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Factors Associated with Religious Congregation Members' Support to People Living with HIV/AIDS in Kumasi, Ghana

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Abstract Physical, social and economic constraints often limit the ability of people living with HIV/AIDS to meet their basic needs. Community members are a valuable source of support for people living with HIV/AIDS, although little is known about the types of support they provide or how to mobilize this support. To examine this issue, a survey of 1200 members of 6 religious congregations was conducted in Kumasi, Ghana. A fifth of congregation members reported providing some support to people with HIV/AIDS in the last 6 months, mostly through prayer, financial support, and counseling. Factors associated with providing support include having heard a congregation or tribal chief speaking about HIV/AIDS, collective efficacy related to HIV/AIDS, and perceived risk of becoming infected with HIV. To enhance support to people with HIV/AIDS, programs should involve community leaders and encourage dialogue on ways to address the epidemic.

Keywords Social support · People living with HIV/AIDS · Leaders · Factors · HIV/AIDS · Mass media · Community mobilization

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Introduction

Physical, social and economic constraints often limit the ability of people living with HIV/AIDS to meet their health and other essential needs. The unmet needs of HIV-positive adults and children include food and nutrition, clothing, housing, childcare, and skills development in addition to antiretroviral therapies, treatment for co-infections, and prevention efforts to delay the progress of the disease and to avoid new infections (Beard, 2005; Drew, Makufa, & Foster, 1998; Sadler, Bawere, Guerrero, & Collins, 2006; UNAIDS & WHO, 2005a). Emotional support is also a critical need among people living with HIV/AIDS and the family members who care for them (Homan et al., 2005). Furthermore, families of people with HIV/AIDS often have reduced income with which to address these needs.

Community members and organizations can be a vital source of assistance to people with HIV/AIDS (UNAIDS, WHO, & Sidaction, 2005b). In recent years, communities have become involved in providing antiretroviral therapy, directly observed therapy for tuberculosis, and home-based care, including counseling (Johnson & Khanna, 2004; UNAIDS &WHO, 2005a). Community members' support to HIV-infected persons may reduce HIV-related stigma, increase prevention behaviors, and improve medication adherence (Edwards, 2006; Esu-Williams, Schenk, Motsepe, Geibel, & Zulu, 2004; Koenig, Leandre, & Farmer, 2004). In multivariate analyses of data from populations in the U.S., people with HIV/AIDS who receive more satisfying social support reported a lower increase in HIV-related health symptoms after 1 year (Ashton et al., 2005), and

avoidance of people with HIV/AIDS by friends and parents was positively associated with depressive symptoms (Derlega, Winstread, Oldfield III, & Barbee, 2003). Recognizing the value of such support, in 2001, the United Nations General Assembly Special Session on HIV/AIDS called for strategies to strengthen community-based support to people with HIV/AIDS (UNAIDS, 2002).

Advocates have argued that broadly inclusive community mobilization approaches increase the level of care and support for people affected by HIV/AIDS and their caregivers (Ogden, Esim & Grown, 2004; Parker, 1996; Person & Cotton, 1996; Reid, 1994). However, little is known about the factors that facilitate individual acts of support to people with HIV/AIDS. Although studies in U.S. have focused on determinants of health care providers' and caregivers' willingness to care for family members with HIV/AIDS (Preston, Forti, Kassab, & Koch, 2000; Turner, Pearlin, & Mullan, 1998), our literature review did not identify any studies that investigated the factors associated community members' support to people living with HIV/AIDS in the developing world. These factors may include individual and community-level characteristics, such as the presence of leaders encouraging support to persons affected by HIV/AIDS (Figueroa, Kincaid, Rani, & Lewis, 2002). Understanding these factors is critical to informing programs that seek to bolster community-level care and support to infected and affected people.

