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ACCEPTABILITY, SUITABILITY, AND FEASIBILITY OF AN EVIDENCE-BASED INTERVENTION TO REDUCE HIV RISK BEHAVIORS: ENGAGING COMADRONAS IN HIV PREVENTION IN RURAL GUATEMALA

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This study addresses rural Guatemala's poor maternal health and HIV status by culturally adapting an evidence-based HIV intervention, SEPA (Self-Care, Education, Prevention, Self-Care), to extend the capacity of comadronas (Mayan birth attendants) as HIV prevention providers. This mixed-method study examined the acceptability, suitability, and feasibility of SEPA presented to traditional elder and a younger cohort of comadronas over three sessions. Outcome variables were reported as mean scores. Open-ended qualitative responses were categorized under central themes. Session 1, 2, and 3 acceptability (4.6/5, 4.6/5, 4.8/5), suitability (4.7/5, 4.6/5, 4.9/5), and feasibility (4.4/5, 4.7/5, 4.8/5) remained high across sessions. While comadronas reported that information was difficult, they reported high

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levels of understanding and comfort with SEPA content and they also found it to be culturally appropriate, increasing their confidence to discuss HIV with their community. The broader utilization of comadronas could create a pathway to enhance reproductive health among indigenous women.

Keywords: SEPA, HIV prevention, community-engaged, rural health, comadronas

INTRODUCTION

As of 2020, it was estimated that 37.7 million people were living with HIV globally (The Joint United Nations Programme on HIV/AIDS, 2020), and during the past decade, HIV has disproportionately affected women. Today, 53% of people living with HIV are women (19.3 million), and as many of 50% of all new HIV infections occur in girls and women of reproductive age (15–49 years) (The Joint United Nations Programme on HIV/AIDS, 2020). HIV also remains one of the leading causes of mortality among women in developing countries (Orrego Dunleavy, Chudnovskaya, & Simmons, 2018). Furthermore, mortality in HIV-pregnant women is 2–10 times higher than in noninfected women, and HIV/AIDS contributes to a higher incidence of pregnancy-related complications (Calvert & Ronsmans, 2013; Lathrop et al., 2014; Moran & Moodley, 2012). Therefore, there is an urgent need to expand HIV prevention and treatment, linkage to care, and retention in care in order to reduce maternal mortality.

Guatemala has the highest number of individuals living with HIV in Central America (Mendoza et al., 2018). UNAIDS (2015) estimated that in 2014 approximately 46,000 people were living with HIV (a 0.5% prevalence rate). As with other countries in the region, in Guatemala gender and ethnicity have a strong influence on HIV infection, treatment, and prognosis (Ministerio de Salud Pública y Asistencia Social, 2018). Indigenous Mayans represent approximately 40% of the population and account for 20% of the HIV cases in the country (Orrego Dunleavy, Chudnovskaya, & Simmons, 2018). While 83% of HIV cases are found in Ladinos (a local term for non-indigenous individuals), more cases of AIDS are diagnosed in the indigenous Mayan population (65.5%) than in Ladinos (55.8%) (Hembling & Andrinopoulos, 2014; Johri et al., 2010; Ministerio de Salud Pública y Asistencia Social, 2018). Compared to Ladino women, indigenous women had higher odds of never testing for HIV and of lacking comprehensive knowledge about HIV (Taylor et al., 2015). Furthermore, only 16% of HIV-pregnant women receive antiretroviral therapy (ART), and the mother-to-child transmission (MTCT) rate is estimated at 30% (The Joint United Nations Programme on HIV/AIDS, 2013, 2018; Ministerio de Salud Pública y Asistencia Social, 2018). Despite this reality, programs and sustainable interventions addressing HIV awareness and prevention have been slow or nonexistent, underscoring the need for better initiatives.

Guatemalan indigenous women suffer greater maternal mortality due to more challenging economic circumstances, language barriers, and limited health-care access (Chaudhry et al., 2018). Because many of them live in rural areas where there is a lack of institutional health care, the large majority (71%) of births among indigenous women occur at home and are attended by a traditional midwife or *comadrona* (Chaudhry et al., 2018). Comadronas offer women prenatal, postnatal, family planning, and gynecological care. They also provide physical, emotional,

and spiritual support in their preferred language. However, most maternal health services do not include HIV prevention or testing (Orrego Dunleavy, 2020). Thus, engaging comadronas in HIV prevention could deliver more community-based and culturally appropriate maternal health care and ultimately lower HIV-related mortality.

