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The role of pastor support in a faith-based health promotion intervention

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Abstract

Pastor support has been viewed as an integral part of successful faith-based health promotion programs; however, few studies have systematically studied these relationships. This study examined associations between pastor support and program-related variables among African American churches taking part in a physical activity and dietary intervention. Results showed that some pastor support-related variables were associated with participant recruitment, retention, and implementation of study requirements, but not to changes in health behavior outcomes. Much work remains in how to conceptualize and measure pastor support. A better understanding of the pastor's role may assist in developing more effective faith-based programs.

Keywords

faith-based intervention; pastor support; African Americans; environmental change; behavior change

Introduction

The health benefits of a lifestyle that includes regular physical activity (PA) and a healthy diet are well established^{1,2}, yet many American adults do not engage in the recommended amounts of PA^{3,4} or eat the recommended amounts of fruit and vegetables (FV)⁵. Physical activity participation and FV consumption are even lower in African Americans^{4,5}, possibly contributing to the disparities in morbidity and mortality among underserved minority populations⁶.

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Conflicts of Interest

The authors have no conflicts of interest to report.

New to Healthy People in 2020⁷ is the goal of creating social and physical environments that promote good health for all. Circumstances in the environment where people are born, live, work, play, worship, and age affect health⁷. Availability, access, social support, social norms, the natural and built environments, among many other conditions, affect health and behavior; developing policies to influence these conditions can improve population levels of health that can be sustained long-term⁷.

Churches are an example of social and physical environments that can be targeted to promote health, particularly among minority and/or underserved populations. The church plays a significant role in the lives of many African Americans and has traditionally been an important source of support and a setting for health education and the provision of health care services⁸. Many consider their church an extension of themselves and their families⁹. Therefore, churches may serve as a means to reach and improve the health and health behaviors of a large number of African Americans.

Pastors from African American churches have significant influence and authority within their church^{10,11}. They often serve as gatekeepers and/or environmental change agents, and many report that they decide whether or not their church participates in health-related programs¹². Many pastors believe that health promotion, in various capacities, is appropriate within their church^{10,12-17}, with a number believing that they themselves play a role in such efforts. Further, characteristics and beliefs of pastors have been shown to be associated with health and wellness-related activities and practices at their church^{12,18}.

The pastor is indisputably invaluable in health-promotion programs implemented in churches, with many studies mentioning the importance of a supportive pastor¹⁹⁻²². Despite this anecdotal evidence, few studies have investigated (quantitatively) how pastor support influences recruitment, program implementation, intervention outcomes, and participant retention, presenting a major gap in the existing literature²³. A recent review of faith-based PA interventions by Bopp and colleagues²³ calls for studies to more carefully document the role and influence of the pastor in designing, implementing, and facilitating the intervention process. A handful of studies have reported the influence of pastor support on changes in study outcomes^{21,24-26}, and findings have been mixed. The influence of the pastor on recruitment, implementation, and retention has not been systematically studied.

The Faith, Activity, and Nutrition (FAN) study was a 15-month, PA and dietary intervention targeting African Methodist Episcopal (AME) churches in South Carolina. Using a community-based participatory research approach, FAN targeted the social, cultural, and policy influences within the church²⁷. The purpose of this study was to examine the associations between pastor support-related variables and program-related variables among African American churches in South Carolina taking part in a PA and dietary intervention.

Materials and Methods

The methods of FAN are described in detail elsewhere^{27,28}. FAN used a group randomized design and included three waves of implementation. Churches were randomized to receive the intervention immediately following baseline assessments (i.e. intervention group) or at

the end of the 15-month intervention period, following post measurements (i.e. control group). The primary goals of FAN were to increase moderate to vigorous intensity PA and FV consumption, and to improve blood pressure ²⁷.

Church Recruitment

As reported in more detail elsewhere ^{27,28}, pastors from 4 geographically-defined AME districts in South Carolina were sent letters from their presiding elder introducing the FAN program and inviting participation. Follow-up telephone calls to pastors were made by program staff to provide more details about the FAN program and to answer any questions. Pastors from interested churches typically appointed a liaison to assist program staff to schedule and coordinate measurement sessions and church intervention trainings.

