Congregation leader and member discussions in a church-based family strengthening, mental health promotion, and HIV prevention trial: Intervention

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Abstract

Introduction: Collaboration with African religious congregations can promote psychosocial well-being with greater accessibility. Effective collaboration requires studying congregations as unique intervention contexts. This study explored how an intervention in western Kenya fit within and altered congregational discussion patterns.

Methods: We conducted a cluster-randomized trial of a church-based intervention to improve family relationships, mental health, and sexual health. For each intervention topic covered, we describe baseline and post-intervention changes in church leaders' beliefs and communication as well as discussion frequency between leaders and members and amongst members. Mixed-effects logistic regression assessed pre-post change in member-reported discussion frequency.

Results: At baseline, members and leaders reported already discussing family, parenting, and emotions frequently and sexuality and finances less frequently. Leaders generally felt they should discuss all topics but were less comfortable and knowledgeable about sexuality and finances than other topics. After the intervention, leader comfort and knowledge increased and discussion frequency increased for nearly all topics, especially those discussed less initially.

Conclusions: Good fit between the desires and activities of church members and leaders suggests potential for further collaboration, especially on mental health and family well-being. Increased discussion of sensitive topics underscores the potential of community-level interventions to affect social norms.

Impact statement

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This article makes three unique contributions:

1) It contributes novel findings to the study of collaborative intervention with African religious congregations, an important but underrepresented community setting in the global mental health research literature.

2) It demonstrates survey and analysis methods for using process data to understand contextual influences in community intervention.

3) It outlines future directions for studying congregational settings as unique contexts for mental health and family health intervention, particularly in African countries.

Introduction

In rural western Kenya, as in many parts of Kenya and other African countries, religious congregations like churches and mosques are centers of community life and psychosocial care (Pew Research Center 2010). Studies have found that individuals seeking support for their mental health often turn not only to biomedical and traditional healers but also to religious leaders (Burns and Tomita 2015; Kovess-Masfety *et al.* 2017). While these sectors are sometimes difficult to disentangle in practice, available evidence suggests religious healing is widely perceived as efficacious and culturally acceptable (Ojagbemi and Gureje 2020; van der Watt *et al.* 2018). Given that access to mental health professionals continues to be limited by substantial geographical, economic, and cultural barriers, there is a clear opportunity for collaboration with congregations in these settings to ensure access to needed mental health services (Aguwa *et al.* 2022).

The wide scope of opportunity for congregational mental health efforts is illustrated by a small number of studies that report a variety of successful interventions in African congregational contexts. A study in Nigeria, for example, demonstrated successful maternal mental health screening and referral

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integrated into a church program praying for and celebrating pregnant mothers (Iheanacho *et al.* 2015). In Somaliland, a community-researcher collaboration adapted a trauma-recovery intervention to lay delivery in mosques with good results (Zoellner *et al.* 2021). In Kenya, authors of this study developed a program for in-home family counseling organized through church infrastructure (Puffer *et al.* 2020) which has been expanded into work on paternal substance use (Giusto *et al.* 2020). Other studies indirectly involve congregations or their leaders in other community efforts (for example, Chidrawi *et al.* 2015).

Much of this work has not fully engaged religious communities in their multifaceted role as institutions that provide instruction, advocate for people, support individuals and families, and organize social support. Research on congregational responses to the HIV epidemic in Malawi provides a clear picture of this role. Researchers found that congregations taught on the subject frequently, coordinated home visitation, youth programming, voluntary testing, and care for those affected by illness and death (Trinitapoli 2006, 2015). Social network research also demonstrated that informal conversations about HIV were common and served to translate formal religious teaching into practical application (Agadjanian and Menjívar 2008). These congregations also navigated significant constraints, balancing religious and cultural authority with competition for membership and very limited resources (Agadjanian and Sen 2007a).

Congregations' public engagement with the HIV epidemic has led to caution from public health organizations over differing priorities (Epstein 2005; Pfeiffer 2004). At the same time, collaboration between public health organizations and congregations in their full institutional capacity has also led to significant success in HIV prevention. During the 2000s in Malawi, national organizations' interfaith dialogue around a theology of HIV/AIDS and condom use resulted in new possibilities for collaboration

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on prevention efforts (Willms *et al.* 2004, 2011). More recently in Tanzania, villages where family planning and circumcision efforts also included substantive theological engagement with local church leaders saw much greater interest from village members (Aristide *et al.* 2020; Downs *et al.* 2013, 2017). These efforts highlight the possible benefits of collaboration on issues like family and mental health, areas of deep concern to both congregations and public health organizations.