SEPA (Salud/Health, Educación /Education, Prevención/Prevention, and Autocuidado/Self-Care) is an evidence-based intervention program that has proven efficacy in reducing HIV risk behaviors among heterosexual Hispanic women, developed by Dr. Nilda Peragallo Montano and recognized by the Centers for Disease Control and Prevention (CDC; Cianelli et al., 2017; McCabe et al., 2016; Mitrani et al., 2013; Peragallo et al., 2005, 2012; Peragallo Montano et al., 2019; Villegas et al., 2013). SEPA is based on the following theories: (a) the social-cognitive model of behavioral change, (b) Freire's Pedagogy of the Oppressed, and (c) the World Health Organization's primary health care model (Bandura, 1977; Freire, 1972, 1995; World Health Organization, 1978). SEPA has been shown to be effective in reducing risk behaviors and increasing condom use in heterosexually active Hispanic women at risk for HIV (CDC, 2011; Gonzalez-Guarda et al., 2011; Peragallo et al., 2005, 2012; Peragallo Montano et al., 2019). Briefly, it consists of three 2.5-hour modules that include presentations, group discussions, and skill-building exercises to increase awareness and prevention of HIV and sexually transmitted infections (STI). Recently, in the context of HIV prevention, pre-exposure prophylaxis (PrEP) has been incorporated into SEPA (Cianelli et al., 2022). The full details of the intervention have been published previously (Peragallo et al., 2005).

SEPA has been adapted to different cultural and socioeconomically diverse communities of women in Latin America (Cianelli et al., 2012; Villegas et al., 2014). However, information on international SEPA adaptations and on SEPA's acceptability, suitability, and feasibility among indigenous women is scarce. To that end, Orrego Dunleavy (2020) identified important factors in the receptivity of comadronas to expanding their capacity to promote HIV prevention in Santiago Atitlán, Sololá, where 98% of the population are Tz'utujil Mayan whose primary native spoken language is Tz'utujil (Instituto Nacional de Estadistica [INE], 2019; Orrego Dunleavy, 2020). These factors included four features that affirmed and guided the cultural tailoring of SEPA in Santiago: project logistics, HIV knowledge and risk assessment, condom perceptions, and HIV testing perceptions (Orrego Dunleavy, 2020). Thus, this mixed-methods study assessed the acceptability, suitability, and feasibility of a culturally tailored SEPA in Guatemala as an intervention for HIV prevention for indigenous comadronas in Santiago Atitlán, Guatemala.

METHODS

ETHICS STATEMENT

Prior to study initiation, ethical approval was obtained from the University of Miami Institutional Review Board (IRB ID # 20180936) and Federal Wide Assurance (FWA # 00027427) was obtained for Saving Mothers, a U.S.-registered agency operating in Guatemala. The Santiago Director of Guatemala's Ministry of Health reviewed and approved all study materials for compliance with in-country guidelines. Confidentiality of collected information was ensured throughout the process as no personally identifying information was recorded. All procedures were followed in accordance

with the Helsinki Declaration. Given very low literacy rates of the community, all participants provided verbal consent prior to participation in the study.

RECRUITMENT

Prior research revealed a generational difference in literacy rates and cultural practices between elder versus younger in-training comadronas, necessitating an adapted SEPA approach by conducting separate sessions for each group respectively (Orrego Dunleavy, 2020). Stratified SEPA sessions facilitated full engagement and dialogue, and allowed for identification of generational group differences to create tailored and appropriate SEPA interventions. Further adaptations to SEPA included Tz'utujil translations instead of Spanish and the inclusion of acceptability, feasibility, and suitability metrics. Before sessions began, community partners and local coordinators reviewed all adapted SEPA Guatemalan content for fidelity. Two community-based organizations assisted with participant recruitment. The School of POWHER (Providing Outreach in Women's Health & Educational Resources) run by Saving Mothers facilitated word-of-mouth recruitment endeavors and study activities for the younger cohort of comadronas in training, while the government-funded Centro de Salud (local health facility) assisted in recruitment of the older "abuela" comadrona cohort. Existing comadronas or comadronas in training aged 18 years or older, fluent in Spanish or Tz'utujil, were recruited from these local stakeholders from January 1 to February 28, 2020, using volunteer and snowball sampling methods. Study assessments were conducted in either Spanish or Tz'utujil indigenous dialect, depending on a participant's preference.

