

# HIV PREVENTION PROGRAMMING FOR OLDER AFRICAN AMERICAN WOMEN: THE IMPACT OF A FAITH-BASED AND BEHAVIORAL SCIENCE PARTNERSHIP ON DEPRESSIVE SYMPTOMS

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**Objective:** The current study sought to test the effect of an HIV prevention intervention on depressive symptoms in a sample of older African American women.

**Design, Setting and Participants:** A pretest-posttest randomized control group design was conducted in a mega-church in Los Angeles with a sample of 62 older African American women, aged  $\geq 50$  years, 29 of whom were randomly assigned to the experimental condition and 33 to the comparison/control condition.

**Measures:** A measure of psychological wellbeing (CES-D) was utilized to test the effect of the four-session group intervention vs the one-session informational group intervention on change in depressive symptoms from pretest to posttest. Demographic characteristics included: measures of age in years; relationship and employment statuses (coded 1 for yes, 0 for no); and educational attainment.

**Results:** Participation in the study was associated with a significant improvement in the women's psychological wellbeing from baseline to time 2; ie, decreased depressive symptoms. This change was greater for women in the four-session experimental group than for those in the one-session comparison group, due in part to a marginally significant interaction between time and experimental conditions.

**Conclusions:** This study demonstrates the utility of faith-based/behavioral-scientist partnerships in HIV programming. Findings contribute to the evidence on interventions that might reduce depressive symptoms and HIV risk among older African American women. *Ethn Dis.* 2020;30(2):287-294; doi:10.18865/ed.30.2.287

## INTRODUCTION

HIV is a major public health concern that disproportionately affects older African American women.<sup>1-3</sup> Despite the fact that depression is also a major public health concern that affects older African American women,<sup>4-7</sup> and credible evidence indicating that depressive symptoms can predispose individuals to HIV infection,<sup>8-12</sup> few studies have focused on depression as a HIV risk factor for this population.<sup>13</sup> In addition, research demonstrates that behavioral interventions can curb HIV risks among adult women,<sup>14</sup> yet few studies have focused on African American women, and those that have done so, have focused primarily on young women.<sup>15,16</sup> Older African American women are not only sexually active, they also are more likely than their younger counterparts to engage in high-risk sexual behaviors.<sup>13,17,18</sup> Some have found that de-

pressive symptoms are associated with high-risk sexual behaviors.<sup>9</sup> High-risk sexual behaviors among older African American women are of particular concern given that this group has been identified as one of the fastest growing populations of new cases of HIV in the United States, with heterosexual sex as the primary mode of transmission.<sup>11,15</sup> Consequently, there is an urgent need to increase the provision of cost-effective interventions that reduce depressive symptoms and HIV risks among older African American women who are not HIV positive and who may lack adequate knowledge about transmission risks. There is evidence also that this is a population that is less likely than others to seek mental health treatment, preferring instead to use informal strategies and existing networks to cope with stressful conditions and circumstances.<sup>19,20</sup>

The question is, how might an HIV prevention intervention be provided

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to a population of older African American women who are unlikely to seek such services at a social agency or hospital clinic? One possibility is through the Black church, especially given the prominent role of the church in the Black community.<sup>14,15,21</sup> This corresponds with CDC's recommendation to include faith leaders and the church in HIV prevention efforts focused on the African Americans.<sup>22-24</sup> This also is consistent with evidence indicating that roughly six in 10 African American women, particularly older African American women, report attending religious services at least once a week.<sup>25</sup> Although there are differences between religion and spirituality, studies have shown that spirituality is often a part of an individual's self-concept/identity,<sup>26</sup> and that spirituality/religion has been embraced in many public health settings as an important tool to promote wellness.<sup>27</sup> This suggests that incorporating behavioral and physical health considerations with religion/spirituality may intensify messages related to behavior change.<sup>28,29</sup>

## METHOD

### Design

Our present study is part of a larger study that tested the effect of a brief four-session group intervention (experimental condition) and a one-session informational program (control condition), both of which focused broadly on HIV knowledge acquisition, self-efficacy beliefs concerning sexual decision-making, and depressive symptoms. Here we focus narrowly on depressive symptoms in the context of HIV prevention among

older African American women, given the associations between and among depressive symptomatology, HIV risky behaviors, and sexual decision-making.

