

Small-Group Randomized Controlled Trial to Increase Condom Use and HIV Testing Among Hispanic/Latino Gay, Bisexual, and Other Men Who Have Sex With Men

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Objectives. To evaluate the *HOLA en Grupos* intervention, a Spanish-language small-group behavioral HIV prevention intervention designed to increase condom use and HIV testing among Hispanic/Latino gay, bisexual, and other men who have sex with men.

Methods. In 2012 to 2015, we recruited and randomized 304 Hispanic/Latino men who have sex with men, aged 18 to 55 years in North Carolina, to the 4-session *HOLA en Grupos* intervention or an attention-equivalent general health education comparison intervention. Participants completed structured assessments at baseline and 6-month follow-up. Follow-up retention was 100%.

Results. At follow-up, relative to comparison participants, *HOLA en Grupos* participants reported increased consistent condom use during the past 3 months (adjusted odds ratio [AOR] = 4.1; 95% confidence interval [CI] = 2.2, 7.9; $P < .001$) and HIV testing during the past 6 months (AOR = 13.8; 95% CI = 7.6, 25.3; $P < .001$). *HOLA en Grupos* participants also reported increased knowledge of HIV ($P < .001$) and sexually transmitted infections ($P < .001$); condom use skills ($P < .001$), self-efficacy ($P < .001$), expectancies ($P < .001$), and intentions ($P < .001$); sexual communication skills ($P < .01$); and decreased fatalism ($P < .001$).

Conclusions. The *HOLA en Grupos* intervention is efficacious for reducing HIV risk behaviors among Hispanic/Latino men who have sex with men. (*Am J Public Health*. 2017;107:969–976. doi:10.2105/AJPH.2017.303814)

Gay, bisexual, and other men who have sex with men (collectively referred to as MSM) of all races and ethnicities are severely affected by HIV, accounting for two thirds (66.8%) of all new HIV infections in the United States.^{1,2} Although MSM represent approximately 4% of the adult male population in the United States,³ in 2014, they accounted for 82.7% of new HIV infections among men.² Among MSM diagnosed with HIV in the United States in 2014, Hispanics/Latinos accounted for 26% of HIV diagnoses, compared with 38% for Black or African American and 31% for White MSM.⁴

Among Hispanics/Latinos in the United States and 6 dependent areas, men accounted for 85% of new HIV diagnoses in 2013, 81%

of which were attributed to male-to-male sex.⁵ If current HIV diagnosis rates persist, 1 in 4 Hispanic/Latino MSM may be diagnosed with HIV during his lifetime.⁶

Despite the impact of HIV on Hispanic/Latino MSM, only 1 evidence-based behavioral HIV prevention intervention has been identified for use with them.⁷ To address this shortage, our community-based

participatory research (CBPR) partnership, whose members represent the Hispanic/Latino MSM community, AIDS service organizations, Hispanic/Latino-serving community organizations, and universities, developed, implemented, and evaluated *HOLA en Grupos*, a Spanish-language, small-group intervention designed to increase condom use and HIV testing among Hispanic/Latino MSM.

Our objective was to test whether participants randomized to *HOLA en Grupos* increased consistent condom use and HIV testing compared with participants randomized to a general health education comparison intervention.

METHODS

We used CBPR throughout all phases of this study. CBPR has been identified as an effective approach to improve health and well-being, aid in disease prevention, and reduce health disparities. CBPR blends perspectives of lay community members, organization representatives, and academic partners to yield study designs that have community buy-in and authentically reflect how community members engage, convene, and interact.^{8–10} CBPR may also contribute

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to the development of disease prevention and health promotion interventions that are more likely to be effective. Recruitment and retention rates may be higher, measurement may be more precise, data collection may be more acceptable, and data analysis and interpretation of findings may be more accurate than using approaches that do not blend these multiple perspectives.^{9–11}