Religious congregations have been increasingly important actors in civil society responding to the HIV/AIDS epidemic (Esu-Williams et al., 2004; Hogle, 2002; UNAIDS, 2000, 2005c). Religious leaders often have widespread channels of communication to their members and ability to organize large-scale projects (UNAIDS, 2000). In sub-Saharan Africa, religious organizations have been involved in community-based prevention and care programs and in strengthening HIV-related education in schools (UNAIDS et al., 2005b).

This paper has two research objectives. The first is to describe and estimate the social support provided by members of religious congregations to people living with HIV/AIDS and their families in Kumasi, Ghana. The second objective is to determine the socio-demographic, psychosocial, and program-related factors associated with this social support to people with HIV/AIDS. We analyzed data from a cross-sectional survey collected with members of six religious congregations. The survey occurred towards the end of a national, multi-year communication program in Ghana.

Methods

Participants and Setting

The study participants resided in Kumasi, the second largest city in Ghana with more than a million residents. In the Ashanti region where Kumasi is located, 80% of the population is Christian, 10% is Muslim, and 10% follows traditional or no religion (Ghana Statistical Service, 2000). In 2004, Kumasi's HIV prevalence was 2.4% among pregnant women attending sentinel surveillance sites, lower than the national HIV prevalence of 3.1% based on sentinel surveillance (Ghana Health Service, 2004). A lower national prevalence was estimated at 2.2% based on the 2003 Demographic and Health Survey (Ghana Statistical Service (GSS), Noguchi Memorial Institute for Medical Research, & ORC Macro, 2004).

At the time of this study, a national mass media and community-level program was promoting increased compassion and support to people living with HIV/AIDS and their families. The program, Reach Out Show Compassion, included television and radio spots that were broadcasted between November 2002 and September 2004. In these spots, Christian and Muslim leaders encouraged viewers and listeners to show compassion for people infected with or affected by HIV/AIDS. In related activities, in 2002 and 2003, 240 religious leaders from around the country were trained on HIV/AIDS counseling, care and support. In the Ashanti region, 30 religious leaders received the 5-day training in April 2003. Reach Out Show Compassion was part of a larger mass media and community-level HIV prevention program begun in 2001 called Stop AIDS Love Life. The study data described in this paper was collected in November and December 2003, seven months after the religious leader trainings and one year following the start of Reach Out Show Compassion.

Procedures

We purposively selected congregations based on a size of approximately 200 members for 3 reasons. First, prior interviews with key informants indicated the congregations in Kumasi tended to be this size. Second, we aimed for similarly sized congregations to avoid potential confounding of different levels of resources due to size. Third, this size is appropriate for sociometric (social network) data collection, in which all members are sampled (Marsden, 1990; Scott, 2001) (not presented in this paper).

Six congregations were selected for participation. In four congregations (two Muslim and two Christian), the imam or cleric had participated in the 5-day training related to HIV/AIDS counseling, care, and support. The leaders of the remaining two congregations (one Muslim and one Christian) did not receive any training. The size of each congregation ranged from 208 to 228 members. All members aged 15 and over were eligible. The survey response rates in each congregation ranged from 89.5 to 95.3%, yielding an overall response rate of 93.0%. A total of 1200 interviews were completed in the 6 congregations.

The survey was pre-tested prior to the implementation. The interviews were conducted in the respondents' own language and in their homes. Fieldworkers from Kumasi were trained over 5 days in interviewing techniques, data recording, and confidentiality. The study received approval from the Committee on Human Subjects of the Johns Hopkins Bloomberg School of Public Health. All respondents provided informed consent.

Measures

Dependent Variable

Our measure of social support to people living with HIV/AIDS was the response to one survey item: "In the past 6 months, have you personally done anything to help a person infected with HIV or his or her family?" If the respondent answered affirmatively, a second open-ended question asked the respondent to specify what exactly he or she had done to help. For this paper, we describe the first type of support that was mentioned.