The study was conducted as a randomized controlled trial (RCT). The experimental group intervention was designed to be religiously informed (faith-based) while also tapping into the existing social networks of older African American women (informed by Bronfenbrenner & Ceci's<sup>30</sup> ecological model), and incorporating cultural, historical, and social support (informed by Robinson, Bockting, Rosser, Miner, & Coleman's<sup>31</sup> and Wyatt's<sup>32</sup> Sexual Health Model) into the HIV prevention content (informed also by Bandura's<sup>33</sup> social cognitive theory). The analyses that follow present an empirical evaluation of the effect of the experimental intervention on change in depressive symptoms from pretest to posttest 6 weeks later.

### Measures

#### *Depressive Symptoms*

Depressive symptomatology was assessed using the Center for Epidemiologic Studies Depression scale (CES-D). The CES-D is a 20-item self-report scale designed to measure depressive symptomatology in the general population. The items on the scale are symptoms associated with depression that have been used in previously validated longer scales.<sup>34</sup> Sample items asked participants to describe how often they felt or behaved in the following ways during the past week: "I was bothered by things that usually don't bother me," "I did not feel like eating," "My appetite was poor," "I felt that I could not shake off the

blues even with help from my family or friends." Response options ranged from <1 time/day to 5-7 days in the past week. Cronbach's alphas were .81 at time 1 and .84 at time 2.

#### *Demographic Variables*

Participants' educational attainment was indicated on an eight-point scale (1 = grade school to 8 = other degree/specify) that asked for the highest level of education completed. Employment status and wage were determined by participants' answers to questions about their annual family income at Time 1 and Time 2. For example, participants were asked if they were currently employed; these data were coded 1 if yes and 0 if no. In addition, the women were asked to indicate their family income during the past 12 months. Family income was indicated on a scale ranging from <\$5,000 to ≥\$100,000. Women who did not know or chose not to disclose their family income were given the option to choose (99= don't know/refuse). Two variables (coded 1 if yes and 0 if no) were constructed designating relationship status; ie, the women were asked if they were currently in a romantic relationship and, then, if they were in a sexual relationship. Lastly, the women were asked to indicate which marital status best described their current situation. Marital status was indicated on an eight-point scale (1=never married to 8=other/specify).

#### *Analytic Strategy*

All data from the pretest and posttest questionnaires were entered and analyzed in SPSS version 25. To evaluate the difference in depressive symptoms between women in the

comparison/control condition and those in the experimental condition, an independent-measures *t test* was conducted. The assumptions of normality and homogeneity of variance were assessed and met. In addition, a repeated measures analysis of variance with a between-groups factor (control vs experimental conditions) was used to evaluate whether the interventions had an effect on depressive symptoms. Specifically, the between-groups main effect examined whether there was a change in this factor among the women in the experimental group and the comparison group at the 6-week post-intervention follow-up. The repeated measures main effect examined whether there was variability in depressive symptoms from pretest to posttest, and the interaction effect examined whether the variability/difference from pretest to posttest varied as a function of group membership (ie, the one-session informational comparison group vs the 4-week experimental group).

### Procedure

All procedures were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2000. Informed consent was obtained from all participants included in the study. Briefly, the study was a RCT, in which enrollment occurred in a mega-church, situated in a predominantly African American neighborhood in Los Angeles County, an area with large numbers of low-income African American families and high HIV prevalence rates.<sup>35</sup> To engage the study participants, the principal investigator (PI) discussed

the purposes of the study with church leaders, including the minister(s) and church elders, to gain permission to invite women aged  $\geq 50$  years to participate in the study. In doing so, the PI forged a working relationship with the church gatekeepers who facilitated the recruitment schedule and granted access to attend church-based programming held during the week and Sunday services during the months preceding the actual initiation of the study. The study was described to potential participants during weekly church-based programming as an HIV education program for older Black women, a subgroup disproportionately impacted by HIV. Prospective participants also were told that some of them may already have knowledge about HIV and that we were interested in learning from them how best to get this information to those who are less knowledgeable. This was our way of conveying our view of them as people who could be helpful to the study – not just people needing help. In short, no assumptions were made about them. This is an example of a consulting, collaborative, respectful approach to study group engagement.<sup>36</sup>