Faith-Based Health Promotion and Process Evaluation

Understanding religious settings as sites for health intervention is an organizing goal of the literature on faith-based health promotion (FBHP). This work, mostly limited to Christian churches in U.S. minoritized populations, spans a range of health targets (DeHaven *et al.* 2004a; Derose and Rodriguez 2020; Tristão Parra *et al.* 2018; Williams *et al.* 2011a) including mental health (Codjoe *et al.* 2021; Garzon and Tilley 2009; Hankerson and Weissman 2012; Hays and Aranda 2016). Despite their varied outcomes, these studies focus on religious settings as implementation contexts. They share an interest in how health interventions work in faith communities differently than the healthcare or public health contexts in which they may have been developed. This means attending to the structural, cultural, and relational climate, sometimes referred to as the "inner setting" (Damschroder *et al.* 2009), of religious settings as well as unique intervention processes that emerge within these contexts.

Understanding the intervention process, beyond focusing solely on the outcomes, is critical to understanding contextual influences. Studies on congregational leadership, for example, have demonstrated how leaders uniquely shape interventions through their beliefs, investment, and modelling of health behavior (Baruth *et al.* 2013; Beard *et al.* 2016; Bopp *et al.* 2013) as well as how leaders themselves understand their roles and constraints in these programs (Haughton *et al.* 2020; Lumpkins *et al.* 2013). Other studies on intervention process highlight contextual factors like how well

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health content fits with sermons (Payán *et al.* 2019) or the appropriateness of peer-outreach models in different church structures with diverse cultural groups (Flórez *et al.* 2017). This type of process data, despite its utility, is nevertheless often overlooked in FBHP interventions (Yeary *et al.* 2012).

Current Study

In the present study, we report process data from a church-based family strengthening intervention in western Kenya (Puffer *et al.* 2016). A previous publication described how this workshop-style intervention successfully increased communication about a range of topics—mental health, parenting, sexual risk, and family finances—within families, particularly between youth and their caregivers. These workshops, alongside separate discussion groups with church leaders, also aimed to normalize discussions about these topics across the church. The aim of this analysis is to investigate how this intervention fit within and altered the social context of the congregation. First, recognizing the unique role of religious leaders, we assess church leader beliefs and communication to understand leaders' initial disposition toward the intervention topics and how that may have changed after the intervention. Second, to understand dissemination and amplification of the intervention content, we evaluate discussions about these topics between church members as well as between members and leaders before and after the workshop.

Methods

Setting and Recruitment

The data for this study were collected as a part of a stepped wedge cluster randomized control in the area surrounding Muhuru Bay, Kenya a rural community in Migori County situated on the shores of Lake Victoria. At the time of the study, the region had a very high HIV prevalence rate of around 15% and little formal mental health care available nearby (NASCOP 2009). The division was also mostly

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Christian (Puffer *et al.* 2016). The intervention was a church-based family mental health promotion and HIV prevention effort developed through community-based participatory methods and formative qualitative and quantitative work on psychosocial risk factors for HIV risk (Puffer *et al.* 2011, 2012a, 2012b). The resulting Resilience Education And skills Development for Youth and families (READY) program was a culturally adapted, 9-week, lay-provided church program aimed at improving family relationships as a primary protective factor against risky sexual behavior. Drawing from behavioral family communication, HIV prevention, behavioral parent training, and cognitive behavioral interventions, READY contained three 2-hour modules focused on economic empowerment, emotional support, and HIV education and prevention. The first hour focused on family communication, while the second hour split youth and caregivers for skills practice. READY also facilitated weekly discussion groups with church leaders focused on identifying ways for church leaders to provide additional teaching and support for families during and after the intervention. The intervention is described in further detail in the primary outcomes paper (Puffer *et al.* 2016).

Of the 56 churches in the division, four were randomly selected for participation. Families from each church with youth between the ages of 10 and 16 were invited to participate. Research assistants interviewed both church leaders and members with a standard survey translated into the local Dholuo language at five timepoints between September 2010 and September 2011. Surveys were administered at least once before the intervention and once 1-month post-intervention for all churches. An additional 3-month post intervention survey was administered for the two churches that began the intervention first. The Institutional Review Boards at Duke University and Kenya Medical Research Institute provided formal ethical approval and a community advisory committee was also involved in the decision-making process for the intervention.

