). Specifically, CBT was developed by men who belonged to the dominant social group and their values were assumed to be universal (Hays, 1995). However, while European American values of autonomy and independence may be perceived as empowering, these values may not be as relevant to African American clients who tend to value community and group identity (Ivey, Ivey, & Simek-Morgan, 1993). Another potential reason CBT has been ineffective with this group is that although it does not exclude the consideration of sociocultural influences, CBT researchers have not been explicit about the impact of racism and discrimination on clients (Hays, 1995).

Strategies within traditional cessation treatment methods for relapse prevention include expressions of feelings during stressful states (Brandon et al., 1995; Brandon et al., 1987; Zelman et al., 1992). However, the efficacy of this aspect of the therapy may not be beneficial for African American women cigarette smokers. Due to their unique experiences with racism and sexism, African American women tend to engage in avoidant cognitive and behavioral expressions of stress (Shervington, 2005). However, the results of this study suggests that by receiving both biopsychospiritual education and the tool of spiritual food fasting, not only were the participants able to focus on their feelings or affective states, but they were also able to get in touch with the circumstances and drivers surrounding their need to pacify themselves through cigarette smoking. Therefore, insofar as managing relapse is concerned, the findings coincide with the Africentric worldview that spiritual practices are powerful sources of daily coping for African American women (Bagley & Carroll, 1998; Barbarin, 1993; Daly et al., 1995; Jagers & Mock, 1993; Jennings, 1991; Taylor et al., 2004). Since African American women who quit smoking could utilize the aforementioned spiritual practice to effectively identify and acknowledge, their unique stressors in a constructive manner when they present themselves, the use of the treatment considered for this study provides a more beneficial fit than traditional therapies to prevent relapse in members of this population.

Implications

Perceived racism and gender discrimination has been a source of psychological distress for African American women (Beal, 1969) and has demonstrated its effects in risky health behaviors such as cigarette smoking (Bennett, Wolin, Robinson, Fowler, & Edwards, 2005; Martin, Tuch, & Roman, 2003). Despite the limited culturally targeted interventions available, various studies have documented their efficacy in reducing at-risk smoking behaviors among African Americans (Campbell et al., 2000; Champion et al., 2003; Longshore & Grills, 2000; Resnicow et al., 2001; Strecher & Velicer, 2003). This is primarily due to the fact that socioculturally enhanced intervention approaches have the potential to be more effective than standard conventional interventions, by taking into consideration the sociocultural characteristics of the target population (Campbell et al., 2000; Champion et al., 2003; Longshore & Grills, 2000; Resnicow et al., 2001; Strecher & Velicer, 2003).

Numerous researchers have found that African American women use spirituality to reduce perceived stress (Harris-Robinson, 2006; Wallace & Bergeman, 2002) and as a common coping method (Banks-Wallace & Parks, 2004; Henderson, Fogl, & Edwards, 2003; Jackson & Sears, 1992; Mattis, 2002; Njoku & Torres-Harding, 2005; Watt, 2003). Moreover, Wallace and Bergeman (2002) suggested that spirituality is not just a coping resource for handling perceived stress, but a resource for survival and inner strength and for building self-concept. Therefore, in accordance with the above research, this study presented biopsychospiritual education and spiritual food fasting as a potential culturally targeted intervention. As such, the purpose of the harmony of its components, is to transcend the sociocultural stressors associated with cigarette smoking among African American women.

Consistent with the above studies, a most significant and supportive component during the practice of spiritual food fasting is the meditative practice held within the context of one's own spiritual beliefs. During a spiritual food fast, the body systematically cleanses and continually readjusts itself to make minimum demands on vital organs and tissue reserves yet it still can be rigorous (Lagerquist & McGregor, 2000). The meditative component enables one to endure the rigorous physical process involved with food abstinence (Lagerquist & McGregor, 2000). Therefore, complementary to an Africentric coping strategy, spiritual food fasting may well be an intervention appropriate for the African American culture.