FOCUS GROUPS

Two sets of three separate face-to-face sessions were conducted using private conference rooms in accessible locations: the school of POWHER and the Centro de Salud. A female facilitator, trained in health communication and not a peer of the participants, led the small group oral discussions in Spanish (CDC, 2019). Sessions were stratified by age to account for generational differences indicated in prior research and to facilitate engagement and dialogue (Orrego Dunleavy, 2020). Comadronas 60 years old or older were included in the older group, and comadronas below 60 years of age were included in the younger group. In the older cohort, an active translator with previously established community rapport mediated translations to Tz'utujil. Sessions were conducted during convenient times, weekly on weekdays, which were open to new participants as long as they met inclusion criteria. Sessions occurred throughout a period of three weeks in February 2020. Icebreakers, socialization, safe environments, promotion participation, feedback, and confidentiality, among other communication techniques, were used to encourage consistent engagement in the intervention. Core elements covered topics such as HIV and STI transmission and prevention, male and female reproductive anatomy, human sexuality, interpersonal communication, and domestic and intimate partner violence. All information was localized and contextualized to demonstrate relevance and prevalence in the community. After the completion of each SEPA module session, quantitative (e.g., acceptability, suitability, feasibility items) and qualitative (e.g., open-ended responses) surveys were administered. Responses were written on paper, digitally recorded for accuracy, and transcribed into an electronic database. Participants who completed more than half of the sessions were awarded certificates of completion

at the conclusion of participation. Transportation, light refreshments, and bags with medical supplies were provided, but there were no direct monetary incentives or compensation.

MEASURES

Acceptability, suitability, and feasibility were tabulated and stratified by focus group categories. The Acceptability of Intervention Measure (AIM), Intervention Appropriateness Measure (IAM; "Suitability"), and Feasibility of Intervention Measure (FIM) are considered indicators of implementation success (Proctor et al., 2011). We defined acceptability as "the perception among the implementation stakeholders that a given treatment, service, practice, or innovation is agreeable, palatable, or satisfactory" (Proctor et al., 2011, p. 67). Acceptability of SEPA was assessed through questions about approval, appeal, and enjoyment of the intervention. Suitability of SEPA was assessed through questions on the appropriateness, adequacy, applicability, and community relevance. Feasibility was defined as the "extent to which a new treatment, or an innovation, can be successfully used or carried out within a given agency or setting" (p. 69) and was explored through questions on viability of implementation and ease of use. Acceptability, suitability, and feasibility scores were calculated from the average of four Likert 5-point scale item responses (from 1 = *strongly disagree* to 5 = *strongly agree*). Responses to postsession core elements (i.e., HIV and AIDS in the community; HIV, AIDS, and STI prevention; Partner Communication and Negotiation) and general perceptions of SEPA interventions were recorded (Cianelli et al., 2012). Open-ended qualitative responses about what participants liked the most, liked the least, which responses required clarification, and general comments were categorized under central themes. To ensure analytic rigor, qualitative responses were originally recorded in Spanish and translated into English by two independent reviewers fluent in both languages.

DATA ANALYSIS

Although no saturation analysis for this cross-sectional pilot study was conducted, SEPA sessions are designed for 8–10 individuals (Cianelli et al., 2012). The constant comparative analytical method was used to identify the four qualitative themes (on what participants liked the most, liked the least, required clarification, and general comments) reflecting the participants' responses regarding cultural adaptation, acceptability, and feasibility of implementing SEPA (Corbin & Strauss, 2008; Orrego Dunleavy, Chudnovskaya, Phillips, & McFarlane, 2018; Orrego Dunleavy, Chudnovskaya, & Simmons, 2018). The list of categories and themes is presented in Table 2 and illustrated with quotes from the focus groups below.

