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Results of a workshop intervention trial to reduce HIV and intersectional stigma among sexual and gender minorities and healthcare workers in the Dominican Republic

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Abstract

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Authors' contributions

HB, RPR, and JMT are protocol Principal Investigators. HB led the development of this manuscript with guidance from JMT. RPR and NVD provided Caribbean context and related scientific guidance. SN and LN contributed senior-level specialized measurement knowledge. JW was responsible for community engagement and civil society work reported herein. CLB supported study management. All co-authors contributed to the writing and editing of this protocol manuscript.

DECLARATIONS

Conflicts of Interest

The authors have no conflicts of interest to declare.

Eliminating stigmas that harm sexual and gender minorities (SGM) with HIV is necessary to end the epidemic; however, few validated stigma-reducing interventions for healthcare settings exist, and even fewer have been evaluated in Spanish-speaking contexts. Finding Respect and Ending Stigma around HIV (FRESH) is a healthcare setting stigma-reduction intervention that was adapted and tested to address HIV and intersectional stigmas that harm SGM with HIV in the Dominican Republic. Herein, we detail the intervention adaptation process and present feasibility, acceptability, and pre-post preliminary effectiveness results ascertained via paired t-tests. Twenty healthcare workers at HIV clinics and sixteen SGM with HIV received the intervention (N=36). Among healthcare workers, intervention receipt was associated with reductions in negative opinions about people with HIV (PWH, $p<0.05$); among SGM PWH there were significant improvements in healthcare empowerment ($p<0.05$) and awareness of clinic-based stigma ($p<0.05$). Nearly 100% rated the intervention, content, or quality of information as excellent; 95% reported they would recommend FRESH to friends or colleagues. All participants felt the intervention helped them to “better understand and deal with stigma.” The Spanish-language FRESH intervention is a promising stigma-reducing intervention for SGM PWH and healthcare workers. Future directions include intervention full-scale testing in Spanish-language settings.

Keywords

Spanish; men who have sex with men; intervention; stigma; providers; Good Health and Well Being; Gender equality; Reduced inequities

INTRODUCTION

HIV stigma is a deleterious structural force that manifests in negative attitudes, beliefs, and behaviors directed towards people with HIV (PWH) (Berger et al., 2001; Earnshaw & Chaudoir, 2009; Nyblade, 2006). Intersectional stigma occurs when PWH hold multiple societally devalued characteristics within a specific cultural context, such as being a sexual and gender minority (SGM), identifying as a migrant, engaging in sex work, using substances, concurrently while living with HIV (Bowleg, 2012; Budhwani et al., 2025; Simien, 2007; Turan et al., 2019). Stigma has been directly and indirectly linked to worse health outcomes among PWH; specifically, PWH who encounter or internalize stigma have higher levels of missed clinical visits, reduced antiretroviral therapy (ART) adherence, and reduced rates of viral suppression (Rice et al., 2017; Turan et al., 2017). Stigma reduction is a high priority public health target, and mitigating stigma in healthcare settings, spaces that should be safe and patient-supportive, is at the foundation of addressing the global HIV epidemic (Nyblade et al., 2021).

While there are multiple interventions to reduce HIV and intersectional stigmas (Andersson et al., 2020), few have been scientifically validated and even fewer have been adapted, replicated, and tested across multiple contexts. Finding Respect and Ending Stigma around HIV (FRESH) is a healthcare setting stigma-reduction intervention that is delivered via workshop including both PWH, those who experience stigma, and healthcare workers, those who may initiate stigmatizing behaviors (Batey et al., 2016; Budhwani et al., 2022; Uys et

al., 2009). FRESH was initially developed for African settings to address HIV-related stigma (Uys et al., 2009). Later it was adapted for the southern United States (Batey et al., 2016) and – in this study – our team adapted FRESH for the Dominican Republic (Budhwani et al., 2022). This recent adaptation included a specific focus on SGM clients (men who have sex with men, MSM, and trans women), cultural translation from English to colloquial Spanish, addition of new content including topics on the legal rights of PWH and SGM, and a pivot from coping with stigma to building resilience and resistance to stigmas that harm SGM with HIV.