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Church leader survey

At each timepoint, leaders from each of the four churches were given a survey asking about a variety of their beliefs and behaviors. Among these were a series of four questions about seven general topics covered in the intervention: family relationships, family finances, emotional problems, parenting, sexuality, HIV/AIDS, and condom use. Exact questions and response options are listed in Figure 1. Leaders were asked about whether the church should teach about these topics (Yes, No, Maybe), the knowledge and comfort of the leader in teaching about them (Very, Somewhat, Not Very), and the frequency with which the pastor actually teaches and discusses the topics with church members. Leaders reported frequency of sermons and lessons both as a categorical estimate for the times they taught on these topics in the past year (More than once per month, Once per month, A few times per year, Never) and as a count of times they taught on these topics in the past 1 month period. This past month question was erroneously omitted at the first timepoint, resulting in missing baseline data for half of the churches. We therefore excluded baseline data for this question in the main analysis (but are reported in Appendix Table A1). Frequency of discussions with church members was also assessed categorically (Often, Sometimes, Rarely, Never). The responses to these questions immediately before the intervention and at the 1-month timepoint were then aggregated as percentages with missing responses removed. Due to the stepped wedge design, half of churches did not have 3-month results. These were therefore excluded from descriptive figures (but are available in Appendix Table A1). Because the outcomes of the primary analysis were highly uncorrelated across churches (ICC of .06), responses for this secondary analysis were aggregated across churches.

Congregation member Survey

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All church members who participated in the intervention, both caregivers and youth, were also given a survey asking about a variety of intervention outcomes. They were also asked a series of questions about how often in the past three months they "discussed and exchanged ideas" about any of the seven intervention topics mentioned above with a church member (member-member) and how often they "asked for advice" from these topics from a church leader (member-leader). The response categories were binned with more precision at lower numbers of discussions and less at higher numbers (0, 1, 2, 3-5, 6-10, 11-20, 20+ times). As in the leader survey, responses to these questions immediately before the intervention and at the 1-month timepoint were then aggregated as percentages with the small number of missing responses removed. Again, 3-month data missing due to the stepped wedge design were excluded from descriptive figures (see Appendix Table A2) but were included in regression equations controlled for with a categorical time interval parameter. Finally, responses from each variable were converted to binary variables for analysis in a logistic regression, where 0 = no discussion and 1 = one or more discussions.

To explore change across all timepoints at the individual level, mixed effects logistic regression equations were specified for each variable asking about a unique set of respondent (caregiver or youth), subject (leader or member), and topic sets, resulting in 28 unique regression equations. All regression equations estimated fixed effects parameters for the post-intervention effect and categorical time interval as well as a random intercept for participant identifier to account for within-subjects random effect (Li *et al.* 2021). Random effects for church and household level clustering were also included in initial models but, due to very small amounts of between-household and between-church variance on most outcomes, these models resulted in virtually identical estimates and model fitting errors so were removed in the final models. For all models, age, gender, membership in the majority Luo tribe, and

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household income were included as fixed effects covariates and youth models also included school attendance and orphan status as covariates. The post-intervention fixed effects were converted to odds ratios, and confidence intervals for all models were constructed at the 95% significance level. Regression analyses were conducted in R (R Core Team 2019) using the package lme4 (Bates *et al.* 2015).

Results

A total of 17 church leaders, four or five leaders from each of the four churches, participated in the leader survey. The group included both men and women in a variety of leadership positions: pastors, deacons/elders, youth ministry leaders, and women's ministry leaders. From those churches, a total of 440 members participated in the study, including 202 caregivers and 237 youth from 147 households distributed approximately equally across churches. The average household size was 6.6 members (SD=2.6) and less than more than 10% had only one caregiver. Over half (60%) of caregivers were women, half were from the area's majority Luo tribe, and the average age was 38 with most caregivers being between 30 and 46. Just over half of the youth (52%) were female, 60% belonged to the Luo tribe, and the mean age for youth was 12 with most on the younger end of eligibility between 10 and 14. Almost all children were in school and over a third had lost either one or both biological parents. Demographic characteristics are described in Table 1 as well as in further detail in the primary outcomes paper (Puffer *et al.* 2016).

Church leader responses

Church leader survey responses are reported graphically in Figure 1 (see Appendix A1 for full tabular results). At baseline, leaders universally believed the church *should* teach about family, parenting, and emotional issues, and all but a few believed that the church *should* teach about finances, sexuality, and HIV. The most disagreement was about whether the church *should* teach about condoms,

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though a majority of leaders (56%) still felt they *should*. Before the intervention, a large majority of leaders reported feeling *somewhat or very comfortable* teaching about each topic except condoms, with which a majority (56%) were *not very comfortable*. Three fourths of leaders (75%) felt *very comfortable* teaching about parenting. Slightly fewer reported this comfort level for family, sexuality, HIV, and emotional issues. Leaders reported feeling less knowledgeable than comfortable overall. Still less than a quarter (6-25%) said they were *not very knowledgeable* about family (25%), finances (19%), emotional issues (19%), and/or parenting (6%). However, between nearly third and a half said the same for sexuality (31%), HIV (38%), and condoms (50%). Across categories, more leaders reported being *somewhat knowledgeable* than *very knowledgeable*.

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A large majority of church leaders reported teaching about most topics at least a few times a year and 40-60% reported teaching about family, finances, emotions, and/or parenting more than once a month. A fifth of leaders also reported never teaching about finances, sexuality, HIV, and/or condoms. When asked about discussions with individual church members, a majority of leaders said that they discuss finances, sexuality, and condoms rarely or never, while they discuss family, emotional issues, and HIV sometimes or often, and parenting often.