Frequency of responses and mean scores are reported in Tables 1 and 3. Chi-square analysis and standardized *t* tests were used for group comparisons between stratified groups. Statistical significance was determined using an $\alpha = 0.05$. Analyses were performed using SAS 9.4.

RESULTS

Median comadrona age was 76 (IQR 70–79) years in the older group and 33.5 (IQR 28–44) years in the younger group. Given the continuous enrollment nature of the

TABLE 1. Acceptability, Suitability, and Feasibility of SEPA Intervention by Group

Session 1, mean ± *SD*	Overall (*n* = 20)	YC (*n* = 10)	OC (*n* = 10)	*p*
Acceptability	4.64 ± 0.46	4.65 ± 0.56	4.63 ± 0.38	.91
Suitability	4.68 ± 0.44	4.70 ± 0.50	4.65 ± 0.39	.81
Feasibility	4.44 ± 0.58	4.55 ± 0.64	4.33 ± 0.53	.40
Session 2, mean ± *SD*	**Overall (*n* = 21)**	**YC (*n* = 11)**	**OC (*n* = 10)**	***p***
Acceptability	4.61 ± 0.47	4.68 ± 0.45	4.53 ± 0.51	.46
Suitability	4.61 ± 0.38	4.57 ± 0.42	4.65 ± 0.34	.63
Feasibility	4.66 ± 0.48	4.70 ± 0.44	4.61 ± 0.5	.69
Session 3, mean ± *SD*	**Overall (*n* = 22)**	**YC (*n* = 10)**	**OC (*n* = 12)**	***p***
Acceptability	4.81 ± 0.40	4.78 ± 0.44	4.83 ± 0.39	.77
Suitability	4.86 ± 0.31	4.83 ± 0.37	4.90 ± 0.25	.62
Feasibility	4.76 ± 0.41	4.70 ± 0.48	4.81 ± 0.36	.55

Note. Individuals with missing observations were not included in AIM, IAM, and FIM scores. SEPA = Self-Care, Education, Prevention, Self-Care; YC = younger comadronas; OC = older comadronas.

focus groups, two additional comadronas joined the sessions later in the process, with a total of 21 comadronas participating in Session 1, 22 in Session 2, and 23 in Session 3 of the culturally adapted SEPA intervention. Responses to end-of-session assessments are reported in the supplemental materials. The proportion of individuals in the young and old comadrona groups remained relatively consistent throughout sessions.

Responses to Session 1 assessments of HIV knowledge were not significantly different between comadrona groups. Approximately 90.5% believed that partner fidelity and condom use are behaviors that reduce risk of HIV. Most participants reported accurately on potential transmission routes like breastfeeding (100%) and mother-to-child infection (90%). Yet, 27.8% of the comadronas reported that healthy-looking individuals cannot be affected by HIV. Most of the comadronas did not stigmatize HIV/AIDS, and perceptions of accessibility of and engagement with confidential HIV testing in the community were high.

Central themes of open-ended responses are given in Table 2. Older comadronas (OC) reported that they really enjoyed the videos presented in the session because they "talked about real cases in our community" (OC #4) and "explained what is happening in the community" (OC #3), yet some mentioned that the sessions "lasted too long" (OC #3) or "[were] a lot of time, I would like it to be shorter" (OC #5). Younger comadronas (YC) enjoyed learning about treatment options for HIV: "[I liked learning] about which could be the medication for a treatment of the disease and be able to inform the community that treatments do exist" (YC #4) and "the way everything was explained and the population data on HIV and how to prevent it in humans" (YC #3). SEPA adaptability to Tz'utujil was well received by younger comadronas as they "liked the fact that some topics were spoken in our mother tongue" (YC #4), "I like how HIV and AIDS were explained. I also liked that they were explained in Tz'utujil" (YC #5), "the information was very appropriate and adapted to Tz'utujil culture" (YC #6), and "I liked the way they explained and