The Dominican Republic continues to be a high need setting for HIV and intersectional stigma reduction efforts. In the Dominican Republic, stigmatizing views are commonplace (Budhwani et al., 2017; Budhwani et al., 2018; Joint United Nations Programme on HIV/AIDS (UNAIDS), 2018). Stigmatizing attitudes toward PWH and SGMs are reflected in the behaviors of healthcare workers, and thus stigmas may become embedded in HIV clinics, leading PWH to be reluctant to engage in care for fear of being treated poorly or judged (Arregui, 2007). In the Dominican Republic, PWH routinely experience intersectional stigmas both for living with HIV and for identifying as an SGM (Budhwani et al., 2018). This intersectional stigma may increase the amount and intensity of stigma experienced by SGM with HIV, exacerbating the negative effects on health (Kerr et al., 2022; Norcini Pala et al., 2022). Research shows that stigmas are significant barriers to HIV treatment services and contribute to sub-optimal viral suppression rates (Joint United Nations Programme on HIV/AIDS (UNAIDS), 2018).

Given the importance of stigma reduction, particularly in resource-limited global settings, we detail the intervention adaptation process and present feasibility, acceptability, and pre-post preliminary effectiveness results ascertained via paired t-tests.

METHODS

Original FRESH Intervention (Uys et al., 2009)

The original FRESH intervention was developed to address HIV stigma and was tested in five African countries, namely Lesotho, Malawi, South Africa, Swaziland, and Tanzania. African FRESH was conducted in a 2-day workshop that included nurses and PWH from the same clinic. FRESH was co-facilitated by a nurse and PWH; both groups jointly developed a stigma reduction project to be implemented in their clinic. One month after the delivery of the workshop, a daylong project evaluation workshop occurred. The original intervention included three key elements: knowledge sharing, increasing intergroup contact, and promoting coping strategies. FRESH was originally developed using Social Cognitive Theory (SCT) and Intergroup Contact Theory (ICT) (Bandura, 1994; Pettigrew, 1998). SCT is built upon Bandura's Model of Reciprocal Determinism and asserts that persons, their environment, and their behaviors are related (Bandura, 1994). For behavior change to occur, SCT states the capability to perform the behavior; observational learning; reinforcement(s); expectations, and self-efficacy to achieve change must be present (Bandura, 1994). FRESH also relies on ICT principles (Pettigrew, 1998), which suggest that an effective way to reduce prejudice between minority and majority groups is via thoughtfully managed interpersonal contact. ICT purports that the opportunity to understand, appreciate, and develop empathy

for different experiences and points of view diminishes prejudices (Corrigan et al., 2017; Corrigan, 2000; Corrigan et al., 2014).

FRESH in the Southern United States (Batey et al., 2016)

In 2016, FRESH was adapted for the experiences of PWH in the southern United States and health workers. The FRESH workshop was reduced from 2 days to 1.5 days and was delivered in a non-healthcare setting. A module on intersectional stigma was added. The group project was retained, but instead of focusing on reducing stigma in their clinic, groups were tasked with developing outreach and healthcare setting stigma-reduction projects to influence the wider population of health workers across the state. The co-facilitation model with one PWH and one healthcare worker was retained. Healthcare worker participant inclusion criteria were expanded to include allied health professionals such as psychologists, social workers, etc.

ADAPT-ITT (Wingood & DiClemente, 2008) Process to Create FRESH for the Dominican Republic (Budhwani et al., 2022)

To determine if FRESH was an appropriate intervention to adapt for the Dominican Republic, our study team held an open forum in Santo Domingo (September 2019) to collect feedback from MSM and trans women, PWH, representatives of community-based organizations, and healthcare workers. In this meeting, the team described the intervention's content, duration, format, and purpose. Attendees expressed strong enthusiasm and support for FRESH in the Dominican Republic to reduce stigma and improve rates of HIV viral suppression.