Women who agreed to participate in the study were given an appointment to attend a group meeting at time 1, during which the study was described again, questions were encouraged, and written informed consent was obtained. The final study group consisted of 62 women. During this session, which took place in October 2018, the women were assigned randomly to the experimental condition ( $n=29$ ) and the comparison/control condition ( $n=33$ ), using the sample function in the R statistical computing

language.<sup>37</sup> Then, participants were asked to complete a questionnaire measuring variables of interest, including their (pre-intervention) psychological wellbeing. Those assigned to the experimental group were asked to return the following week to begin participation in a 4-week HIV prevention program; those assigned to the comparison group were asked to return on a different day the following week to participate in a one-day informational program about socio-cultural and contextual factors related to HIV prevention. The latter session spanned 3 hours during which participants in the comparison/control condition were given materials about HIV and safer sex to read as weekly homework. Participants in both groups were presented with the same materials, except that those in the experimental condition received information about cultural and historical aspects of sexual health specific to African American women.<sup>38</sup> Additionally, those in the experimental group were also engaged in the material in more depth through participation in 4 weekly group sessions that allowed for group discussions of the materials, role-plays, and interactions/activities around sexual decision-making.

The interventions were informed by an integration of three theoretical frameworks: 1) Bronfenbrenner and Ceci's ecological perspective informed the engagement of the sample.<sup>30</sup> Based on this theoretical perspective, it was expected that women could be recruited to participate in the study if their microsystemic relationships (immediate settings such as relations at church and at home) and exosystemic relationships (settings involving relations with the foregoing together with

sexual partners) within the church and home environments, together with the macrosystemic influences of the church's broader cultural environment concerning male-female sexual relations were addressed. These processes were treated theoretically as critical intervening components in HIV prevention efforts for older African American women in a church setting. They were the foci both for engagement of the sample and as units of discussion during the interventions. 2) Bandura's social cognitive theory was used to inform the development of the intervention content and activities.<sup>33</sup> Social cognitive theory posits that people learn from one another via observation, imitation, and modeling in the context of social interactions and experiences. In keeping with this assumption, the educational group curriculum included opportunities for participants: to engage in activities involving safer-sex negotiation; to initiate conversations with significant others about sexual decisions; to practice self-advocacy behaviors; and to deconstruct myths. 3) The Sexual Health Model was incorporated in order to provide cultural context.<sup>31,32</sup> Integral to this model is the contention that culture influences one's sexuality and sense of sexual self. The present intervention focused on three assumptions and protective strategies outlined in Wyatt's proposed application of the Sexual Health Model for African Americans<sup>32</sup> patterns of personal control developed in response to external factors such as: oppression and gender-based socialization; indirect communication patterns; and mistrust of "outsiders" that limits acceptance of HIV prevention and care.

In sum, our present study was designed as a randomized controlled trial in which participants were allocated at random to an experimental condition and a comparison condition. Participants in both conditions completed a posttest questionnaire during week six at time 2. The criteria for inclusion were race/ethnicity (African American/Black), gender (female), and age (aged  $\geq 50$  years). Participants received a \$25 gift card after completing the time-1 questionnaire and another \$25 gift card after completing the time-2 questionnaire six weeks later.

## RESULTS

The average woman who completed the study was 68.32 years old ( $SD=8.43$ , range 50-89), most (76%) had some education beyond high school and were no longer employed (73%). Slightly more than half (53%) were divorced and almost a third (31%) indicated that they were currently in a romantic relationship. Close to a fourth (24%) reported that this relationship was sexual. The mean time-1 depressive symptoms scores were 8.56 ( $SD = 7.09$ ) for the experimental group and 8.31 ( $SD= 6.68$ ) for the comparison group. The results of an independent-measures  $t$  test revealed no significant differences between the two groups before the intervention at time 1 on the CES-D ( $t=-.133$ ,  $df=52$ ,  $P=.90$ ).