Intervention Development and Enhancement

During implementation from 2005 through 2009 by the CBPR partnership of the HoMBReS (*Hombres Manteniendo Bienestar y Relaciones Saludables* [Men Maintaining Well-being and Healthy Relationships]) behavioral HIV prevention intervention for predominantly heterosexual Hispanic/Latino male soccer team members in North Carolina,^{12,13} Hispanic/Latino MSM approached the CBPR partnership to request prevention programming tailored to their needs and priorities. Several joined the partnership and, with other members, developed *HOLA en Grupos*. They used previous interventions developed by the partnership for Hispanics/Latinos and MSM^{8,11,13,14} as a foundation while incorporating data more specific to Hispanic/Latino MSM experiences.^{15–17} Academic partners provided guidance on health behavior theory and potentially effective approaches for increasing condom use and HIV testing among Hispanic/Latino MSM.¹⁸ After its development, the partnership applied for funding from the Centers for Disease Control and Prevention's Evaluating Locally Developed (Homegrown) HIV Prevention Interventions for African American and Hispanic/Latino Men Who Have Sex with Men project; this project was designed to support rigorous evaluations of behavioral HIV and sexually transmitted infection (STI) prevention interventions developed for Hispanic/Latino and Black or African American MSM.¹⁸

After obtaining Centers for Disease Control and Prevention funding in 2010, the CBPR partnership, including Hispanic/Latino MSM and service providers, enhanced the intervention, as described elsewhere,¹⁸ by (1) incorporating updated information on HIV burden and context; (2) developing

a logic model and an intervention logo; (3) refining intervention activities and materials, including DVD segments to serve as triggers for discussion; and (4) scripting intervention delivery. The version of *HOLA en Grupos* that resulted was ready for rigorous evaluation. The partnership also developed a general health education comparison intervention having the same number of sessions and duration that focused on prostate, lung, and colorectal cancers; diabetes; high cholesterol; cardiovascular disease; and alcohol misuse. We chose these topics on the basis of identified needs and priorities of Hispanic/Latino MSM appearing in the literature and the partnership's formative research.^{16–18} The comparison intervention was interactive and included didactic learning, DVDs, and facilitated group discussions.

HOLA en Grupos is grounded on social cognitive theory,¹⁹ empowerment education,²⁰ and traditional Hispanic/Latino cultural values and includes 4 interactive modules, as previously described.^{18,21} Module 1 introduces the intervention purpose, describes the impacts of HIV and STIs on Hispanic/Latino MSM, and summarizes HIV and STI facts, including transmission, prevention strategies, and health care access, including HIV testing.

Module 2 includes activities designed to provide guidance on how to protect oneself and one's partners from HIV and STIs through learning and practicing new skills, including negotiating condom use and correct condom use. It concludes with a homework activity in which participants are given different brands and types of male condoms and an internal condom (also known as a female condom) and asked to examine the condoms on their own and determine their preferences.

Module 3 explores how Hispanic/Latino cultural values and the local context can affect sexual health. Reciprocal determinism suggests that an individual, his or her behavior, and the environment influence one another.¹⁹ We used reciprocal determinism to illustrate how Hispanic/Latino cultural values, such as machismo (proving one's manhood by being perceived by others as powerful and dominant and taking risks) and fatalism (the belief that all events are predetermined and therefore inevitable), can affect sexual risks. The module also includes

information about locally available HIV- and STI-related services for which they are eligible, including HIV testing; teaches participants how to overcome challenges they may face when accessing services; and provides modeling to overcome barriers faced when accessing testing services.

The fourth and final module reviews all previously covered concepts. The module includes a DVD developed by the partnership that uses a testimonial from a Hispanic/Latino MSM with HIV as a trigger to discuss what it is like to live with HIV.

Study Design

We used a 2-group, randomized, intervention–comparison group design to evaluate the efficacy of *HOLA en Grupos*. We recruited participants by distributing information about the study (e.g., posters, flyers, and brochures) at gay bars and clubs, community colleges, Hispanic/Latino-owned businesses, and at community events (e.g., gay pride and Hispanic/Latino cultural events); through the use of mass media (i.e., newspaper and radio) and social media; and by word of mouth when study participants invited friends to participate. Eligible study participants included those who self-identified as a Hispanic/Latino male or transgender person, were aged 18 years or older, spoke fluent Spanish, reported male-to-male sexual contact since 18 years, and provided written informed consent. Persons who had participated in any other HIV prevention intervention in the past 12 months were ineligible. Self-reported HIV-positive serostatus was not an exclusion criterion.