Thereafter, the study team engaged in qualitative data collection (2021), using a modified grounded theory approach, in Santo Domingo and Santiago de los Caballeros, to determine important intervention adaptation considerations. Trained native Spanish-speaking facilitators conducted four focus groups with MSM with HIV (n=26), fourteen in-depth interviews with trans women with HIV, and sixteen in-depth interviews with HIV healthcare workers.

Focus groups and interviews were under an hour each; transcripts were initially analyzed using a Rapid Qualitative Analysis (RQA) to elucidate key lessons for intervention adaptation (Hamilton & Finley, 2019). We noted three key findings for adaptation. (1) SGM participants emphasized their lived intersectional experiences indicating the need to address stigmas beyond HIV and specifically related to being a migrant (e.g., Haitian), engagement in sex work, substance use, sexual orientation, and gender identity (Budhwani et al., 2025). (2) We discovered that while participants were familiar with the term discrimination, the term "stigma" was less known, necessitating the creation of a new module on enabling language to support SGM participants to talk about their lived experiences. (3) We found that there was a need to share content on protective policies and anti-discriminatory laws since participants were unaware of their rights in the Dominican Republic. In Table 1, we list key findings with illustrative quotes.

To accommodate this additional content, the FRESH workshop was extended from 1.5 days to 2 days. Intervention delivery occurred offsite. Healthcare workers inclusion criteria

included anyone at the clinic with four or more hours per week of PHW engagement, including front office staff and clinic guards who may be the client's first point of contact at the clinic. Client inclusion criteria was narrowed to specifically SGM (MSM or trans women) with HIV. The workshops were facilitated by three leaders: one MSM, one trans woman, and one healthcare worker. Group work was retained, but only occurred during the delivery of the workshop and did not extend after the intervention concluded. Once new modules were developed, all modules were culturally translated, and FRESH was renamed Construir Respeto y Eliminar el Estigma en torno al VIH (CREEV) in Spanish. See Table 2 for features of each FRESH intervention version.

Pilot Testing the FRESH Intervention across Two Clinics in the Dominican Republic

We pilot tested the FRESH intervention across two HIV clinics in Santo Domingo. The first workshop was held over the 12/03/2021 weekend, and the second was conducted over the 03/18/2022 weekend. Workshops included theory-informed engaging activities that included moderated intergroup contact to increase empathy and empowerment while reducing stigma. Twenty participants attended the first workshop; sixteen attended the second. Study team members recruited participants at their local clinic by word-of-mouth and via in-clinic flyers.

Data Collection Pre- and Post- FRESH Workshop

In addition to sociodemographic information, pre-post intervention surveys collected data on antiretroviral medication adherence, HIV-related Stigma among Health Facility Staff (Nyblade et al., 2013), HIV Knowledge Index (Paulino-Ramírez & Rodríguez-Lauzurique, 2016), Empathy and Avoidance (Lin et al., 2012), Perceived Risk of HIV Scale (Napper et al., 2012), Social Distance Scale (Hackler, 2011), General Self-Efficacy Scale (Schwarzer & Jerusalem, 1995), Healthcare Empowerment Inventory (Johnson et al., 2012), HIV Stigma Scale (Wright et al., 2007), and the Multiple Discrimination Scale (Bogart et al., 2013). Some measures were administered to both healthcare workers and PWH clients, while others were administered to only one of the groups related to relevance. Most scales were already available in a validated Spanish version, reducing the need for translation.

Spanish language surveys were programmed into Qualtrics, and participants completed pre- and post- surveys on a wireless tablet. Participants were provided a unique participant ID that enabled our team to match data from before and after FRESH. Data were collected between December 2021 and March 2022.