Independent Variables

The independent variables were based on the Communication for Social Change Framework (Figueroa et al., 2002). This framework describes how a catalyst initiates social change, leading to a process of community dialogue, collective action, and resolution of a common problem. In this paper, we examined selected components of the framework and their relationship of social support to people with HIV/AIDS or their family. These components included leadership and mass media—both considered catalysts for social change; collective efficacy; and social norms. We grouped our independent variables into three types: (1) socio-demographic; (2) exposure to HIV-AIDS messages; and (3) beliefs and attitudes about oneself and the community.

Socio-demographic Variables

Respondents were asked their age and educational background, and gender was noted. For analysis, age was categorized (15–24, 25–34, and 35+). Education was grouped as follows: no education was combined with primary school attendance, since few respondents had no education; middle school attendance; and secondary school attendance or higher. Respondents were asked their ethnic group and marital status. For marital status, we grouped pre-coded responses of "married" and "cohabitating" in one category and "single" and "not in union" in another category. Our index of wealth is the sum of nine household assets (electricity, radio, TV, video, telephone, refrigerator, bicycle, motorcycle, and car) plus the number of rooms in the house used for sleeping. The index was divided into approximate tertiles.

Exposure to HIV/AIDS Messages

We asked separately whether the respondent had ever heard or seen any element of the two programs, Reach Out Show Compassion or Stop AIDS Love Life. We also asked separately whether the respondent had heard his or her congregation leader or tribal chief speak about HIV/AIDS. In addition, we also considered whether the congregation leader had received the five-day training in 2003 on HIV/AIDS counseling, care and support.

Beliefs and Attitudes about Oneself and the Community

We asked respondents about their perceived risk for acquiring HIV/AIDS. This was dichotomized as no risk versus at least some, since the majority believed themselves to be at no risk. The remaining psychosocial variables were five scales created from items that had 4-point, Likert-type responses of agreement. "Don't know" was recoded as the middle response. In our recoding of the items, higher numbers of responses indicated greater confidence or agreement. We used factor analysis in Stata 8.0 to create the scales (Kim & Mueller, 1978; Netemeyer, Bearden, & Sharma, 2003). Principal components analysis (PCA) allowed us to identify whether the items were unidimensional. Exploratory factor analysis was used to check the items' loadings (correlation coefficients) on the factors after varimax rotation, and items were retained if loadings exceeded .40 (Netemeyer et al., 2003). Scales were divided into approximate tertiles to aid in interpretability.

The first scale was self-efficacy to support people with HIV/AIDS. Three items were entered into PCA and a one-factor solution explained 71% of the variance (eigenvalue 2.12). The items were about confidence to help a person in the community with HIV/AIDS if (a) no one else were helping this person, (b) one's spouse was opposed to helping this person, and (c) other community members were opposed to helping this person (α = .79).

For the second scale of self-efficacy to solve problems, six items were entered into PCA. A one-factor solution explained 42% of the variance (eigenvalue 2.13). The scale items were whether the respondent managed to solve problems if he or she tried hard enough; found the means to get what he or she wanted if someone opposed him or her; solved most problems having invested the necessary effort; remained calm when facing difficulties by relying on coping abilities; and found several solutions when confronted with a problem (α = .66). In exploratory factor analysis, one item with high uniqueness was dropped ("it is difficult for me to stick to my aims").

For the third scale on collective efficacy related to HIV/AIDS, a one-factor solution for six items explained 40% of the variance (eigenvalue 2.37). The items asked about congregation members' ability to talk to each other about HIV/AIDS; confidence that congregation members can help people with HIV/AIDS in a meaningful way; ability to solve the problem of HIV/AIDS in the community by sharing similar goals; ability to mobilize resources to help people with HIV/AIDS; ability to work together to help to help people with HIV/AIDS; and willingness to do their share of work to help people with HIV/AIDS (α = .68).

For the fourth scale on collective efficacy to solve problems, a one-factor solution for six items explained 38% of the variance (eigenvalue 2.28). The items were about congregation members' ability to solve problems that affect everyone; ability to solve problems that individuals alone cannot solve; knowledge that congregation members will work to finish a group project; assurance that everyone will do their share of the work; ability to tackle difficult situations because they share the same goals; and ability to mobilize resources (α = .66).