TABLE 2. Central Themes of Open-Ended Responses for SEPA Sessions

Session 1	**YC (*n* = 10)**	**OC (*n* = 10)**
Most Liked	• Video • Explanations • Population data • HIV prevention • No discrimination • Content language • Clear and precise information • Sharing information • HIV/AIDS information	• HIV transmission • Video • Knowledge of HIV in the community • Materials • HIV myths
Least Liked	• Untranslated content • Too much information, more dynamic activities	• Too long
Content Clarification	• Treatment information • HIV & AIDS differences	• HIV myths • Video content
Comments, Relevance, and Appropriateness	• Useful content • Will help with patients • Relevant to community, family, or friends • Appropriate information • Adapted Tz'utujil culture • Important for disease prevention	• Relevant to community • Appropriate information • Hope for continuous updates on HIV • Efforts for test and medications need to be made
Session 2	**YC (*n* = 11)**	**OC (*n* = 10)**
Most Liked	• Topics well-explained • Condom use information • STD information • Sharing experiences • Variety of information	• Condom use information • STD information
Least Liked	• Female condoms • More images are needed	• Condom use may be used advantageously by other people
Content Clarification	• Papilloma • Use of antibiotics • Deeper on STD, causes, and treatment	• How HIV acts in the body • Feedback on information • Disease transmission
Comments, Relevance, and Appropriateness	• Improved confidence to share information with others • I can now educate people to prevent STD • Relevant to the community • Useful and appropriate content	• Important information • Useful content • Culturally appropriate • More training of others needed • Duty to inform others
Session 3	**YC (*n* = 10)**	**OC (*n* = 12)**
Most Liked	• Open-session design • Examples • Information on intrafamilial violence	• Final details • Information to prevent and report violence • Explanations • Project demonstrations • Communication in session
Least Liked	• Information about low self-esteem • Some sections seemed very academic	• Sad about data on violence
Content Clarification	• More feedback on STD and treatment • Information on human papilloma virus (HPV)	• Communication channels for violence • Future updates on violence prevention and women's rights • Information on law enforcement
Comments, Relevance, and Appropriateness	• Easy to talk about information with community • Valuable topics to help community • Well-explained • Easy to use material • Built confidence around these topics	• Valuable topics to help community • Useful due to now having tools and information on practical applications • Important issue to our people • Well-explained • Feels like we have a voice • Hope to be able to repeat in future

Note. Individuals with missing observations were not included in AIM, IAM, FIM scores. SEPA = Self-Care, Education, Prevention, Self-Care; YC = younger comadronas; OC = older comadronas.

TABLE 3. General Perceptions of SEPA Intervention (*n*, %)

		Very Unsatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied
Session Satisfaction	OC (*n* = 12)	0 (0.0)	0 (0.0)	0 (0.0)	3 (25.0)	9 (75.0)
	YC (*n* = 11)	0 (0.0)	0 (0.0)	0 (0.0)	3 (27.3)	8 (72.7)
Information Satisfaction	OC (*n* = 12)	0 (0.0)	0 (0.0)	0 (0.0)	2 (16.7)	10 (83.3)
	YC (*n* = 11)	0 (0.0)	0 (0.0)	0 (0.0)	3 (27.3)	8 (72.7)
Facilitator	OC (*n* = 12)	0 (0.0)	0 (0.0)	0 (0.0)	1 (8.3)	11 (91.7)
	YC (*n* = 9)	0 (0.0)	0 (0.0)	0 (0.0)	2 (22.2)	7 (77.8)
		Very Difficult	Difficult	Neutral	Easy	Very Easy
Difficulty of SEPA information	OC (*n* = 12)	7 (58.3)	5 (41.7)	0 (0.0)	0 (0.0)	0 (0.0)
	YC (*n* = 11)	5 (45.5)	5 (45.5)	1 (9.1)	0 (0.0)	0 (0.0)
		Very Low	Low	Neutral	High	Very High
Understanding of SEPA information	OC (*n* = 12)	0 (0.0)	0 (0.0)	0 (0.0)	5 (41.7)	7 (58.3)
	YC (*n* = 9)	0 (0.0)	0 (0.0)	0 (0.0)	3 (33.3)	6 (66.7)
Understanding of facilitator answers	OC (n = 12)	0 (0.0)	0 (0.0)	0 (0.0)	3 (25.0)	9 (75.0)
	YC (*n* = 9)	0 (0.0)	0 (0.0)	0 (0.0)	2 (22.2)	7 (77.8)
Comfort level with SEPA material	OC (*n* = 12)	0 (0.0)	0 (0.0)	0 (0.0)	2 (16.7)	10 (83.3)
	YC (*n* = 10)	0 (0.0)	0 (0.0)	1 (10.0)	4 (40.0)	5 (50.0)
Relevance of SEPA content with current problems	OC (*n* = 12)	0 (0.0)	0 (0.0)	0 (0.0)	3 (25.0)	9 (75.0)
	YC (*n* = 10)	0 (0.0)	0 (0.0)	1 (10.0)	5 (50.0)	4 (40.0)