One month after the intervention, all leaders without exception felt they *should* teach about all topics. Comfort and knowledge improved across all topics as well, with especially large gains for teaching about condoms for both. The frequency with which leaders taught about these topics also increased as did the number of discussions with church members; the exception was parenting which leaders reported discussing less often afterwards, though still more frequently than all other topics

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apart from HIV/AIDS. Every topic was being discussed by at least half of leaders at least *sometimes* after the intervention.

Caregiver discussions

Full results related to members' discussions with leaders and fellow members are presented in Figure 2 (see Appendix A1 for full tabular results). In the three months before the baseline survey, most caregivers had at least one discussion with other church members and leaders about parenting, family, and emotional issues, though more caregivers reported slightly more discussions with other members than leaders. On the other hand, a majority of caregivers had not discussed finances, sexuality, HIV/AIDS, or condoms with church members or leaders. Again though, slightly more caregivers discussed these topics were with other members than leaders. One month after the intervention, caregivers reported discussing all topics more frequently with both other members and their leaders. Generally, topics with lower levels of baseline discussion saw large increases in discussion. For example, the large number of caregivers reported never discussing condoms decreased by more than a quarter for discussions with other members (28%) and leaders (25%). Topics that were already frequently discussed saw only a slight positive increase in discussion. For example, the large numbers of caregivers who discussed parenting with other church members and leaders increased only 2 and 3 percent respectively after the intervention.

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Youth discussions

At baseline, youth reported fewer discussions with church members and leaders about all topics, relative to caregivers. In fact, most youth did not report discussing these topics at all with other church members or leaders. Patterns in youth discussion mirrored those of caregiver discussions with

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parental issues, family, and emotional issues being the topics most commonly discussed and finances, sexuality, HIV/AIDS, and especially condoms most frequently never discussed. More topics were discussed with church members than church leaders at least some of the time among youth (8% more on average). After the intervention, more youth reported more frequent discussions across all topics, with larger increases in the topics less discussed at baseline. Discussing condoms at all, for example, increased 15% between youth and leaders and 20% between youth and other members. Still, apart from parenting, more than half of youth did not report discussing each of these topics with members or leaders.

Mixed effects logistic regression models

The odds ratios and 95% confidence intervals estimated from within-subjects mixed-effects logistic regression models are reported in Figure 3 (see Appendix Table A3 for tabular results). Odds of discussion were highest across all dyads for discussions about the initially less discussed topics of finances, HIV/AIDS, sexuality, and especially condoms (odds ratios [ORs] ranged from 2.5–8.6, all $p < 0.001$). Changes in discussion of parenting, family, and emotional issues were lower and varied more across discussion pairs. While the odds of youth discussing these topics with church members were two times greater after the intervention (ORs 2.1–2.4, all $p < 0.001$), the odds of youth discussing them with leaders were lower and statistically significant at the $p = 0.05$ level only for family (OR:1.6, $p < 0.05$) and emotional issues (OR:1.7, $p < .05$) but not parenting (1.1, $p = .07$). The odds of caregivers talking with church members about family issues was 2.9 times higher ($p < .001$) and 1.7 times higher for discussions about emotional issues ($p < 0.05$). Discussions with leaders were not associated with significantly higher odds for family (OR:1.4, $p = 0.15$) or emotional issues (OR:1.5, $p = 0.15$). Consistent with the descriptive

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results, no statistically significant change in caregiver discussions about parenting occurred with members (p = 0.11 or leaders (p = 0.55).

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Discussion

Collaborative interventions with religious congregations have the potential to increase access to knowledge and services that are often otherwise inaccessible. Despite this potential, we know very little about how these interventions effect change and under what circumstances. In this study, we contribute to FBHP research to explore these mechanisms in a church-based intervention to improve family relationships, promote mental health, and reduce HIV risk. We therefore explored baseline and post-intervention changes on specific interactions from leaders, amongst church members, and between leaders and their members.

Frequent baseline discussion of mental health and family topics

A primary result from our baseline findings is that church members and leaders already discussed many of these topics frequently. Before the intervention, church leaders expressed that they already felt it was their role to teach about all the intervention topics and they had some level of comfort or knowledge about them. They were also already teaching about many of the topics and discussing them with church members. This was especially true for topics related to family relationships, parenting, and emotional problems. For these topics, there was also a good deal of discussion among church members and even between members and leaders before the intervention, particularly for caregivers. Even for topics like sexuality and finances that were less discussed at baseline, at least a quarter of caregivers and a small number of youth still reported talking about them.