Procedures

Liaisons from interested churches were asked to recruit members of their congregation to take part in a measurement session at baseline (pre intervention), with recruitment goals a function of church size. At each session, participants completed an informed consent form approved by the Institutional Review Board at the University of South Carolina and by the FAN planning committee. To be eligible, participants had to be at least 18 years of age, free of serious medical conditions or disabilities that would make changes in PA or diet difficult, and attend church at least once a month. Upon providing consent, trained staff took physical assessments and participants completed a comprehensive survey. The same measures were repeated 15 months later (post-program).

Intervention

The intervention targets were guided by the structural ecologic model ²⁹. Although churches had a great deal of flexibility in what intervention activities they implemented, they were asked to implement a set of core activities, focusing on PA and healthy eating, that were in line with the guiding theory²⁹: provide opportunities for PA and healthy eating, make opportunities for PA and healthy eating appropriate and fun, set organizational guidelines and provide support for PA and healthy eating, and get the message out about PA and healthy eating.

Each church formed a FAN committee, consisting of the pastor, health director, FAN coordinator, and cook or lead kitchen staff. Each FAN committee attended a full-day training that provided an overview of the FAN program and its goals, engaged the pastor in supporting FAN, and brainstormed activities the church could do to promote PA and healthy eating. Each committee developed a formal intervention plan that was in line with the overall FAN objectives. Each FAN church also sent two individuals to attend a one-day cooks training that focused on the Dietary Approaches to Stop Hypertension (DASH) diet plan. A detailed description of the committee and cooks trainings can be found elsewhere ^{27,30}.

In addition to the trainings, committees, cooks, and pastors received monthly mailings over the intervention period that focused on PA or healthy eating, a health condition, and highlighted a health behavior change strategy consistent with the social cognitive theory ³¹,

and technical assistance calls by FAN staff to learn what types of activities were being implemented, and to help problem-solve challenges.

Measures

Sociodemographic Covariates.

Participants self-reported their age, gender, and educational attainment.

Staff Ratings.

FAN measurement and intervention staff members rated pastor support for various aspects of the FAN program at baseline and post-program; intervention staff ratings were also completed throughout the intervention period. Mean baseline and total (mean of all staff ratings completed) intervention and measurement staff ratings (composite score and each individual item) were calculated. On a scale of 1 (not much) to 4 (outstanding), the measurement and intervention coordinators rated each pastor on the following: (1) pastor expresses interest/excitement about FAN, (2) pastor actively takes part in activities (trainings, measurements), (3) pastor encourages members to participate, (4) FAN staff can access pastor when needed, and (5) pastor makes supportive remarks about FAN. Alpha coefficients for the 5 items ranged from .90 to .95.

Pastor Participation.

Two participation scores were used: pastor participation in baseline measurements (yes/no) and pastor participation in the intervention training (yes/no).

Pastor Turnover.

Because pastor turnover may reduce consistent support over time, pastor changes during the FAN program (yes/no) were recorded.

Pastor Interviews.

Pastors were asked to take part in an interview at baseline and post-program that assessed guidelines and supports for PA and healthy eating in their church. The number of interviews completed (0, 1, or 2) was calculated.

Baseline Recruitment Goals.

The percentage of the baseline recruitment goal met was calculated by dividing the number of church members taking part in baseline measurements by the church's goal number (i.e. 13 church members for small churches, 32 for medium, and 63 for large).

Retention.

The percentage of participants completing at least one of the primary study outcomes at the post-test measurements was calculated by dividing the number completing post-test assessments by the number completing baseline assessments.

Study Requirements.

The number of study requirements completed was calculated for each church by summing: (1) pastor trained, (2) at least 3 committee members trained, (3) at least 2 cooks/kitchen staff trained, (4) submitted intervention plan, (5) held a kick-off event, and (6) committee met regularly. Scores could range from 0 to 6.