Statistical Methods

Cronbach's alphas were calculated for each multi-item scale to examine for internal consistency. The assumption of normality was checked. Pre -and post-survey measures were then compared to assess the change after the FRESH workshop intervention using paired t-tests if the normality was confirmed and Wilcoxon signed rank tests if the normality assumption was violated. The significance level was identified as $p < 0.05$. All analyses were performed with SAS (Version 9.4, Cray, North Carolina, USA).

Human Subjects and Ethics

Informed consent for qualitative interviews and focus groups was obtained on a paper form with wet-ink signatures. Verbal consent with digital confirmation was obtained from participants for pre-post intervention data collection. Study approval was provided by the Institutional Review Boards of Universidad Iberoamericana (UNIBE, CEI2020–32), University of Alabama at Birmingham (IRB-300005657), and Florida State University (STUDY00003459).

RESULTS

Twenty healthcare workers and sixteen SGM with HIV attended two FRESH intervention workshops (N=36) from two clinics. The median age of clients was 32 compared to 40 years for healthcare workers. Clients were mostly males (81.3%), mulatto, mestizo or multiracial (50.0%), and MSM (56.3%). Healthcare workers were mostly female (80.0%), mulatto, mestizo or multiracial (70.0%), and heterosexual (90.0%). Most clients and healthcare workers had some university training or higher educational attainment (56.3% and 70.0%, respectively) and identified as Catholic (43.8% and 50.0%, respectively). See Table 3.

As noted in Table 4, 13 of the 20 scales had Cronbach's alphas ranging from 0.70 to 0.98, indicating good to excellent internal consistency among our sample. The remaining had weaker internal consistency, but all scores were still above 0.52.

Among healthcare worker participants, attending the FRESH workshop was associated with reduced negative opinions about PWH as assessed via a sub-scale in the HIV-related stigma among health facility staff scale ($p<0.05$); higher scores indicate higher levels of stigma and the pre- to post- mean score changed from 8.74 to 7.16. Among clients, the mean score on the Healthcare Empowerment Inventory improved by 2.09 points, indicating a statistically significant improvement in healthcare empowerment ($p<0.05$). After attending the FRESH workshop, clients noted fewer stigmatizing experiences in their clinics as assessed by the Experiencing HIV-related Stigma in Healthcare Settings sub-scale on experiencing HIV-related stigma from health facility staff scale, with mean scores changing from 10.25 to 8.41 ($p<0.05$).

As a pilot study, assessing acceptability and feasibility was of paramount importance. We found that the delivery of a workshop intervention over 2.5 days was not only acceptable and feasible but was also greatly appreciated by participants. Healthcare workers participants did not report any undue burden. In our post-workshop survey data, we found that 100% of clients and 95% of healthcare workers reported the workshop as being excellent. Similarly, 100% of clients and 95% of healthcare workers reported the content or quality of information as excellent and 94% of clients and 95% of healthcare workers reported that they would recommend FRESH to friends or colleagues. One hundred percent of healthcare workers and clients reported being satisfied with FRESH, and 100% of healthcare workers and clients felt that attending the FRESH workshop helped them to "better understand and deal with stigma."

DISCUSSION

Our purpose was to detail the intervention adaptation process and present feasibility, acceptability, and pre-post preliminary effectiveness results. Thus, we detailed the ADAPT-ITT informed adaptation process beginning with a stakeholder meeting, including rigorous qualitative data collection that informed changes to the intervention, such as adding content and increasing the length of the workshop. We found evidence that the FRESH intervention workshop was feasible and acceptable. While we found some statistically significant effects, our pilot sample was small, and therefore, we were unable to detect changes in outcomes as we might in a full-scale trial.

During the adaptation process we learned that SGM with HIV lacked the language or words to describe stigma, and often, when we asked about *estigma*, respondents asked if we were inquiring about the religious concept of *stigmata*. We found that SGM with HIV were not aware of their legal rights and lacked knowledge about protective laws and policies in the Dominican Republic. In response, we added content on both these topics, likely increasing awareness, and empowerment. Ideally, over time, SGM participants would take their newfound knowledge and skills in challenging stigma to speak up in defense of themselves and their peers leading to sustained reductions in HIV-related and intersectional stigmas in Dominican Republic clinics.