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The finding that these topics are already widely discussed suggests that churches in this region are already interested and engaged with family well-being and mental health—and even, to a lesser extent, areas like sexuality or HIV. This is in line with findings from sociological research on congregational responses to HIV that report both institutional and informal responses (adams and Trinitapoli 2009; Agadjanian and Menjívar 2008; Agadjanian and Sen 2007a; Trinitapoli 2006). Qualitative studies with clergy and congregations in other African countries also suggest that family well-being and mental health are of great interest to religious organizations beyond this region (Agadjanian and Sen 2007b; Agara *et al.* 2008; Asamoah *et al.* 2014; Bryant-Davis *et al.* 2011; Moodley 2018; Osei-Tutu *et al.* 2019; Salifu Yendork *et al.* 2016; Teuton *et al.* 2007; van Dijk 2013). A small number of intervention studies illustrate creative and successful ways this shared interest can result in successful collaboration between public health organizations and religious congregations (Giusto *et al.* 2020; Iheanacho *et al.* 2015; Puffer *et al.* 2020; Zoellner *et al.* 2021).

Recognizing the overlapping interests of religious and public health organizations is an important starting place but must not ignore important differences in approach and priority. Neglecting these differences risks perpetuating an exploitative history of engagement with African spirituality as an instrumental resource for biomedical priorities (Winiger 2022). Instead, recognizing differences can open space to learn how these tensions are pragmatically negotiated already by people like community health workers, nurses, and lay counselors (Kaiser *et al.* 2020; Langwick 2015; Read 2019). Future work to understand these differences and how they are negotiated would provide an important foundation for the success of collaboration with congregations. This requires a better understanding of what religious congregations are already doing in relation to mental health and family well-being, how they view this work, and what organizational structures support it. Qualitative research is especially needed

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here to describe not only what people discuss and how often but the actual content and meaning of these discussions socially, culturally, and in relation to congregants' own identities. Of particular interest are places of existing tension and overlap with other health infrastructure and practice. This could be in the context of process study of collaborative programs, as in this study, or in existing congregational settings like church counseling practices (Osei-Tutu *et al.* 2019, 2020; van Dijk 2013).

Increased discussion of sensitive topics

We also observed a substantial post-intervention increase in discussion of topics like sexual health and finances that were initially discussed least frequently. In fact, although there were changes to discussion in other areas, these were the most pronounced and universal changes, even controlling for individual covariates. Even after the intervention, however, these topics were not discussed very frequently, especially among youth and with leaders. While this study did not examine what led to these discrepancies, other studies attest to cultural and religious norms that discourage discussions about sexuality, intergenerational communication, and private matters generally that may explain the low levels of communication among youth and with leaders (Abdallah *et al.* 2017; Adams *et al.* 2012; Muturi 2005; Njue *et al.* 2011; Prazak 2000). Gender differences between more female church membership and more male leadership may also play an important, albeit complex, role (Yeatman and Trinitapoli 2008). Given this context, that very few youth reported discussing condoms with other church members or leaders, for example, may be unsurprising. What remains notable is the substantial increase in the odds that they would have these discussions after this church-based intervention.

These findings highlight the potential of collaboration with religious organizations on issues that are less often discussed in these settings. Congregations have not always been seen as natural partners for intervention in sensitive areas like sexual health, partially due to concern about their role in

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promoting stigmatizing messages about marginalized community members (including people living with HIV) and reinforcing conservative gender norms, but also due to their relatively limited resources and small scale of influence (Agadjanian and Sen 2007a; Campbell *et al.* 2011; Epstein 2005). At the same time, there is a recognition that congregations occupy an important space in local communities and, where it is possible, collaboration can be impactful and even critical around areas of contrasting moral messaging (Campbell *et al.* 2011; Pfeiffer 2004). We discussed several notable examples of this type of productive collaboration earlier (Aristide *et al.* 2020; Downs *et al.* 2013, 2017; Willms *et al.* 2004, 2011).

Our results suggest that lack of discussion does not mean absence of interest or possibility for discussion. Knowledge and comfort from leaders increased substantially along with congregation-wide discussion of topics like HIV and condom use. This type of change underscores an especially important aspect of community-embedded interventions like this one—increasing social support and decreasing stigma can serve as a key feature in enhancing intervention outcomes (Puffer and Ayuku 2022). Combating stigma and increasing social support for treatment are critical to improving sexual and mental health outcomes (Rasmussen *et al.* 2019; Schnyder *et al.* 2017; Takada *et al.* 2014). By directly engaging with leaders about their beliefs, roles, and actions as well as encouraging frequent positive conversation around key topics, interventions within existing social groups like religious congregations may address social norms and stigma more directly than widespread educational campaigns. Informal conversation, especially trusted social interaction like discussion with another church member, may be especially important since prior research suggests this is where formal institutional messages are translated into practice (Agadjanian and Menjívar 2008). In this study, we did not assess stigma or social norms directly and further work is needed to understand how informal discussion in a community affects these important outcomes.