From December 2012 to February 2015, we recruited and enrolled 304 Hispanic/Latino MSM to the study in 16 waves of approximately 18 participants per wave. Participants in each wave completed informed consent and a baseline assessment. A block randomization scheme (block size = 4) generated with SAS version 9.3 (SAS Institute, Cary, NC) assigned them to attend *HOLA en Grupos* (n = 152) or the general health education comparison intervention (n = 152; Figure 1).

We gave participants cash as a token of appreciation for completing the baseline assessment (\$40), the 4 intervention sessions (\$40 per session), and the 6-month follow-up

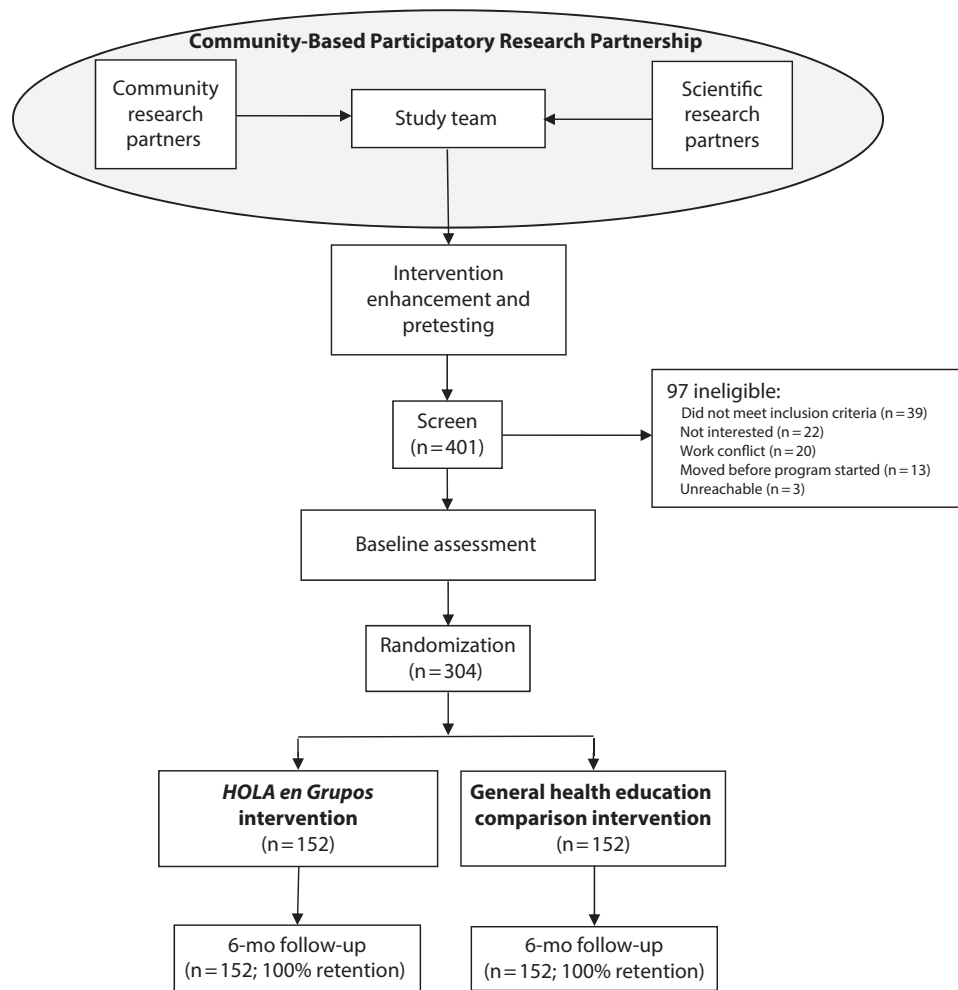


FIGURE 1—Schematic of the Research Design to Test the *HOLA en Grupos* Intervention for Hispanic/Latino Men Who Have Sex With Men: North Carolina, 2012–2015

assessment (\$50). Dinner was served at each session. Participants also received a T-shirt in session 2 and a cap in session 3, each with the project logo.