The final scale was related to stigma towards people with HIV/AIDS. A one-factor soluation explained 42% of the variance of five items (eigenvalue 2.12). The scale included the following items: "teachers who have AIDS should not be allowed to teach"; "people with AIDS should be isolated to avoid spreading the disease"; "it is better to stay away from a person with AIDS for safety reasons"; and "students who have

AIDS should not be allowed to attend school" (α = .70). One item with high uniqueness was dropped ("For most people with AIDS, it is their own fault").

Data Analysis

Data analysis began with descriptive statistics for the selected variables about the respondents and the type of support provided. In bivariate analyses, we compared the support to people with HIV/AIDS and their families by socio-demographic variables, exposure to HIV/AIDS messages, and beliefs and attitudes about the congregation members. Variables that were significant at the .05 level or marginally significant (P < .10) were entered into multivariate analyses. Three step-wise multivariate logistic regression models were estimated predicting the binary outcome of support to people affected by HIV/AIDS. The first model included socio-demographic variables, the second added exposure variables, and the third added the measures of beliefs and attitudes. The likelihood ratio test was used to examine the predictive power of each model. Each subsequent model had a significant chi-square statistic suggesting an improvement over the null model. Multicollinearity was ruled out as the variance inflation factors were below 2.6.

Clustering was a concern in our data analysis. Observations may not be independent if congregations are considered clusters, and ignoring this may yield inaccurate standard errors. However, the small number of clusters in the sample (6) limited the utility of Huber–White approach to adjust for clustering. Instead, we calculated the design effect (15.14) and considered a smaller P-value, less than .003 (0.05 divided by 15.14), to be significant.

Results

Characteristics of the Sample

The mean age was 35.4 (range 15–90, SD 15.8) and the sample was half male. Over a quarter (27%) had no education or attended primary school, 34% had attended middle school, and 39% had secondary education or higher. Asante was the most common ethnic group among the respondents (38%), followed by Hausa (14%). Nearly half of the respondents (48%) belonged to over 30 other tribes, each with less than 7% of the sample. The majority of respondents were married or cohabitating (62%). The sample was divided evenly between Muslims and Christians due to the selection of the same number of congregations

of each faith and of roughly equal size. Most respondents (55%) did not believe they were at risk of acquiring HIV/AIDS.

Exposure to HIV/AIDS communication programs was high. Three-quarters had seen or heard Reach Out Show Compassion and nearly all respondents had seen or heard Stop AIDS Love Life (89%). Nearly all respondents (90%) had heard their congregation leader speak about HIV/AIDS and 69% of respondents heard their tribal chief speak about HIV/AIDS.

Support to People with HIV/AIDS

Overall, 20.6% of respondents (247 out of 1200) agreed with the statement, "have you personally done anything to help a person infected with HIV or her family in the past 6 months?". The most frequent types of support were praying (35%); giving financial support (31%); and counseling, advising or providing moral or spiritual support (19%) (Fig. 1). The remaining 15% had visited someone in the hospital, given in-kind donations, such as food or clothing, or provided other support. Women were more likely than men to have prayed for a person with HIV/AIDS (39.8% vs. 29.9%) and to have provided financial support (36.9% vs. 27.1%), while men were more likely to have counseled, advised or provided moral or spiritual support than women (27.8% vs. 7.8%; for these comparisons by gender, χ^2 (df = 5, n = 247) = 21.4, $P < .01$ (data not shown).