Pastor Support for Physical Activity and Healthy Eating.

Church members' perceptions of pastor support for PA (2 items) and healthy eating (1 item) were measured at baseline and post-program. Pastor support for PA was assessed with the items 'how often has your pastor spoken about PA from the pulpit?' and 'how often have you seen your pastor wear a step counter (pedometer)?'; pastor support for healthy eating was assessed with the item, 'how often has your pastor spoken about healthy eating from the pulpit?' All items were measured on a 4-point scale ranging from rarely or never to most or all of the time.

Physical Activity.

The Community Health Activities Model Program for Seniors (CHAMPS) questionnaire³² measured leisure-time PA "in a typical week during the past 4 weeks." This measure is valid³³, has acceptable test-retest reliability³³, and is sensitive to change³². The 36-item modified version, similar to Resnicow et al.'s³⁴, was used. Hours per week of moderate to vigorous leisure-time PA (> 3.0 METs, with the removal of household and related activities) was calculated.

Fruit and Vegetable Consumption.

The National Cancer Institute Fruit and Vegetable all-day screener measured FV consumption (cups/day) over the past month³⁵. Nine of the original 10 items were used (French fry consumption was excluded)³⁶. This instrument correlates moderately with 24-hour recall measures (men: $r = 0.66$; women: $r = 0.51$)³⁷. A similar measure used in a faith-based intervention with African Americans correlated with 3-day food records ($r = .51$)³⁸.

Statistical Analyses

Regression analyses examined the relationship between pastor support-related variables and program-related outcomes. Analyses were limited to intervention churches ($n=38$). Pastor support-related variables included (1) measurement and intervention staff ratings of pastor support at baseline and total (composite score and individual items), (2) pastor participation in baseline measurement session (yes/no) and (3) pastor participation in intervention training (yes/no), (4) number of pastor interviews completed (0–2), (5) church members' perceptions of pastor support, and (6) pastor turnover (yes/no). Program-related outcomes included (1) the percent of baseline recruitment goals met, (2) the number of study implementation requirements met (0–6), (3) the percent of participants completing post-test measurements and (4) change in study outcomes (PA and FV consumption). For all variables except PA and FV consumption, the unit of analysis was the church. To account for church clustering, SAS PROC MIXED, controlling for participant age, gender and education, church size, wave, and baseline value of the outcome was used for all analyses where the dependent variable was a

church member-level variable (i.e. change in outcomes). Analyses that included change in church members' perception of pastor support also controlled for baseline values of pastor support. PROC GLM was used for all other analyses, where the dependent variable was a church-level variable.

Results

A total of 38 churches were randomized to the intervention group and were included in this study (12 small, 19 medium, 7 large). Of the 712 participants randomized to the intervention group, 363 (PA outcome) and 360 (FV outcome) completed baseline and post-test measures and are included in these analyses. Differences in those with and without follow-up data have been reported elsewhere^{28,39}. Means and frequencies of the main study variables are shown in Table 1. Over half (52.6%) of pastors took part in baseline measurement sessions and nearly three-quarters (73.7%) attended an intervention training. Changes in pastor appointments took place at 44.7% of churches and pastors, on average, completed 0.7 ± 0.8 (out of 2) interviews. Churches met $71.9 \pm 33.7\%$ of their baseline recruitment goal, implemented 4.1 ± 1.4 (out of 6) of the study requirements, and retained $60.7 \pm 25.6\%$ of their participants at follow-up. Mean staff ratings at baseline were 2.0 ± 0.7 (out of 4) for the measurement coordinator and 2.7 ± 0.9 (out of 4) for the intervention coordinator. Church members' perceptions of pastor support at baseline were 2.2 ± 0.9 (out of 4) for healthy eating and 1.7 ± 0.7 (out of 4) for PA.