Note. SEPA = Self-Care, Education, Prevention, Self-Care; OC = older comadronas; YC = younger comadronas.

translated everything as many of our colleagues speak mainly Tz'utujil" (YC #7). Most older comadronas emphasized their enjoyment of community topics in "the video as it explained what is happening in the community" (OC #3), "watching the video as it talks about real cases in our community" (OC #4), "knowing that in our community there are HIV-positive persons is important to me" (OC #5), and "watching the video because that's where we see the real things that are happening in our community" (OC #6). Furthermore, older comadronas appreciated addressing misinformation surrounding HIV transmission, with many highlighting that "the materials used to explain the HIV and the myths" (OC #9), "knowing that the many ways I thought we could be infected with HIV are not necessarily real" (OC #7), and "that HIV cannot be transmitted by eating next to an HIV-positive person" (OC #1) were critical lessons learned during this session. Both groups of comadronas felt like the information was useful, relevant, and appropriate to the community in disease prevention strategies.

There were no significant differences in responses in Session 2. About 15 (75%) of the comadronas believed that condoms can cause physical pain to men, 6 (28.5%) reported on its potential to ruin the romantic environment, 9 (47.4%) reported the inability to decline sexual intercourse if partner negotiations to use a condom failed, and 7 (35%) felt like persons in the community could not buy condoms without feeling embarrassment. Both groups appreciated the STD and general condom use information because they are critical for empowering community engagement "recommendations about condom use are necessary to be able to recommend it to our patients" (OC #3), and "I was impacted about STD topic, because it helps me to clear doubts" (YC #6). However, younger comadronas were conflicted on the topic of "a woman uses condom" (YC #2) or felt like "female condom is a little complicated to

me" (YC #3) or were unfamiliar with it: "I also liked about feminine condom use and before [this] I did not had the chance and knowledge of its use" (YC #6). Some requested additional information on STDs, their causes and treatments: "Expand on topics such as the causes of STDs, its nature, or why do they exist?" (YC #7). Comadronas felt like Session 2 information was useful and important, and many reported improving their confidence to share this information with others. At the completion of Sessions 1 and 2, all comadronas felt comfortable discussing HIV/AIDS prevention in their community.

There were no significant differences in responses in Session 3. Most comadronas reported being confident after the session in their ability to explain topics to their clients about self-esteem, assertive communication, condom negotiations, and interpersonal violence. In fact, most were very thankful for the opportunity to expand on these topics: "I liked all topics because each topic is linked and it is very important to know all of them" (OC #4), "I liked how our doubts were cleared" (OC #8), and "I liked two topics over all the topics on this session. It will help me a lot to apply it in the community, especially with pregnant women, couples, and friends who needs information" (YC #6). Although the majority really liked the content of Session 3, one individual reported that "some parts seemed very academic to me" (YC #10). Session acceptability, suitability, and feasibility were similar in both groups (Table 1). Overall, general acceptability was slightly higher in Session 3 (4.8) compared to Session 1 (4.6) and Session 2 (4.6). Suitability was slightly higher in Session 3 (4.9) compared to Session 1 (4.7) and Session 2 (4.6). Lastly, feasibility was slightly higher in Session 3 (4.8) compared to Session 1 (4.4) and Session 2 (4.7). Overall, comadronas were satisfied with the three SEPA sessions, SEPA content, and the facilitator of each SEPA session (Table 3). While all comadronas reported that the information disseminated in the sessions was difficult, they reported high levels of understanding of and comfort with the SEPA content and the facilitators' answers. At the completion of the sessions, the comadronas reported that SEPA content was relevant to the needs of their community.