Bivariate Analysis

All socio-demographic variables except ethnic group and education were significantly associated with providing support (Table 1). Respondents who provided support were more likely to be older (aged 40+), male, married or cohabiting, and Muslim. Respondents who provided support were more likely to have had few assets (52.6%) than to have had a moderate (24.7%) or high number of assets (22.7%), χ^2 (df = 2, n = 1200) = 24.6, $P < .001$.
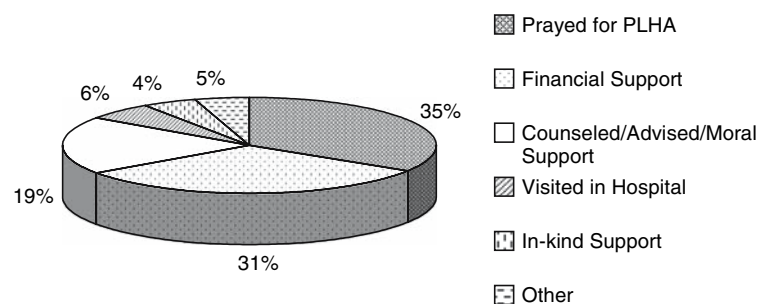
Exposure to the two communications programs, Reach Out Show Compassion and Stop AIDS Love Life, was not associated with our measure of support, but leaders appeared to have been influential. Respondents who provided support were more likely to have heard their congregation leader speak about HIV/AIDS than those who did not (97.6% vs. 87.9%), χ^2 (df = 1, n = 1200) = 20, $P < .001$ (Table 2). Proportions were only slightly lower for tribal chiefs. Respondents who provided support were more likely to have reported high collective efficacy related to HIV/AIDS compared to those who did not (35.6% vs. 24.5%); χ^2 (df = 1, n = 1200) = 16.9, $P < .001$. However, collective or self-efficacy to solve problems and self-efficacy related to support for people with HIV/AIDS were not associated with providing support. Perceived risk of acquiring HIV/AIDS and stigma towards people with HIV/AIDS were marginally associated with support.

Multivariate Analysis

In Model 1, among the socio-demographic variables significant at the bivariate level, gender, religious affiliation, and household assets were significant predictors (Table 3). Males had 62% greater odds of providing support than females (OR 1.62, 95%CI 1.19–2.20, Wald test z = 3.08, $P < .01$) and Muslims had a 71% greater odds of providing support than Christians, holding other factors constant (OR 1.71, 95%CI 1.26–2.32, z = 3.43, $P < .01$). Respondents with few household assets had twice the odds of providing support than respondents with a high number of assets (OR = 2.04, 95% CI 1.40–2.97, z = 3.71, $P < .01$). Age and marital status were no longer significant.

In Model 2, three variables on exposure to HIV/AIDS messages remained significant. Respondents who heard their congregation leader speak about HIV/AIDS had over five times the odds of providing support to people with HIV/AIDS than respondents who did not, other factors held constant (OR 5.44, 95% CI 2.31–12.83, z = 3.88, $P < .001$). Members of congregations whose leaders had been trained had twice

Fig. 1 Main type of support that congregation members provided to people with HIV/AIDS or their families in the past six months, Kumasi, Ghana, 2003 (n = 247)

Prayed for PLHA — 35%
Financial Support — 31%
Counseled/Advised/Moral Support — 19%
Visited in Hospital — 6%
In-kind Support — 4%
Other — 5%

Table 1 Proportion of sample who provided and did not provide support to people with HIV/AIDS or their families in past six months, by socio-demographic characteristics, Kumasi, Ghana, 2003 ($n = 1200$)

Characteristic	Provided support ($n = 247$)		Did not support ($n = 953$)		χ^2
	%	n	%	n	
Age					
15–24	22.7	56	33.8	322	11.9[c]**
25–34	25.5	63	23.9	228	
35+	51.8	128	42.3	403	
Gender					
Male	58.3	144	48.0	457	8.40[b]**
Female	41.7	103	52.0	496	
Education					
None/primary	27.5	68	27.0	258	3.52[c]
Middle	29.2	72	35.1	334	
Secondary+	43.3	107	37.9	361	
Ethnic Group					
Asante	35.6	88	39.2	373	3.76[c]
Hausa	17.8	44	13.1	125	
Other (30+ tribes)	46.6	115	47.7	455	
Marital status					
Married/cohabitating	71.3	176	59.0	562	12.5[b]***
Single/not in union	28.7	71	41.0	391	
Religion					
Muslim	64.4	159	46.4	442	25.4[b]***
Christian	35.6	88	53.6	511	
Household assets index[a]					
Few (0–6)	52.6	130	35.4	337	24.6[c]***
Moderate (7–8)	24.7	61	34.2	326	
High (9+)	22.7	56	30.4	290	