Intervention Delivery

We trained 3 Hispanic/Latino gay men (originally from Mexico or Peru) to deliver *HOLA en Grupos*. Their training included information to enhance their HIV- and STI-related knowledge and skills for delivering the intervention with fidelity. They observed demonstrations of activities within each module, participated in group discussions and role-playing activities, and practiced implementation to demonstrate their knowledge of the intervention and

experience delivering the intervention. The interventionists implemented *HOLA en Grupos* in pairs.

The trained interventionists delivered *HOLA en Grupos* in Spanish to participants during 4 sessions lasting 4 hours each on consecutive Sunday evenings in conveniently located community settings (community organization and business meeting space). A trained gay Hispanic/Latino interventionist (originally from Cuba) delivered the general health education intervention in Spanish to comparison participants. The four 4-hour-long comparison intervention sessions were delivered at a nearby location concurrently with the *HOLA en Grupos* sessions. Both interventions were implemented in Charlotte and Greensboro, North Carolina. Raters

provided quality assurance during delivery of both interventions; they attended each session and recorded whether activities were implemented with fidelity to the respective intervention curricula. We also assessed participant satisfaction after each session. A graduation ceremony was provided for participants after completing all *HOLA en Grupos* and comparison intervention sessions, and participants received framed signed certificates of completion.

Outcome Measures

We selected consistent condom use as a primary behavioral outcome because of its demonstrated effectiveness for preventing HIV. We defined consistent condom use as

using condoms during every instance of insertive or receptive anal sex with men and insertive vaginal or anal sex with women in the 3 months before the baseline and 6-month follow-up assessments. We also measured participants' self-reports of HIV testing in the 6 months before the baseline and 6-month follow-up assessments. We did this because of the importance of knowing one's HIV status for reducing transmission of HIV and the role of HIV testing as a potential gateway to HIV care for those who are infected. Follow-up assessments occurred 6 months after participants completed the fourth session. Project staff other than the interventionists collected follow-up data. The follow-up window was 1 month; data were collected up to 1 week before and 3 weeks after the target assessment date.

We measured changes in psychosocial factors that *HOLA en Grupos* was designed to influence and that had adequate psychometric properties with Hispanics/Latinos. We measured HIV and STI knowledge—types

of diseases, modes of transmission, signs, symptoms, and prevention strategies—with true–false items.¹⁴

We adapted the Condom-Use Skills Checklist²² to assess knowledge about correct condom use and the Condom Use Self-Efficacy Scale to assess participants' confidence about being able to successfully use condoms with a sexual partner ($\alpha = 0.97$).²³ We measured condom use expectancies (beliefs about the potential consequences of using condoms; $\alpha = 0.93$)²⁴ and intentions (whether the participant intended to use condoms; $\alpha = 0.94$).²⁵ We measured sexual communication as well as safer sex negotiation skills and self-efficacy by using a 9-item adapted version of the Health-Protective Sexual Communication measure ($\alpha = 0.87$).²⁶

We assessed adherence to traditional notions of masculinity by using a revised version of the Conformity to Masculine Norms Inventory ($\alpha = 0.82$),²⁷ fatalism by using the 20-item Fatalism Scale ($\alpha = 0.92$),²⁸

homonegativity (i.e., negative attitudes toward homosexuality) by using the 26-item Revised Reactions to Homosexuality Scale ($\alpha = 0.72$),²⁹ and ethnic group pride (i.e., pride in one's ethnic identity) by using the 12-item Multigroup Ethnic Identity Measure ($\alpha = 0.88$).³⁰

Higher scores indicated greater knowledge; condom use skills, self-efficacy, expectancies, and intentions; sexual communication skills and self-efficacy; and higher adherence to traditional notions of masculinity, fatalism, homonegativity, and ethnic group pride.