Percent of Baseline Recruitment Goal Met

The relationship between pastor support-related variables and the percentage of baseline recruitment goals met is shown in Table 2. There was a significant positive relationship between measurement staff ratings at baseline and the percentage of baseline recruitment goals met ($p=0.002$). All of the individual measurement staff rating items (see Table 2) were also significant when tested separately ($ps < 0.01$). Whether the pastor took part in measurements was not associated with meeting recruitment goals ($p=0.884$).

Participant retention

The relationship between pastor support-related variables and the percent of participants completing post-test measurements is shown in Table 2. There was a significant relationship between pastor turnover and the percent of participants completing post-test measurements where churches with a pastor change had a smaller number of church members complete post-test assessments. There was no overall relationship for measurement staff ratings of pastor support (total), but being able to access the pastor when needed was associated with higher post-test measurement rates ($p=0.036$). There was no relationship for pastor participation (in measurements or training) or the number of pastor interviews completed ($ps > 0.05$).

Number of Study Requirements Met

The relationship between pastor support-related variables and the number of study requirements met is shown in Table 3. There was a significant positive relationship between intervention staff ratings of pastor support at baseline and the number of study requirements

met ($p=0.008$). Four out of the five individual staff rating items (see Table 3) were also significant ($ps<0.05$). Whether the pastor took part in measurements was not associated with meeting recruitment goals ($p=0.523$).

Change in Study Outcomes

The relationship between pastor support-related variables and changes in PA and FV consumption is shown in Table 4. There was no association between intervention staff ratings of pastor support (total), pastor participation (in measurements or training), the number of pastor interviews completed, changes in church member perceived pastor support and change in PA ($ps>0.05$). There was a significant relationship between pastor turnover and change in PA where participants from churches with a pastor change had greater increases in PA ($p=0.003$). There was no relationship between any of the other pastor support-related variables and change in FV consumption ($ps>0.05$).

Discussion

Many studies have acknowledged the critical role that pastors play in the success of health-promotion programs in faith-based settings. However, a majority of the evidence thus far has been anecdotal, and not systematically studied. Addressing a gap in the current literature²³, this study examined the relationship between pastor support and program-related variables in a faith-based PA and nutrition intervention in African American churches in South Carolina. Overall, pastor support-related variables showed some relationship to participant recruitment, retention, and study requirement implementation, but not to changes in congregation health behavior outcomes.

Measurement staff ratings of pastor support at baseline were associated with meeting baseline recruitment goals, whereas intervention staff ratings at baseline were associated with the number of study requirements met. Staff members worked very closely with the pastors when recruiting churches to take part in FAN and scheduling measurement sessions (measurement staff) and when scheduling intervention trainings (intervention staff), developing a fair assessment of how supportive of the FAN program a pastor seemed to be. Pastors who expressed interest and excitement, took part in activities, were easily accessible, encouraged members to participate and made supportive remarks about the program had churches that were more compliant with participant recruitment and implementation of study requirements. These findings suggest that staff members' perceptions of how supportive pastors are may be particularly important for recruitment and implementation efforts and also support the anecdotal findings of Allicock and colleagues⁴⁰ who found that lackluster pastoral support (reported by church coordinators) was a barrier to program implementation. Churches with low baseline staff ratings of pastor support may need additional and/or more intense supports from study staff, in an effort to compensate for the low pastor support.

Pastor turnover was associated with participant retention, such that churches that had a pastor change over the course of the study had a lower percentage of participants complete post-test measurements. Although pastor turnover likely varies by denomination, in the AME denomination, pastors are itinerant and their assignments are assessed yearly, with changes common. Among intervention churches, nearly half (45%) had a pastor change

during the 15 month intervention. Changes in church leadership can pose challenges for studies, as the new pastor may be less (or more) supportive of health-promotion efforts (e.g. FAN program), and it may be difficult to get new pastors ‘up to speed’ on and on board with program expectations. Pastor changes, and how they will be addressed, should be considered from the onset ²⁶.