Notes: ** $P < .01$, *** $P < .001$

[a] The index is the sum of nine assets (electricity, radio, TV, video, telephone, refrigerator, bicycle, motorcycle, and car) and number of bedrooms, divided into tertiles

[b] df = 1, [c]df = 2

the odds of providing support as respondents whose leader had not been trained (OR = 2.03, 95% CI 1.45–2.85, $z = 4.10$, $P < .001$). A similar effect was seen for respondents who heard their tribal chief speak about HIV/AIDS in comparison to those who had not (OR = 1.97, 95% CI 1.37–2.84, $z = 3.63$, $P < .001$). In addition, the odds of providing support among respondents with fewer assets compared to the wealthiest respondents actually increased (OR = 2.53, 95% CI 1.71–2.74, $z = 4.65$, $P < .001$).

Lastly, in Model 3, which added variables measuring beliefs and attitudes, two additional factors were significant. First, respondents who considered themselves to be at some risk for acquiring HIV/AIDS had 72% greater odds of providing support than those who were at no risk (OR 1.72, 95% CI 1.24–2.37, $z = 3.26$, $P < .001$). Second, collective efficacy related to HIV/AIDS was associated with providing support (OR = 2.33 for high compared to low efficacy, 95% CI 1.57–3.43, $z = 4.24$, $P < .001$). The stigma scale was not significant in the multivariate analysis. In addition, in Models 2 and 3, the effect of gender actually increased. In Model 3, males had twice the odds of providing support than females (OR = 2.03, 95% CI 1.47–2.82, $z = 4.27$, $P < .001$).

Discussion

This study describes the types of social support provided to people living with HIV/AIDS and their families in urban Ghana, and the factors that influence such support. We studied religious congregation members due to their increasing role in HIV prevention and care. In Kumasi, one fifth of congregation members surveyed had provided support to people with HIV/AIDS in the past six months. A third of the support provided was praying, a third was financial, and a fifth was psychosocial. Given the types of support offered, congregation members may be able to assist families of people with HIV/AIDS with ongoing psychosocial support and income generation strategies, unmet needs that have been discussed in the literature (Homan et al., 2005; YRG Care,

Table 2 Proportion of sample who provided and did not provide support to people with HIV/AIDS or their families in past six months, by exposure to HIV/AIDS-related messages, and beliefs and attitudes ($n = 1200$)

Characteristic	Provided support ($n = 247$)		Did not support ($n = 953$)		χ^2
	%	n	%	n	
Exposure to HIV/AIDS messages[a] (ever)					
Heard or saw Reach Out Show Compassion	74.1	183	74.8	713	0.055[b]
Heard or saw Stop AIDS Love Life	89.9	222	88.9	847	0.202[b]
Congregation leader received training	74.5	184	63.7	607	10.2 [b]**
Heard congregation leader speak about HIV/AIDS	97.6	241	87.9	838	20.1[b]***
Heard tribal chief speak about HIV/AIDS	80.6	199	66.5	634	18.2[b]***
Beliefs and attitudes					
Perceived risk of acquiring HIV/AIDS					
None	49.8	123	56.7	540	3.7 [†,b]
At least some	50.2	124	43.3	413	
Self-efficacy to support people with HIV/AIDS					
Low	37.3	92	34.1	325	1.1[c]
Moderate	34.0	84	34.3	327	
High	28.7	71	31.6	301	
Self-efficacy to solve problems					
Low	26.7	66	28.4	271	0.884[c]
Moderate	38.1	94	39.5	376	
High	35.2	87	32.1	306	
Collective efficacy related to HIV/AIDS					
Low	29.2	72	41.5	395	16.9[c]***
Moderate	35.2	87	34.0	325	
High	35.6	88	24.5	233	
Collective efficacy to solve problems					
Low	24.7	61	30.6	292	4.9[†,c]
Moderate	31.6	78	32.6	311	
High	43.7	108	36.8	350	
Stigma towards people with HIV/AIDS					
Low	36.5	90	28.7	273	5.7[†,c]
Moderate	28.7	71	32.7	312	
High	34.8	86	38.6	368	