Statistical Analyses

We used an intent-to-treat protocol to analyze participants' outcomes relative to their assigned intervention group, irrespective of the number of sessions they attended.³¹ At baseline, we used descriptive statistics to summarize sociodemographic characteristics of intervention and comparison participants. We assessed differences between the groups at baseline using the Student *t* test for continuous variables and χ^2 for categorical variables.

Our primary data analyses to evaluate *HOLA en Grupos* efficacy compared rates of past 3-month consistent condom use and past 6-month HIV testing reported by intervention and comparison participants at the 6-month postintervention follow-up assessment while adjusting for baseline rates. Statistical analysis used multivariable random effects logistic regression modeling that adjusted for potential clustering within intervention groups.³² This adjustment accounted for the possibility that participants in the same study wave and intervention group may exhibit more similar patterns of condom use and HIV testing at 6-month follow-up as participants in other study waves.

We adjusted models for the corresponding baseline measures and age, education level, and country of origin to obtain adjusted odds ratios (AORs) and computed the 95% confidence interval (CI) and corresponding *P* values. There were no missing data for outcome measures. We fit models using PROC GLIMMIX in SAS.

In our secondary analysis, we used the *t* test to assess changes in psychosocial factors that were addressed by *HOLA en Grupos* to promote consistent condom use and

TABLE 1—Comparability of Hispanic/Latino MSM Participants in the *HOLA en Grupos* Intervention and the General Health Education Comparison Intervention at Baseline: North Carolina, 2012–2015

Characteristic	Intervention Group, No. (%) or Mean \pm SD	Comparison Group, No. (%) or Mean \pm SD	<i>P</i> ^a
Age, y	30.4 \pm 9.0	30.5 \pm 8.8	.9
Country of origin			.9
El Salvador	6 (4.1)	10 (6.6)	
Guatemala	7 (4.7)	6 (3.9)	
Honduras	9 (6.1)	10 (6.6)	
Mexico	93 (62.8)	93 (61.2)	
US	14 (9.5)	14 (9.2)	
Other	19 (12.8)	19 (12.5)	
Less than high school education or general equivalency diploma equivalent	70 (46.4)	65 (43.3)	.6
Employed year round	114 (75.5)	110 (73.3)	.6
Weekly income, \$	386.4 \pm 254.6	403.2 \pm 235.9	.6
Orientation/identity			.8
Heterosexual	7 (4.8)	8 (5.4)	
Gay	100 (68.0)	94 (63.5)	
Bisexual	31 (21.1)	38 (25.7)	
Transgender identity	9 (6.1)	8 (5.4)	
Mean time in US, mo	157.9 \pm 92.0	165.3 \pm 104.3	.5
Acculturation	28.0 \pm 9.8	26.4 \pm 8.5	.1

Note. MSM = gay, bisexual, and other men who have sex with men. The sample size was n = 304.

^a*P* value from *t*-test statistics for mean and χ^2 statistics for percentage.

TABLE 2—Condom Use and HIV Testing Among Hispanic/Latino MSM in the *HOLA en Grupos* Intervention Relative to Those in a General Health Education Comparison Intervention: North Carolina, 2012–2015

Variable	Intervention	Comparison	AOR ^a (95% CI)	P
Past 3-mo consistent condom use at follow-up among MSM who reported sex with men or women				<.001
Yes	69	37	4.12 (2.16, 7.87)	
No	40	71	1 (Ref)	
Past 6-mo HIV testing at follow-up among MSM who reported sex with men or women				<.001
Yes	114	40	13.84 (7.56, 25.33)	
No	27	107	1 (Ref)	
Past 3-mo consistent condom use at follow-up among MSM who reported sex with men only				<.001
Yes	61	34	3.94 (1.94, 8.00)	
No	34	60	1 (Ref)	
Past 6-mo HIV testing at follow-up among MSM who reported sex with men only				<.001
Yes	98	35	14.90 (7.63, 29.11)	
No	21	90	1 (Ref)	

Note. AOR = adjusted odds ratio; CI = confidence interval; MSM = men who have sex with men.