An emergent consideration from this work was that improved knowledge continues to be necessary to change behavior, reduce stigma, and improve health outcomes. Although FRESH is theory-informed, and all three versions of FRESH are built upon the foundations of ICT (Pettigrew, 1998), embedded in this intervention is also SCT, which asserts that persons, their environment, and their behaviors are related (Bandura, 1989, 2002, 2013). In the case of this FRESH study, to challenge stigma, SCT would suggest that clients and healthcare workers must have knowledge (the language of stigma), the behavioral capability to challenge stigma (through empowerment), and the self-efficacy to achieve change. SCT posits that behavior change encompasses one's knowledge of the specific behavior (stigma), including comprehension of relevant risks (social ostracization) and rewards (emotional well-being). Thus, although FRESH has only been tested to date as a workshop intervention that bring clients and healthcare workers together, the findings from this trial and its predecessors suggest that FRESH's SCT-informed content could be tested with clients or healthcare workers outside of a group setting to reduce stigma via improved knowledge and empowerment related to HIV outcomes, intersectional identities, and HIV prevention.

The FRESH workshop's immediate positive effect on healthcare empowerment among client participants is a potential indicator of future success of FRESH in the Dominican Republic. Combating and challenging stigma in culturally conservative settings requires that individuals are equipped with knowledge and are empowered to use that knowledge to protect themselves and others who may be harmed by stigmatizing behaviors and attitudes, particularly in healthcare settings where differentials in power between patients and healthcare workers, may make challenging stigma more difficult than in community settings.

Limitations

Although outcomes were promising, findings should be applied cautiously. Data was collected from two clinics, and the sample size was small. A selection bias could have affected results wherein healthcare workers who were amenable to change may have been more likely to participate, and clients with higher levels of self-efficacy may have been more likely to attend the workshop. This adaptation of FRESH was the first to translate it from English to Spanish; although we had two native Spanish speakers on the team and used a professional translation service, it is possible that some intervention elements may have been slightly altered in the translation process.

CONCLUSION

Stigma continues to harm PWH with HIV across global settings, and this has the potential to negatively affect HIV continuum of care outcomes and quality of life for SGM clients. If clients feel stigmatized in clinic settings, they are more likely to miss their visits and not be adherent to antiretrovirals, leading to reductions in rates of viral suppression. When PWH are not suppressed, they can transmit HIV and fuel the epidemic. Thus, reducing stigma is not only part of a human rights orientation to pragmatic research, but it also has downstream impacts on clinical health outcomes. FRESH is one of the few validated healthcare setting stigma reduction interventions for resource-constrained settings (Turan et al., 2023); findings from this pilot study lay the foundation for a full-scale trial in the Dominican Republic or across similar Caribbean settings, as well as for future research examining how components of FRESH could make their own independent impact on stigma reduction related to HIV care, as well as prevention among SGM populations.

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Data Availability

Data will be made available upon reasonable written request to the corresponding author.

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Table 1.