To our surprise, pastor support was not associated with changes in church members’ PA or FV intake; pastor turnover was actually associated with *greater* changes in PA. Our findings are in contrast to other studies who found that church members’ perception of pastor support was associated with greater changes in PA ²⁴ and FV consumption ²⁵, but in line with others that found that church members’ perception of pastor support was not associated with changes FV consumption ²¹. Further, Baruth et al. ²⁶ found that health directors’ perception of pastor support was not associated with change in PA, nor was pastor turnover. Additional research, expanding on the quantification of pastor support in this study, is needed in an effort to further conceptualize and measure pastor support. Doing so will allow researchers to better understand the role pastors, leading to better designed interventions, that may ultimately improve study outcomes.

Contrary to what we expected, pastor participation in baseline measurements and the intervention training, and the number of pastor interviews completed were not associated with any program-related variables. In particular, we expected that pastors who took part in baseline measurements and completed more interviews (baseline and post-test) would have higher baseline recruitment goal and higher retention rates. It appears that *actual* participation may not as important as just being generally supportive, perhaps by being visible at the measurement session or encouraging their members to take part. This is supported by the positive relationship between measurement staff ratings of pastor support at baseline and the percentage of recruitment goals met. Completion of pastor interviews was quite low, with nearly half (47%) completing neither the baseline nor post-test interview. The commitments and responsibilities that go along with being a pastor are considerable ^{10,16}; in addition to the numerous responsibilities within the church, many AME pastors hold jobs outside of the church and/or have families. Lack of interview completion may not necessarily indicate lack of pastor support, but instead may be the consequence of the reality of a pastor’s (busy) life.

A number of variables were used to conceptualize pastor support, including subjective ratings from FAN staff, perceptions from church members, and objective measures such as pastor participation and interview completion rates. Although changes in pastors were included as a pastor support variable, it is important to recognize that this indicator is different than the other measures used in that pastor changes in the AME church are not volitional on the pastor’s part (i.e. changes are assigned by higher order church officials). Nevertheless, they are a challenge to faith-based interventions and important to consider ²⁶. The triangulation of data used in this study (i.e. data from different sources) can be useful for better understanding the role of pastor support in various aspects of a research study (i.e. recruitment, retention, implementation, outcomes).

This is the first faith-based study that has quantitatively examined the influence of pastor support, conceptualized a number of ways, on various program-related variables. Although this study has a number of strengths, we also recognize study weaknesses. Pastor support has not been previously conceptualized, and therefore valid measures of pastor support are not available. Future studies should continue to focus on conceptualizing pastor support, and developing valid measures that accurately assess it. Participant attrition rates were higher than anticipated, although in line with what has been reported in previous studies targeting African Americans ⁴¹.

Pastor support has been anecdotally viewed as an integral part of successful health promotion programs in faith-based settings. Although it is unquestionably important, the role of pastor support in specific aspects of a research study (i.e. recruitment, implementation, retention, changes in outcomes) is unknown. This study found that some pastor support-related variables were associated with participant recruitment, retention, and study requirement implementation, but not to changes in congregation health behavior outcomes. Much work remains in how to appropriately conceptualize and measure pastor support. A better understanding will assist in developing intervention activities that can successfully engage the pastor across all aspects of the program, ultimately increasing the effectiveness of faith-based health promotion studies.

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Table 1.

Means and Frequencies of Main Study Variables

	N	Mean (SD) or %
Pastor Change		
Yes	17	44.7
No	21	55.3
Pastor Took Part in Measurements		
Yes	20	52.6
No	18	47.4
Pastor trained		
Yes	28	73.7
No	10	26.3
Staff rating of pastor support: Measurement		
Baseline	36	2.1 (0.9)
Total	38	2.0 (0.7)
Staff rating of pastor support: Intervention		
Baseline	37	2.5 (1.1)
Total	37	2.7 (0.9)
Number of pastor interviews completed	38	0.7 (0.8)
0	18	47.4
1	13	34.2
2	7	18.4
Church member perception of pastor support for PA at baseline	330	1.7 (0.6)
Church member perception of pastor support for healthy eating at baseline	333	2.2 (0.9)
Measurement goal met at baseline, %	38	71.9 (33.7)
Study implementation requirements met, #	38	4.1 (1.4)
Completing post measurements, %	38	60.7 (25.6)
Leisure-time PA (hours/week)		
Baseline	363	3.1 (4.6)
Post-test	363	3.5 (5.5)
Fruit and vegetable consumption (cups/day)		
Baseline	360	4.0 (4.1)
Post-test	360	3.9 (3.8)

Table 2.