^aWe determined AORs by multivariable random-effect logistic regression models accounting for an intervention vs comparison group clustering of age, educational attainment, and country of origin with corresponding baseline measure.

HIV testing. We included the same socio-demographic factors used in the final outcome models in this analysis. For each psychosocial scale, we replaced missing scale items with the person-mean imputed value for each specific scale if 20% or less of scale item responses were missing. If more than 20% was missing, we considered that scale missing and did not use it in our analyses. For each model, we calculated adjusted means and SEs and differences of adjusted means and the corresponding *P* value. We estimated all models in the context of multivariable random effects linear regression modeling using PROC MIXED in SAS. We performed all analyses using SAS/STAT.³³

RESULTS

The average age of the 304 study participants was 30 years (SD = 8.9 years; range = 18–55 years); 45% had less than a high school education or general equivalency diploma equivalent; and 74% were employed year round. Mean weekly income was \$395.00 (SD = \$244; range = \$0–\$1800).

Most participants were foreign born: 62% in Mexico, 6% in Honduras, 5% in El Salvador, 4% in Guatemala, and 13% in other Central or South American or Caribbean countries. Nearly two thirds of the participants reported speaking only or mostly Spanish. Foreign-born participants had been living in the United States for a mean of 13.5 years (SD = 8.2 years; range = 0.1–50.5 years). Most participants (66%) self-identified as gay, 23% as bisexual, 5% as heterosexual, and 6% as male-to-female transgender. Ten percent of participants reported sex with women in the past 3 months. There were no significant differences between the sociodemographic characteristics of intervention and comparison participants (Table 1).

Most participants—75% (n = 114) of *HOLA en Grupos* participants and 67% (n = 102) of comparison participants—completed all 4 of their assigned intervention sessions. Overall retention for 6-month follow-up assessments was 100%. The interventions were delivered with a high degree of fidelity.

At 6-month follow-up, *HOLA en Grupos* participants' self-reports of consistent condom use during sex in the past 3 months

significantly increased, from 33.3% at baseline to 65.0% (*P* < .001); comparison participants did not change significantly (37.50% vs 35.65%). At 6-month follow-up, *HOLA en Grupos* participants' self-reports of HIV testing in the past 6 months increased from 32.45% at baseline to 80.26% (*P* < .001); comparison participants did not significantly change (31.58% vs 27.63%).

Furthermore, among *HOLA en Grupos* participants who reported sex with men only, consistent condom use during insertive and receptive anal sex in the past 3 months increased significantly. Intervention participants 6-month follow-up reports of consistent condom use during insertive anal sex increased by 80%, from 34.2% at baseline to 61.4% (*P* < .001); during receptive anal sex, it increased by 70%, from 41.9% at baseline to 71.3% (*P* < .001).

Adjusting for baseline condom use and covariates, including age, educational attainment, and country of origin, at 6-month follow-up, *HOLA en Grupos* participants were 4.12 (95% CI = 2.16, 7.87) times more likely than were comparison participants to report consistent condom use during insertive and receptive anal sex with men and insertive vaginal and anal sex with women in the past 3 months (*P* < .001). *HOLA en Grupos* participants were 13.84 (95% CI = 7.56, 25.33) times more likely than were comparison participants to report HIV testing in the past 6 months (*P* < .001; Table 2).

Among those participants who reported having sex with men only, *HOLA en Grupos* participants were 3.94 (95% CI = 1.94, 8.0) times more likely than were comparison participants to report consistent condom use during insertive and receptive anal sex during the past 3 months (*P* < .001) and were 14.90 (95% CI = 7.63, 29.11) times more likely than were comparison participants to report HIV testing in the past 6 months (*P* < .001; Table 2).