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The increase in congregation-wide discussions also raises the issue of sustainability. On one level, this is simply a question of duration of change. Our data here is limited to a relatively short horizon of change: one month post-intervention for all churches and, in the regression equations, three months post-intervention for the two churches that started earliest. Future work with longer timelines is certainly needed. At another level, however, this study asks what systems-level dynamics this intervention might have changed in the congregation that could sustain future change (Moore *et al.* 2019). In line with this systems perspective, Hawe and colleagues (2009) describe four key areas to explore: contextual fit and changes in relationships, resources, and activities. Our data offer a limited window into two of these: contextual fit and the way relationships may have changed. However, future work in congregations could extend this further by exploring changes in other specific activities and resources that could affect sustainability. These could include things like changes in regular worship or prayer gatherings, annual budgets, recognized ministry roles, or institutional partnerships. Assessing change in these areas likely requires additional methods more suited to community research than individual change, such as social network analysis or participant observation. Ultimately, this approach could help identify activities related to mental health and family wellbeing that are effective and feasible but also that sustain them as an integral part of congregational life.

Limitations

While we have discussed areas for further work above, we also want to highlight several important limitations of this study. First, this analysis was not powered to establish discussion frequency as a moderator of the primary outcomes. As an exploratory analysis, it serves primarily to describe changes in the intervention process. Future analyses are needed to establish more clearly how congregational discussions may impact intervention outcomes, such as through changes in social norms,

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reinforcement of knowledge, or other intervention processes. Second, self-reported results are susceptible to various biases due to the inability to blind participants. Study procedures mitigated this as much as possible by carefully training research assistants, using control groups, and methods that emphasize within-subjects differences. Third, what participants reported as a discussion is somewhat ambiguous and, at 1-month post-intervention, could have included the intervention activities themselves alongside subsequent conversations. At 3-month post-intervention, participants reported frequencies only slightly lower than 1-month, however, suggesting intervention activities themselves were unlikely the primary discussions people reported at 1-month. Fourth, we caution the direct application of our results to other settings in the region. Still, we view this as a meaningful contribution to a small but growing literature on community mental health intervention research in African countries. Collaborations with congregations in other parts of Kenya and even other African countries will continue to make clear what aspects of our findings are limited to this specific context. Finally, this study was conducted between 2010 and 2011. In learning from this work, future research should take into account how changes in religious practice, community organization, and communication would affect congregational interventions presently. The much more widespread use of mobile phones, for example, may present different opportunities for interaction such as chat groups that may need to be accounted for in different ways.

Conclusion

By exploring how a set of churches in Muhuru Bay, Kenya talk about family, sexual health, and mental health, our analysis furthers the case for the potential of religious congregations as sites of health intervention. Partnerships around issues of mutual interest, like mental health promotion, may be obvious places to start with further collaboration. HIV and sexual health also may have great

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potential for destigmatizing conversation and reaching people outside of typical interventions. These partnerships may be especially successful in similar communities in Kenya and elsewhere where congregations are a central part of community infrastructure and clinical services are not accessible. To realize the potential for sustainable and mutually beneficial collaboration, further work must describe religious congregations as settings of mental health care, both in existing and novel ways.

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Author Contribution

Conceptualization: JR, EP, EG; Data curation: JR, EG; Formal Analysis: JR; Funding acquisition: EP; Investigation: EP; Methodology: JR, EP, EG; Project administration: EP; Visualization: JR; Writing – original draft: JR; Writing – review & editing: JR, EP, EG, SL, YO, FJ.

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Conflict of Interest

The authors declare no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Ethics statement

The Institutional Review Boards at Duke University and Kenya Medical Research Institute provided formal ethical approval and a community advisory committee was also involved in the decision-making process for the intervention

Data Availability statement

Data cannot be made available due to restrictions in the original ethical approval.

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Table 1
Church member population characteristics.

	Caregiver (N = 202)	**Youth (N = 237)**
Age (Mean, Range)	38 (30, 46)	12 (10, 14)
Female	121 (60%)	123 (52%)
Luo tribe	102 (50%)	143 (60%)
Attend School		234 (99%)
Orphan		86 (36%)
Church affiliation		
Church 1	54 (27%)	67 (28%)
Church 2	46 (23%)	41 (17%)
Church 3	51 (25%)	69 (29%)
Church 4	51 (25%)	60 (25%)