Pastor Support and Participant Recruitment and Retention

	% of Recruitment Goal Met			% Completing Post-test Measurements		
	N	Estimate (SE)	p-value	N	Estimate (SE)	p-value
Measurement staff rating of support ¹	36	18.25 (5.43)	0.002	38	0.06 (0.06)	0.325
Pastor expresses interest/excitement about FAN	32	16.12 (4.71)	0.002	35	-0.02 (0.05)	0.664
Pastor actively takes part in activities	34	16.04 (4.92)	0.003	38	0.06 (0.05)	0.275
Pastor encourages members to participate	31	16.68 (4.69)	0.001	36	0.02 (0.05)	0.647
FAN staff can access pastor when needed	33	22.97 (6.97)	0.003	38	0.15 (0.07)	0.036
Pastor makes supportive remarks about FAN	27	20.28 (5.97)	0.002	30	0.01 (0.06)	0.887
Pastor took part in measurements	38	-1.64 (11.10)	0.884	38	-0.01 (0.08)	0.899
Pastor took part in training		N/A		38	0.08 (0.09)	0.400
Number of pastor interviews completed		N/A		38	0.05 (0.05)	0.333
Pastor turnover		N/A		38	-0.19 (0.08)	0.021

¹ % of recruitment goal met examined measurement staff ratings at pre; % completing post-test measurements examined total measurement staff ratings

Table 3.

Pastor Support and Number of Study Implementation Requirements Met

	N	Estimate (SE)	p-value
Intervention staff rating of pastor support at baseline	37	0.56 (0.20)	0.008
Pastor expresses interest/excitement about FAN	35	0.54 (0.19)	0.009
Pastor actively takes part in activities	36	0.49 (0.17)	0.008
Pastor encourages members to participate	34	0.41 (0.19)	0.035
FAN staff can access pastor when needed	37	0.43 (0.18)	0.025
Pastor makes supportive remarks about FAN	29	0.12 (0.22)	0.578
Pastor took part in measurements	38	0.31 (0.47)	0.523

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Table 4.

Pastor Support and Changes in Study Outcomes

	Physical activity			Fruit and Vegetable Consumption		
	N	Estimate (SE)	p-value	N	Estimate (SE)	p-value
Intervention staff rating of pastor support, total	339	0.04 (0.07)	0.615	336	0.04 (0.05)	0.461
Pastor expresses interest/excitement about FAN	339	0.01 (0.06)	0.883	336	0.02 (0.04)	0.714
Pastor actively takes part in activities	339	0.03 (0.07)	0.723	336	0.06 (0.05)	0.248
Pastor encourages members to participate	339	0.04 (0.07)	0.622	336	0.05 (0.05)	0.341
FAN staff can access pastor when needed	339	0.04 (0.06)	0.512	336	0.01 (0.04)	0.814
Pastor makes supportive remarks about FAN	331	0.07 (0.09)	0.443	328	0.06 (0.06)	0.280
Change in church members' perception of pastor support /	330	-0.09 (0.10)	0.385	333	0.08 (0.04)	0.093
Pastor took part in measurements	363	0.01 (0.13)	0.944	360	0.03 (0.09)	0.773
Pastor took part in training	363	0.34 (0.22)	0.131	360	0.27 (0.15)	0.072
Number of pastor interviews completed	363	0.06 (0.10)	0.558	360	0.04 (0.07)	0.547
Pastor turnover	363	0.39 (0.13)	0.003	360	0.02 (0.09)	0.784

/ the pastor support measure used was specific to the PA and FV consumption outcomes