We also observed marked differences in most psychosocial factors (Table 3) from baseline to 6-month follow-up. At 6-month follow-up, *HOLA en Grupos* participants reported increases in HIV and STI knowledge (*P* < .001), condom use skills (*P* < .001), condom use self-efficacy (*P* > .001), positive attitudes about condoms (condom use expectancies; *P* < .001), condom use intentions

TABLE 3—Psychosocial Factors Among Spanish-Speaking Hispanic/Latino MSM, by Intervention Status: North Carolina, 2012–2015

Psychosocial Factors	Adjusted Means and SEs at 6-Mo Follow-Up ^a		
	Adjusted Mean (95% CI)	Difference of Adjusted Mean (SE)	P
HIV knowledge		2.5 (0.20)	<.001
Intervention group	16.3 (16.0, 16.6)		
Comparison group	13.8 (13.5, 14.1)		
STI knowledge		2.6 (0.24)	<.001
Intervention group	12.1 (11.7, 12.5)		
Comparison group	9.5 (9.1, 9.9)		
Condom use skills		2.5 (0.22)	<.001
Intervention group	17.1 (16.7, 17.5)		
Comparison group	14.6 (14.3, 15.0)		
Condom use efficacy		9.4 (1.33)	<.001
Intervention group	86.3 (84.1, 88.6)		
Comparison group	76.9 (74.7, 79.2)		
Condom use expectancies		8.9 (1.34)	<.01
Intervention group	89.6 (87.4, 91.9)		
Comparison group	80.7 (78.5, 83.0)		
Condom use intentions		2.4 (0.41)	<.001
Intervention group	16.8 (16.2, 17.6)		
Comparison group	14.5 (13.8, 15.2)		
Sexual communication		1.1 (0.41)	.01
Intervention group	4.7 (4.0, 5.3)		
Comparison group	3.6 (2.9, 4.2)		
Traditional notions of masculinity		-2.0 (1.11)	.08
Intervention group	52.5 (50.7, 54.3)		
Comparison group	54.5 (52.7, 56.3)		
Fatalism		-7.1 (1.59)	<.001
Intervention group	22.9 (20.2, 25.6)		
Comparison group	30.0 (27.3, 32.7)		
Reactions to homosexuality		-3.0 (2.29)	.2
Intervention group	91.3 (87.5, 95.1)		
Comparison group	94.3 (90.5, 98.2)		
Ethnic identity		1.1 (0.61)	.07
Intervention group	36.4 (35.4, 37.4)		
Comparison group	35.3 (34.2, 36.3)		

Note. CI = confidence interval; MSM = gay, bisexual, and other men who have sex with men; STI = sexually transmitted infection.

^aWe determined adjusted means and 95% CIs by multivariable random-effect linear mixed models with covariates of age, education attainment, and country of origin with corresponding baseline measure. For these results, there are 32 clusters, and we estimated 2 between-cluster effects (intercept and intervention effect) so the degrees of freedom is 32 - 2 = 30.

($P < .001$), and sexual communication skills ($P = .01$); they also reported decreased fatalism ($P < .001$). There were no statistically significant differences between *HOLA en Grupos* and comparison participants in reported adherence to traditional notions of masculinity ($P = .08$); homonegativity ($P = .2$), and ethnic group pride ($P = .07$).

DISCUSSION

Hispanic/Latino MSM in the United States are particularly vulnerable to HIV infection, accounting for 81% of new infections among Hispanic/Latino men in 2013,⁵ and the number of Hispanic/Latino MSM aged 13 years and older living in the United States in 2011 was estimated to be nearly 1.5 million.³⁴

However, there is a severe shortage of efficacious behavioral HIV prevention interventions for this population. Currently, the Centers for Disease Control and Prevention's *Compendium of Evidence-Based Interventions and Best Practices for HIV Prevention* (<http://www.cdc.gov/hiv/research/interventionresearch/compendium/rr/index.html>) lists 1 evidence-based prevention intervention for Hispanic/Latino MSM.⁷ Thus, *HOLA en Grupos* offers an urgently needed behavioral resource to prevent HIV among Hispanic/Latino MSM.

HOLA en Grupos was efficacious for reducing HIV risk behaviors among Hispanic/Latino MSM in our sample. At 6-month follow-up, *HOLA en Grupos* participants were more than 4 times more likely than were comparison participants to report using condoms consistently during the past 3 months, and nearly 14 times more likely to report they had been tested for HIV during the past 6 months. We also observed favorable changes in psychosocial factors, including increased HIV knowledge; increased condom use skills, self-efficacy, expectancies, and intentions; sexual communication; and a decreased sense of fatalism.