There was a change in depression scores from time 1 to time 2. This change was greater for women who participated in the four-session intervention (experimental condition) than for those in the one-session in-

formational intervention (comparison condition). A repeated measures analysis of variance with a between-factor (control vs experimental condition) showed a marginally significant interaction between time and experimental condition, Wilk's Lambda=.942,  $F(1,49)=3.024$ ,  $P=.088$ , indicating that the change in depressive symptoms partly depended on the experimental condition assignment.

Figure 1 displays the results of the interaction between time and experimental condition. Specifically, simple effects tests revealed a significant decrease in depression scores for participants in the experimental condition from time 1 ( $M=8.71$ ,  $SE=.144$ ) to time 2 ( $M=4.50$ ,  $SE=.89$ ), Wilk's Lambda=.800,  $F(1,49)=12.237$ ,  $P=.001$ . However, the simple effects tests showed no significant change in depression scores for participants in the comparison condition from time 1 ( $M=8.26$ ,  $SE=.135$ ) to time 2 ( $M=6.93$ ,  $SE=.84$ ), Wilk's Lambda=.973,  $F(1,49)=1.38$ ,  $P=.245$ . These findings indicate that the experimental intervention was successful in decreasing depression scores. Specifically, women in the comparison and experimental conditions had similar scores for depressive symptoms at time 1, but depressive symptom scores for women in the four-session intervention decreased significantly while those for women in the one-session comparison intervention remained unchanged.

Additionally, the results showed a marginally significant repeated measures main effect, Wilk's Lambda=.813,  $F(1,49) = 11.234$ ,  $P=.002$ , indicating a difference in depressive symptoms among all participants

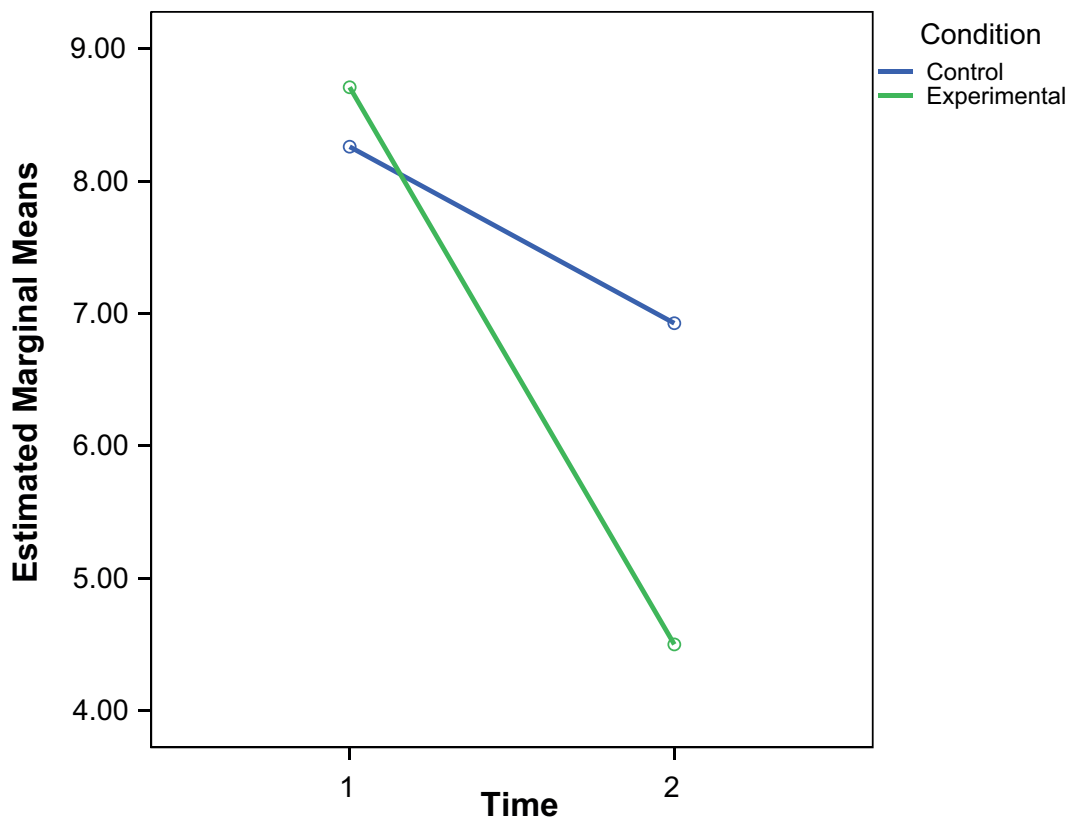


Figure 1. Estimated marginal means of depression for participants across time by condition