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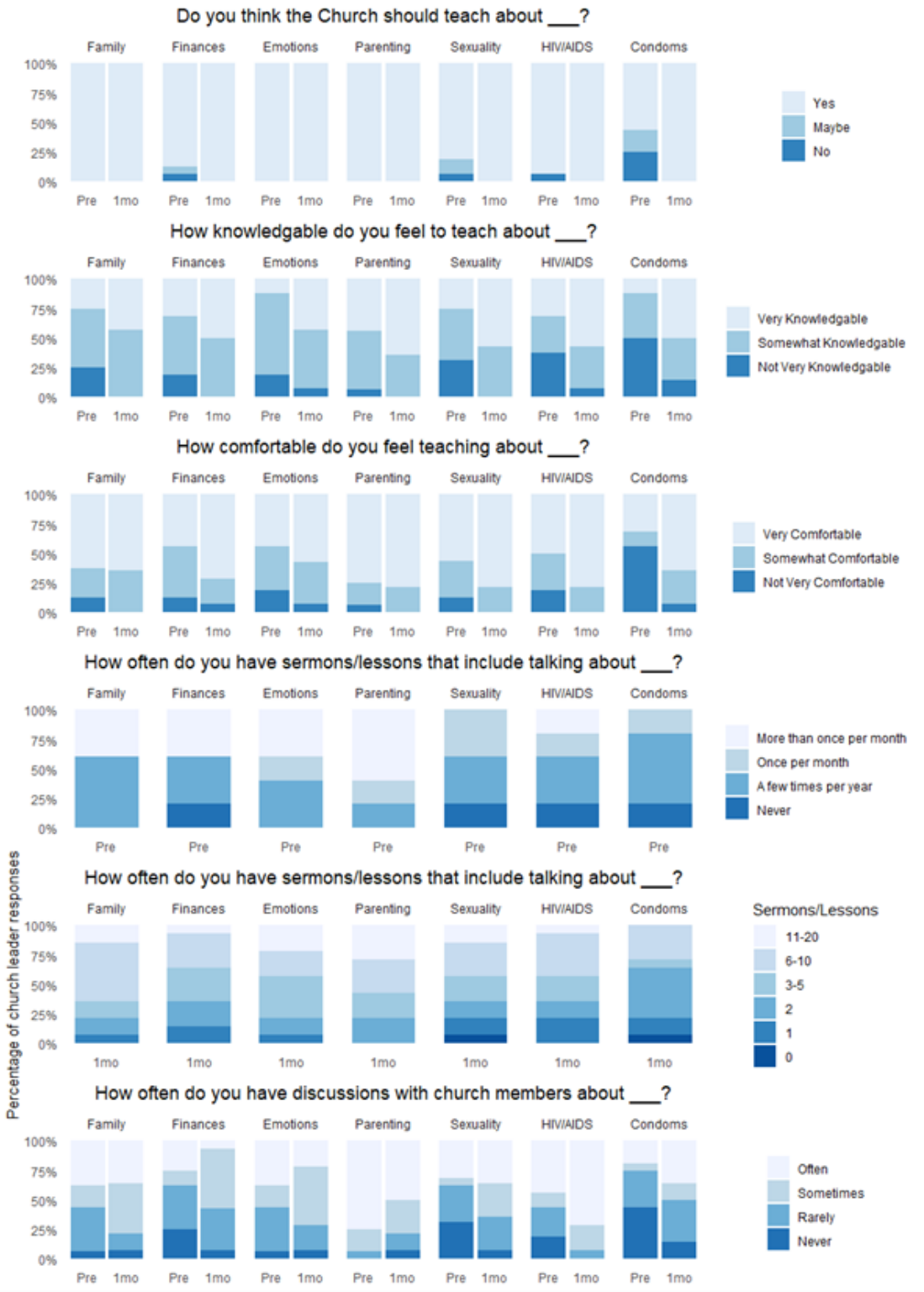