DISCUSSION

This cross-sectional study evaluated the feasibility, acceptability, and suitability of a culturally tailored SEPA intervention among comadronas from Santiago Atitlán, Sololá, Guatemala. Because earlier research demonstrated overall low levels of HIV knowledge among Mayan comadronas, continued education of comadronas presents a great opportunity to improve HIV knowledge and prevention services and reduce stigma among historically neglected communities (Orrego Dunleavy, 2020; Taylor et al., 2015). To our knowledge, this is the first study to examine feasibility, acceptability, and suitability of SEPA among both younger and older comadronas in rural Guatemala.

We recruited the participation of younger comadronas in-training as well as the older "abuela" comadronas (Orrego Dunleavy, 2020). Across all SEPA sessions, no significant differences were observed among comadrona groups across all metrics, and both groups exhibited high scores on feasibility, acceptability, and suitability measures across all SEPA sessions. The findings of this study suggest that this SEPA adaptation was widely accepted and culturally appropriate and relevant among Mayan comadronas, regardless of age. Overall 32.2% of all births registered in Guatemala in 2013 were attended by comadronas (Ministerio de Salud Pública y

Asistencia Social, 2015). This percentage is considerably higher among indigenous women in the country, where approximately 71% of births occurred at home in 2018 (Chaudhry et al., 2018). Therefore, interventions aimed at educating comadronas are critical to mitigating the vertical transmission of HIV in high-risk communities in rural Guatemala (Orrego Dunleavy, Chudnovskaya, & Simmons, 2018). Such interventions also provide a powerful tool for HIV prevention efforts in the developing world, where poverty and reduced access to care are key determinants of negative HIV-related outcomes and health service disparities (The Joint United Nations Programme on HIV/AIDS, 2021).

Nearly all (95.6%) comadronas reported the SEPA information as being difficult but easily understood, and they also expressed high levels of comfort with the information and with the facilitators' answers. For instance, an older comadrona reported the language of certain sections in Session 3 as being "very academic." Despite this, comadronas reported high levels of confidence gained from learning the material, as well high levels of content utility and relevance for their community. Our approach highlights the importance of delivering health information at a level and in the language that is appropriate for the target population. This is significant for comadronas, because their training and trustworthiness are tied to cultural norms and traditional practices rather than biomedical health services (Orrego Dunleavy, 2020). Although the majority of comadronas reported high satisfaction with SEPA material, future modifications to SEPA could include lowering the register and language of the intervention, decreasing the length of the sessions, including additional audiovisual and graphic resources and role-playing activities, and tying content information to traditional practices to improve delivery of information.

Although the sample size for this mixed-methods study is small, it is directly aligned with the suggested number of attendees for each SEPA session. Limitations of this project include comadronas recruited from community-based partnerships with previously established rapport within these organizations. This may have resulted in selection bias, because participants involved with these organizations may be more likely to support favorable health interventions in their communities. In addition, the findings of this study may not be generalizable to other populations that fall outside of the scope of this intervention, because eligibility for focus group participation was available only to comadronas. Lastly, adaptation of the SEPA content from English to Spanish to Tz'utujil may have been susceptible to some information loss or content modification as part of the translation process.

CONCLUSIONS

Social-cognitive theory describes the relationship between the individual and environmental factors that influence learning and posits that adjustments in self-efficacy and agency, goals, and outcome expectancies will increase the likelihood that a healthy behavior change will be adopted (Peragallo Montano et al., 2019; U.S. Department of Health and Human Services, 2005). Focus group data showed that comadronas felt that SEPA sessions helped build their confidence to discuss and educate clients and the community on HIV prevention and transmission, attitudes about condom use, and partner negotiation in the future. By empowering comadronas with the knowledge and skills to perform HIV counseling, HIV prevention using the SEPA intervention has the potential to begin the process of addressing HIV health disparities in the indigenous Mayan population.

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