from time 1 to time 2, averaged over condition. Specifically, the mean score for depressive symptoms for all participants was 8.48 (SE=.99) at time 1 and decreased to 5.71 (SE = .61) at time 2. Figure 2 displays the results of the repeated measures main effect. These findings indicate that while all participants in the study showed an improvement in depressive symptoms, those who participated in the four-session group program showed a significantly greater improvement. This suggests that building upon and establishing new relationships among participants, generated by group activities (discussions, activities, and role-plays) were important, as was participation in the study in general.

## DISCUSSION

This study examined whether a brief, 4-week, educational group intervention would be associated with an increase in psychological wellbeing. Given the paucity of systematically tested, HIV prevention interventions focused on older African American women and studies that address depressive symptomatology as a risk factor for hard-to-reach populations, this study begins to address a deficit in HIV prevention research. Psychological wellbeing was a variable of interest based on the extant literature indicating that poor mental health—depressive symptoms in particular—can contribute to HIV transmission, sexual risk taking, and

less favorable HIV disease prognosis.<sup>39</sup>

It was predicted that participation in the experimental intervention group program would be associated with more improved psychological wellbeing at time 2, measured by scores for depressive symptoms and the findings suggested those expectations.

As expected, the decrease in depression scores before and after the intervention (from time 1 to time 2) was greater for those who participated in the intervention (experimental condition) than that for those in the comparison/control condition. Although this result needs further testing, if valid, it suggests that older African American women can benefit from discussions within an existing