RQA findings to inform key adaptations to FRESH for the Dominican Republic

RQA Theme	Illustrative Quote
Intersectionality of HIV, SGM identity, sex work, substance, and migrant (Haitian) ethnicity	<p>The [Dominican Republic] culture treats transgender women in a way that makes us feel very vulnerable, as if we were worms, that we don't exist because we have vices, we are drug users, we stand on street corners to sell our bodies. We are rats, the black sheep, as people say.</p> <p style="text-align: right;">-Trans woman, Santo Domingo</p> <p>[Transgender women] were treated [in healthcare settings] as... if they were animals. In this country people treat us and Haitians like garbage.</p> <p style="text-align: right;">-Trans woman, Santiago</p>
Language	<p>Stigma are those moral and social labels that society puts on you over the years. They are all those labels; sometimes they are invisible, but they are there, I call them barriers. Sometimes you don't give importance to being called a faggot, but in the end they... hurt, maybe someone says it unintentionally... but... those [are all] social stamps that have been put on us: faggot, nasty, queer, queen, sidoso, living with the monster. These are social labels that have limited us and made us lived in fear; I myself live in fear of someone calling me a sidoso.</p> <p style="text-align: right;">-MSM, Santo Domingo</p> <p>In health centers there are many doctors who, when they see that you are dressed as a woman, want to belittle you, 'Look, that man is [indicating male gender rather than female pronouns]'. They reject you.</p> <p style="text-align: right;">-Trans woman, Santiago</p>
Training and Policies	<p>Well, first of all, you have to train all the staff and teach them [about] stigma and discrimination [and that they] must put aside stigma and discrimination. All patients who come or be it a child, an elderly person, an HIV positive person, a migrant -- they must all be treated the same because they are human beings, but the first thing is to train the staff [on stigma].</p> <p style="text-align: right;">-Healthcare provider, Santiago</p> <p>...if prejudice is an illness, information is the cure.</p> <p style="text-align: right;">-MSM, Santo Domingo</p>

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Table 2.

Features of all three versions of the FRESH intervention

Feature	African Countries	Southern United States	Santo Domingo, Dominican Republic
Facilitator (s)	1 nurse + 1 PWH	1 social worker + 1 PWH	1 provider + 1 MSM + 1 trans woman
Length and timing of workshop	2-day workshop; 1 day evaluation	1.5 days, 2 weeks apart	2 days over the weekend
Participants	84 total; 43 nurses, 41 PWH	36 total; 17 healthcare workers, 19 PWH	36 total; 20 healthcare workers, 16 SGM with HIV
Recruitment	All participants in a given workshop were from the same healthcare facility within one of five African countries.	Healthcare workers were recruited from HIV clinics and health departments; PWH were recruited from community agencies, HIV clinics, HIV support groups, and social venues	All participants in a given workshop were from the same clinic within one of our two sites
Participation criteria	Nurses at identified clinic and PWH from the same clinic	Clinical staff in healthcare settings with patient contact and PWH age 19 and older	Any staff with 4+ weekly hours of client contact at identified clinic were noted as eligible healthcare workers and PWH age 16 and older from the same clinic
Language	English	English	Spanish
Content Examples	<ul style="list-style-type: none"> Understanding and defining stigma The outcomes of stigma Why is stigma hard to change? Identifying stigma interventions and local examples Evaluating options for action 	<ul style="list-style-type: none"> Understanding and defining stigma Intersecting stigmas and outcomes of stigma HIV knowledge update Coping with and changing stigma Intervening in stigma 	<ul style="list-style-type: none"> Protective policies and laws HIV knowledge update Intersecting Stigmas (Sex Work, SGM Identity, Migrant Status, and Substance) Strengths and Resiliencies for Challenging Stigma Why is Stigma Hard to Change? Intervening on Stigma
Group Project	Yes, with continued engagement after the workshop	Yes, with some continued engagement between workshop days	Yes, but only during the workshop
Emotional Supports	No formal supports	No formal supports	Psychologist was present during workshops
Community Engagement	No formal engagement	Engaged through recruitment of participants	Multiple civil society groups engaged through and guided the Caribbean Vulnerable Communities Coalition
Assessments	Qualitative interviews and questionnaires 3 months before the intervention and within 1 month of completion of the intervention	Questionnaires before the first workshop session and immediately following the last workshop session	Online questionnaires before the first workshop session and immediately following the last workshop session

Table 3.
Social and demographic characteristics of clients and healthcare workers