Our study had an extremely high retention rate: 100% of participants completed 6-month follow-up assessments. This may be attributable to the effects of substantial engagement of Hispanic/Latino MSM at all stages of developing intervention content, recruitment and retention strategies, and measurement. We developed *HOLA en Grupos* to reflect the real-world experiences of Hispanic/Latino MSM. We designed each intervention module and activity to meet their expressed needs and presented them in a manner that was engaging and interactive. Participants stated that they enjoyed both *HOLA en Grupos* and the general health education comparison intervention and often expressed appreciation to the study team. All study team members who recruited participants, delivered the interventions, and contacted participants for follow-up assessments reflected the Hispanic/Latino MSM population that was the focus of the intervention. Many study team members, including the principal investigator, self-identified as gay, were Hispanic/Latino native Spanish speakers or were proficient in Spanish, and had personal

immigration-related experiences with which participants could identify. Finally, the high follow-up retention rates also resulted from study staff's unstinting efforts to maintain contact with and locate all participants and complete follow-up assessments.

Because of the recent development of biomedical prevention strategies such as preexposure prophylaxis and postexposure prophylaxis, the intervention could be enhanced to increase awareness of biomedical strategies and how to access them. The intervention could also be adapted for HIV-positive Hispanic/Latino MSM to focus on HIV care for one's own health and preventing HIV transmission to uninfected sexual partners. In all instances, information could also be incorporated about local sources of HIV prevention and care services, thereby facilitating contacts with providers. These enhancements would support efforts by Hispanic/Latino MSM to harness prevention strategies on the basis of their individual needs and priorities.

Limitations

Our study relied on self-reported data; however, self-reported data can be reliable if collected carefully, including acknowledgments that some questions may cause discomfort and explanations concerning the importance of providing honest responses to ensure the usefulness of the research.³⁵ The lack of significant between-group differences in adherence to notions of masculinity, homonegativity, and ethnic group pride suggests a need to reexamine the influence of these factors on condom use and HIV testing as well as how *HOLA en Grupos* addresses these factors. We developed *HOLA en Grupos* using a CBPR approach, with participants from urban and rural communities; it should be tested with Hispanic/Latino MSM elsewhere in the United States to assess the generalizability of our findings. Finally, this intervention is 16 hours long, limiting its ability to be easily implemented; however, we allotted time for socializing and sharing a meal. Nevertheless, future studies should determine whether an abbreviated version of *HOLA en Grupos* has the same impact.

Conclusions

Important gaps exist in the current intervention arsenal for reducing the risks of HIV and STIs among Hispanic/Latino MSM. *HOLA en Grupos* is a resource for increasing consistent condom use and HIV testing among Hispanic/Latino MSM. It also may serve as a foundation for efforts to offer a range of emerging HIV prevention strategies, including preexposure prophylaxis in combination with condom use, to Hispanic/Latino MSM. **AJPH**

CONTRIBUTORS

S. D. Rhodes co-conceptualized and supervised the study in partnership with colleagues from Chatham Social Health Council and participated in intervention refinement. E. Y. Song and B. A. Reboussin analyzed the data. J. Alonzo refined and implemented the intervention and supervised data collection. J. Alonzo, J. E. Arellano, R. Rodriguez-Celedon, and M. Garcia collected the data. L. Mann oversaw intervention implementation and participant randomization and tracking and assisted in participant recruitment and retention. E. Y. Song and B. A. Reboussin participated in study development. J. E. Arellano, R. Rodriguez-Celedon, and M. Garcia participated in intervention implementation. A. Freeman assisted in study oversight. T. M. Painter oversaw all aspects of the study. All authors interpreted the data and prepared the article.

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HUMAN PARTICIPANT PROTECTION

The Wake Forest School of Medicine institutional review board approved this study and provided human participant protection oversight.

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