Another implication of biopsychospiritual education and spiritual food fasting as a culture based intervention is its potential to be a preventative factor. According to Resnicow et al. (2000), many successful health and social programs for African American youth have been based on African Centered principles whereby participants are immersed in African culture and tradition to enhance cultural esteem and inoculate them against harmful behaviors (Gary & Berry, 1985; Herd & Grube, 1996). Substance use and violence prevention programs, for example, have incorporated such culture-based elements as the study of African history, Kwanzaa, and African traditions such as Unity Circles and Rites of Passage ceremonies (Resnicow et al., 2000).

Similar to the above culture-based interventions, the culturally sensitive elements contained in biopsychospiritual education coupled with the spiritual tool of spiritual food fasting, are appropriate preventative interventions in terms of preventing relapse. As such, they are geared toward supporting the intention for long-term change based on educated and purposeful contemplation of biopsychosociocultural factors. To illustrate, individuals smoke to relieve psychological stress (Childs & deWit, 2009; Fernander & Schumacher, 2008). However, often times upon cessation attempts, African American women never truly identify and address their unique psychosociocultural stressors. Thus, they are not prepared to manage the sociocultural triggers that may arise for them, and as a result tend to relapse (Shervington, 2005).

Because the aforementioned intervention enables participants to identify, express, and address their unique stressors in a constructive manner, upon cessation during times of stress, the need to revisit the comfort of self-pacifying and dependency sought after in cigarette smoking could be ended long-term. Moreover, because of the nature of the spiritual component that promotes seeking answers from tapping into a higher source from within, not only could this be used in preventing relapse among African American women who quit smoking cigarettes, but also in maintaining sustained health behaviors and overcoming other life challenges as well.

In considering the above outcomes, it is clear that the United States government could create culturally sensitive intervention programs designed to specifically incorporate cultural differences. Since African American women have unique experiences, the results of this study could be used to help them mitigate the use of smoking as a means to lessen stressors they experience.

One example of how this can be accomplished is by enhancing New York City's quit smoking initiative, whereby in addition to offering free nicotine patches, the government could also create and offer sessions open to the public in order to teach participants how to practice spiritual food fasting as a more integrated and holistic alternative approach to cessation. The ads for these sessions could replace the deceptive images more commonly seen in cigarette ads in the Black community to illustrate attractive images of African Americans engaging in authentic healthy and spiritual lifestyles. As a result, individuals could experience the positive effects of spiritual food fasting in terms of developing an effective spiritual coping strategy toward regaining an inner locus of control. It is this inner locus of control that will enable the transcendence of life's challenges and empower personal growth for the participants.

Future Research

For future studies, a larger number of participants would be helpful in order to draw generalizable conclusions about the variables considered in the study. Although a random assignment technique was utilized for this study, it would be appropriate to gather more participants so that that the conclusions drawn are appropriate for a wider range of the population studied. Moreover, qualitative observations of diverse groups of individuals could also be utilized to gather further conclusions from observations of behaviors of participants.

Because it was determined that spiritual food fasting does have significant positive effects for African American women cigarette smokers, it may be appropriate to extend the study through considering specific foods which could positively help smokers to quit smoking. In this study, the participants were only allowed to consume green leafy and raw vegetables, fruits, and distilled water. They were not allowed to consume any meats, juices, sweets, alcohol, milk, dairy, or caffeine products for 3 days. Although this was the case, it might not be possible for some African American women to stop consuming meats, juices, sweets, alcohol, milk, dairy, or caffeine products for long periods of time. Therefore, it might be beneficial to conduct research which would explore types of food which could be taken in moderation and which should be stopped completely. In line with this, a diet could be developed to ensure that participants could successfully quit smoking. Moreover, while the focus of this study was on African American women, it is postulated that the concept of spiritual food fasting for cigarette smoking cessation can be explored for other genders and racial/cultural groups or within the context of whatever orientation one might experience unique stressors. Simply, spiritual food fasting for the cessation of the abuse of other substances and unhealthy behaviors can also be explored.

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