Notes: ** $P < .01$; *** $P < .001$; [†] $P < .10$

[a] The proportion of respondents who heard or saw the HIV/AIDS-related message and the proportion who did not (not shown) sum to 100%

[b] df = 1, [c]df = 2

Population Council Horizons Program, & International HIV/AIDS Alliance, 2004).

The largest effect on provision of support in the multivariate analyses was whether the respondents had heard their leader speak about HIV/AIDS; having heard a tribal chief speak on HIV/AIDS also had a large effect. In the Communication for Social Change Framework, local leaders influence community dialogue, collective action, and individual behavior change. Having leaders or "champions" promote an intervention or behavior change is also an important component in the Theory of Diffusion of Innovations (Rogers, 2003). Leaders have had an important influence on individual behaviors at different times of the HIV/AIDS epidemic (Bertrand, 2004).

The media campaigns promoting compassion for people living with HIV/AIDS and awareness of HIV/AIDS were not associated with our measure of social support. However, it is possible that the media campaigns may have influenced congregation leaders to become engaged in activities related to HIV/AIDS with their congregations. Mass media may be more useful in supporting advocacy efforts with decision-makers, fostering community discussions, and unifying HIV/AIDS activities taking place in different localities (UNAIDS, 2005d). Additionally, featuring people living with HIV/AIDS in the media puts a human face on the epidemic and may prevent "AIDS fatigue" in the population.

Collective efficacy related to HIV/AIDS was associated with support in our study. Collective efficacy, with varying definitions, has been found to be associated with a variety of health outcomes in developed countries, such as self-rated health, premature mortality associated with disease, and violence (Browning & Cagney, 2002; Sampson,

Table 3 Results from multivariate logistic regression of support to people with HIV/AIDS or their families in the past six months on selected socio-demographic characteristics, exposure to HIV/AIDS-related messages, and beliefs and attitudes (*n* = 1200)

Characteristic	Model 1		Model 2		Model 3	
	aOR	95% CI	aOR	95% CI	aOR	95% CI
Socio-demographic						
Age						
15–24 (ref)	1.0		1.0		1.0	
25–34	1.25	(0.77–2.00)	1.26	(0.77–2.06)	1.19	(0.72–1.97)
35+	1.40	(0.87–2.27)	1.45	(0.87–2.40)	1.49	(0.90–2.48)
Gender						
Male (ref = Female)	1.62**	(1.19–2.20)	1.83***	(1.32–2.48)	2.03***	(1.47–2.82)
Marital status						
Married/cohabitating (ref = Single/not in union)	1.51	(0.98–2.28)	1.41	(0.90–2.19)	1.40	(0.89–2.19)
Religious affiliation						
Muslim (ref = Christian)	1.71**	(1.26–2.32)	1.76***	(1.28–2.40)	1.97***	(1.42–2.74)
Household assets index[a]						
Few (0–6)	2.04***	(1.40–2.97)	2.53***	(1.71–3.75)	2.55***	(1.70–3.82)
Moderate (7–8)	0.97	(0.63–1.45)	0.90	(0.60–1.37)	0.94	(0.62–1.43)
High (9+) (ref)	1.00		1.00		1.00	
Exposure to HIV/AIDS Messages						
Congregation leader trained: Yes (ref = No)	na		2.03***	(1.45–2.85)	2.06***	(1.45–2.92)
Heard congregation leader speak about HIV/AIDS: Yes (ref = No)	na		5.44***	(2.31–12.82)	5.38***	(2.28–12.7)
Heard tribal chief speak about HIV/AIDS: Yes (ref = No)	na		1.97***	(1.37–2.84)	1.80**	(1.24–2.62)
Beliefs and attitudes						
Perceived risk of acquiring HIV/AIDS						
At least some (ref = None)	na		na		1.72***	(1.24–2.37)
Collective efficacy related to HIV/AIDS	na		na			
Low (ref)					1.0	
Moderate					1.58*	(1.08–2.31)
High					2.33***	(1.57–3.43)
Stigma towards people with HIV/AIDS	na		na			
Low (ref)					1.0	
Moderate					0.75	(0.51–1.09)
High					0.83	(0.58–1.21)
–2 Log-likelihood (df)		1152.3 (6)		1086.6 (9)		1056.8 (12)
Step χ^2 (df)				65.7 (3)		29.8 (3)