Variable	Client (n=16)	N%	Healthcare Workers (n=20)	N%
Age	Mean=32.47, SD=6.78		Mean=40.40, SD=10.33	
19–24	3	18.75%	1	5.00%
25–34	5	31.25%	4	20.00%
35–44	6	37.50%	8	40.00%
45–54	1	6.25%	4	20.00%
55+	0	0.00%	3	15.00%
Unreported	1	6.25%	0	0.00%
Gender				
Male	13	81.25%	4	20.00%
Female	0	0.00%	16	80.00%
Other	2	12.50%	0	0.00%
Unreported	1	6.25%	0	0.00%
Race				
Dominicana White	0	0.00%	2	10.00%
Dominicana Black	6	37.50%	4	20.00%
Mulatto, Mestizo or Multiracial	8	50.00%	14	70.00%
Other	1	6.25%	0	0.00%
Unreported	1	6.25%	0	0.00%
Sex Orientation				
Bisexual	4	25.00%	0	0.00%
Heterosexual	1	6.25%	18	90.00%
Gay or MSM	9	56.25%	2	10.00%
Unreported	2	12.50%	0	0.00%
Education				
Some high school or high school graduate	4	25.00%	4	20.00%
Technical schooling or technical degree	2	12.50%	2	10.00%
Some university or university graduate	8	50.00%	11	55.00%
Graduate or professional degree	1	6.25%	3	15.00%
Unreported	1	6.25%	0	0.00%
Religion				
Buddhist	1	6.25%	0	0.00%
Catholic	7	43.75%	10	50.00%
Protestant	4	25.00%	5	25.00%
None	2	12.50%	4	20.00%

Variable	Client (n=16)	N%	Healthcare Workers (n=20)	N%
Other	0	0.00%	1	5.00%
Unreported	2	12.50%	0	0.00%

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Table 4.

Outcomes by participant type

Outcome	Cronbach's alpha	Pretest mean, SD	Post-test mean, SD	Paired t-test result		
Healthcare Workers						
HIV-related Stigma among Health Facility Staff (HFS)						
Stigma - Contracting HIV 1	0.68	10.65	2.78	10.63	2.60	0.25
Stigma - Contracting HIV 2	--	0.24	0.66	0.00	0.00	0.16
Stigma in the Clinic	0.98	4.42	1.95	4.21	2.07	0.16
Stigma related to being an HIV Provider	0.76	4.05	1.43	4.00	1.52	0.86
Health Facility Policies	0.66	10.63	1.71	10.84	1.12	0.56
Opinions about PWH – HIV, MSM	0.61	8.74	3.12	7.16	2.40	0.03
Opinions about PWH - Trans, Migrants, Sex Work	0.57	5.84	2.71	4.89	1.66	0.12
HIV Knowledge Index	0.52	7.00	0.58	6.63	0.76	1.13
Empathy in treating patients living with HIV/AIDS (PLWHA)	0.62	37.10	4.64	38.00	5.70	0.54
Perceived Risk of HIV Scale	0.64	16.00	5.12	11.81	7.28	0.02
Social Distance Scale (SDS)	0.90	40.74	13.76	40.53	13.53	0.67
General Self-Efficacy Scale	0.84	38.11	2.47	37.68	3.24	0.42
PWH Clients						
Stigma Scale (Revised)	0.85	8.17	3.69	8.17	3.51	1.00
Personalized Disclosure	0.77	8.08	1.68	8.25	1.71	0.70
Negative Public	0.85	5.67	2.50	5.45	3.08	0.49
Healthcare Empowerment Inventory	0.93	7.42	2.02	7.83	1.90	0.18
Experienced Stigma in Clinic (HFS)	0.81	31.83	3.13	33.92	3.68	0.02
Multiple Discrimination Scale – Race	0.86	10.25	3.91	8.41	4.03	0.04
Multiple Discrimination Scale – Orientation	0.86	1.42	2.50	1.73	2.57	1.00
Multiple Discrimination Scale – HIV	0.96	0.83	2.29	1.45	2.42	0.12
Multiple Discrimination Scale – HIV	0.93	1.50	2.88	1.83	2.32	0.34

[^] Not normally distributed. Median, IQR and signed rank p-value were reported.