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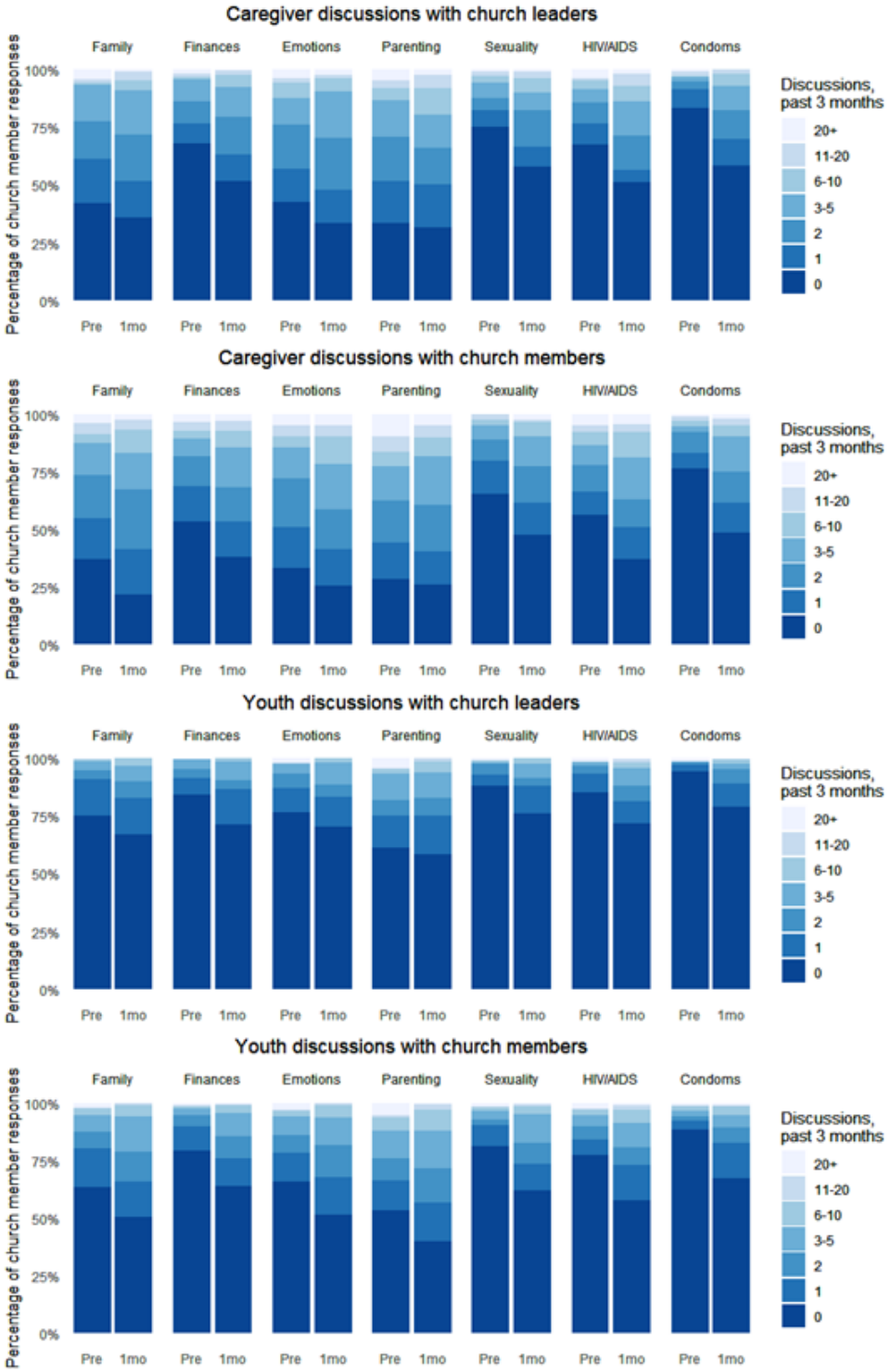

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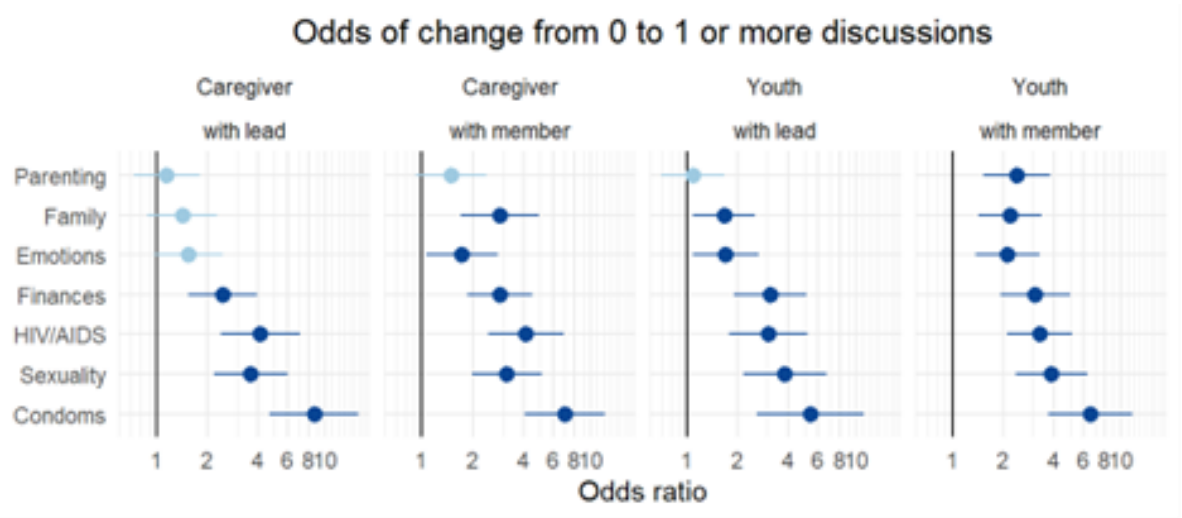

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