Notes: aOR = adjusted odds ratio. Ref = reference. na = not applicable

** *P* < .01, *** *P* < .001

[a] See Table 1 Notes for description of assets index

Raudenbush, & Earls, 1997; Wen, Cagney, & Christakis, 2005). It is worth investigating further the concept of collective efficacy with regards to HIV/AIDS-related behaviors, especially in groups with a distinct identity and regular group-oriented activities.

Women and girls are often found to shoulder the greatest burden of caring for people with HIV/AIDS in developing countries (Ogden et al., 2004). In our sample, males were found to have greater odds of providing support to people with HIV/AIDS. It is possible that males may be more responsive to directives by male leaders. Another possible explanation is that females, who are more often caregivers to family members with HIV/AIDS, were less likely to report having provided support if they felt that this activity

was stigmatized. Another area where the mechanism of action is not clear is why Muslims had greater odds of providing support than Christians. This finding may have to do with the opportunity that congregation members have to interact with people with HIV/AIDS or the manner in which HIV/AIDS is dealt with in the congregation. Respondents with fewer assets and those who believed themselves to be at high risk for HIV/AIDS were more likely to have provided support to people with HIV/AIDS. A possible explanation for this is if HIV/AIDS infection was more common among certain populations, they would also have a greater opportunity to provide support to people living with HIV/AIDS.

Several study limitations need to be acknowledged. First, causal inferences should not be made from this

cross-sectional study. For example, an attitude may influence a behavior, or engaging in the behavior may shape one's attitudes. Moreover, a person who has a propensity to support people with HIV/AIDS may be more attuned to a leader speaking about HIV/AIDS. Second, the survey did not identify the relationship between respondents and the people with HIV/AIDS who received their support (i.e., family member, friend, neighbor, coworker). We do not know if the respondents were caregivers of people with HIV/AIDS and the frequency of support, areas which need further research (Ogden et al., 2004). Third, the findings may not be generalizable beyond urban congregations to the general population or to higher HIV-prevalence settings.

UNAIDS emphasizes the need for participation of faith-based organizations and community mobilization for HIV prevention (UNAIDS &WHO, 2005a). Faith-based organizations are major providers of medical care and more recently, antiretroviral treatment, to people with HIV/AIDS in Kenya, Malawi, Zambia and Uganda (UNAIDS et al., 2005b). The existence of community members willing to provide support to people with HIV/AIDS as described in this paper may facilitate the scale up of support and care activities. Breaking the silence on HIV/AIDS and building welcoming and supportive communities are strategies that religious leaders have used to reduce the impact of HIV/AIDS on their members. Theological reflection and dialogue among and within congregations on HIV/AIDS is another promising strategy for increasing support to people with HIV/AIDS and their families (UNAIDS, 2005c).

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