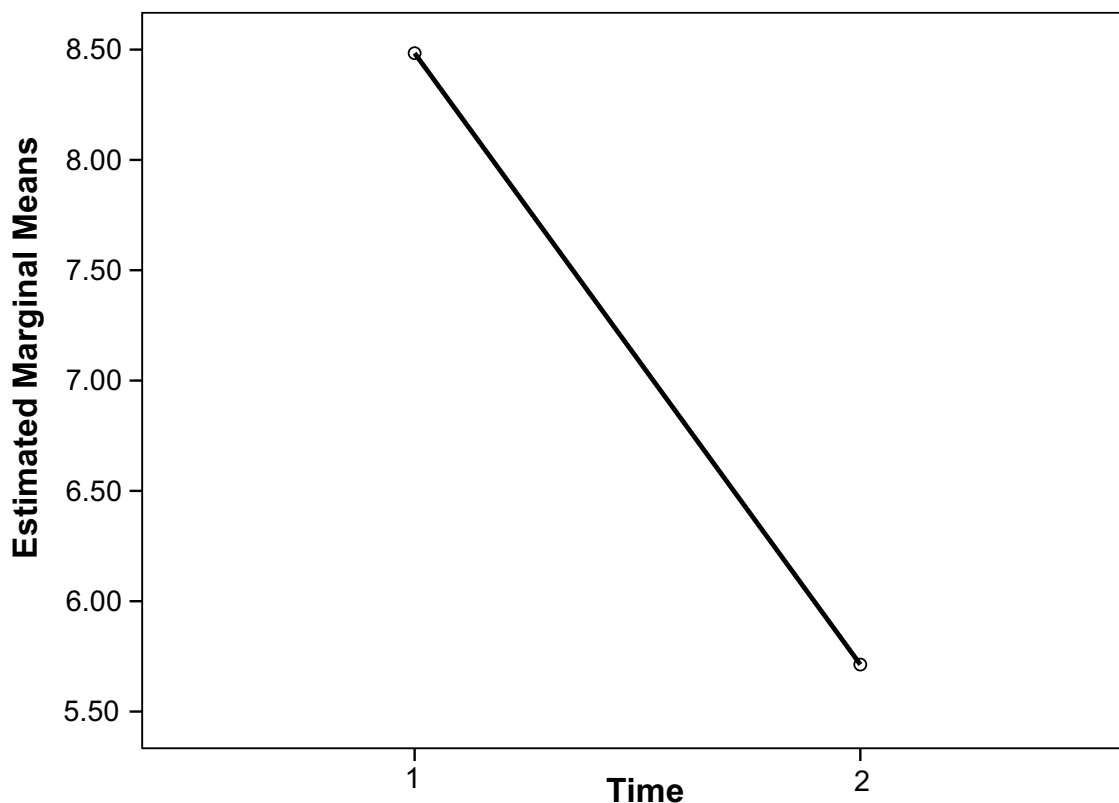


Figure 2. Estimated marginal means of depression for participants averaged over condition

social network about their relationships with the men in their lives. This corresponds with research demonstrating how positive linkages between spirituality/religion, social support and promotion of health-related outcomes among African American women can be achieved.<sup>40-43</sup> This finding is also consistent with studies indicating that older African American women may benefit from programs that involve interpersonal communication with an existing social network.<sup>19</sup>

Although the mean scores on the CES-Depression scale for both groups indicated that neither group was at risk for depression, the significant change for the experimental group seems to suggest that it may have been the interpersonal contact with peers,

the opportunity to discuss issues incorporating aspects of culture and history that may explain the enhanced psychological wellbeing scores for those in the 4-week, face-to-face intervention. This outcome corresponds with the extant literature suggesting that successful interventions targeting African Americans must optimize strategies that integrate socio-cultural factors and address institutional and historical barriers that hinder or support HIV risk reduction behaviors.<sup>44</sup> Future researchers should test this possibility because psychological wellbeing is an essential component in HIV prevalence,<sup>38</sup> and is also related to confidence in one's ability to negotiate sexual interactions including the refusal of sexual intercourse and one's

ability to engage in safer sexual practices via consistent condom use.<sup>44-47</sup>

Together with the implications concerning the benefits of discussion group sessions for older African American women in HIV intervention efforts, our findings support collaborative HIV prevention programs between faith-based and behavioral scientist partnerships to deliver services to hard-to-reach populations. Other research has confirmed the importance of the faith community being a partner in health education/promotion efforts for populations that are difficult to engage.<sup>41,48,49</sup> These findings highlight that efforts made to persuade a church to allow an intervention to be delivered to interested constituents can yield positive effects.

Positive linkages between spirituality/religion, social support and promotion of health-related behaviors among African American women can be one of the most powerful collaborations for older African American women.<sup>40-43</sup> Researchers suggest that these outcomes are possibly due to their impact on self-efficacy, self-confidence, modeling behaviors and accountability.<sup>41</sup>

## LIMITATIONS

Our current study is not without limitations, including the potential for a biased sample if participants who volunteered to enroll in the research study differ from the general population. Similarly, it may also be possible that the participants who are regularly engaged with a religious institution may differ from women who do not engage in the church. The study group was small, and the study employed a non-probability convenience sampling technique. Further research with additional and larger samples is needed to explore more fully the issue of focus here, including whether psychological wellbeing might be predictive of HIV testing and/or increased uptake of safer sexual practices among otherwise healthy older African American women. There is evidence that HIV initiatives that take place within existing social networks are associated with more beneficial outcomes regarding HIV testing.<sup>50</sup> Also, random assignment does not guarantee that the groups in the present study were matched or equivalent. However, if similar findings are generated in additional studies, the validity of the present results will be supported.

## CONCLUSIONS

This study begins to close an important gap in current evidence on HIV prevention interventions focused on older African American women, an under-studied population. We believe our strategies for engaging this population make a significant contribution toward developing collaborative efforts utilizing faith-based/behavioral scientist partnerships in better understanding and carrying out successful HIV preventive interventions and health promotion efforts with this population.

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### CONFLICT OF INTEREST

No conflicts of interest to report.

### AUTHOR CONTRIBUTIONS

Research concept and design: Ebor, Jackson; Acquisition of data: Ebor; Data analysis and interpretation: Jackson; Manuscript draft: Ebor, Jackson; Administrative: Ebor; Supervision: Ebor, Jackson

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