

# LASER PULSE

Long-term Assistance and Services for Research (LASER)  
Partners for University-Led Solutions Engine (PULSE)

## Adapting Group Problem Management Plus (Group PM+) for Venezuelan Refugees and Migrants in Colombia

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## ABOUT LASER PULSE

LASER (Long-term Assistance and SErvices for Research) PULSE (Partners for University-Led Solutions Engine) is a \$70M program funded through USAID's Innovation, Technology, and Research Hub, that delivers research-driven solutions to field-sourced development challenges in USAID partner countries.

A consortium led by Purdue University, with core partners Catholic Relief Services, Indiana University, Makerere University, and the University of Notre Dame, implements the LASER PULSE program through a growing network of 3,400+ researchers and development practitioners in 74 countries.

LASER PULSE collaborates with USAID missions, bureaus, and independent offices, and other local stakeholders to identify research needs for critical development challenges, and funds and strengthens the capacity of researcher-practitioner teams to co-design solutions that translate into policy and practice.

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## EXECUTIVE SUMMARY

### BACKGROUND

Over 8 million Venezuelans have fled their country, and Colombia is host to the highest proportion of those forced to migrate. The rapid influx of Venezuelan refugees and migrants without citizenship status is associated with serious challenges to access to health, protection, and other social services. Although few studies to date specifically investigated the mental health impacts of forced displacement on Venezuelans, a burgeoning body of research points to a high prevalence of mental health issues among Venezuelan migrants in Colombia (Carroll et al., 2020; Espinel et al., 2020; Schwartz et al., 2018). Venezuelan women in Colombia are especially at risk for mental health issues given well documented high rates of gender-based violence (GBV) that occur in the context of forced displacement. Although there are a number of interventions that have been shown to help reduce mental health issues in the context of forced migration, such interventions delivered by specialists are unlikely to be feasible for supporting Venezuelan women in Colombia due to cost, lack of access to health insurance, stigma, and treatment duration.

This project sought to increase access to, and reduce gaps in, mental health support among Venezuelan migrants in Barranquilla, Colombia through the adaptation and implementation of a scalable mental health intervention developed by the World Health Organization, Group Problem-Management Plus (Group PM+). Group PM+ is a 'task-sharing', scalable, trans-diagnostic, lay-therapist-delivered intervention designed to reduce psychological distress. While a growing number of studies indicate that individual PM+ (1 therapist: 1 recipient), delivered by lay-therapists can effectively reduce distress (Bryant et al., 2017; Rahman et al., 2016), recent studies suggest that group adaptations of PM+ can effectively reduce distress among women in conflict and humanitarian settings (Rahman et al., 2019). We proposed that task-sharing interventions, such as Group PM+, hold promise to fill critical gaps in the availability and access to needed mental health services (Espinel et al., 2020); yet such interventions are scarcely available. Although such findings are promising, there remains an urgent need to develop, test, and disseminate evidenced-based interventions that can address a range of mental health issues and offer strategies for integration and adoption into local health systems and structures.

There are three Aims for the proposed study:

**Aim 1 - Formative research.** During the formative phase we worked with local and international multi-sector stakeholders to examine the relevance and acceptability of Group PM+ and explore intervention strategies. Hebrew Immigration Aid Society (HIAS) is an international NGO providing support to refugees throughout the world, including in Barranquilla, Colombia. In this project, HIAS served as the key local implementation partner, including leading the local delivery of Group PM+ trainings. However, prior to HIAS delivering the Group PM+ trainings to members of the community, the New School trained HIAS staff as Group PM+ Trainers. HIAS participated in the coordinator and facilitation of the formative work (e.g. facilitating focus groups), contributing to recruitment and collection of data, co-leading PM+ trainings, and providing supervision to the trained PM+ facilitators. We also trained Venezuelan women who have no previous experiences in MHPSS to deliver Group PM+ with other women.

**Aim II – High Intensity Supervision.** Group PM+ was delivered in two phases. Phase one included high levels of technical support through intensive training and supervision by mental health professionals, a process similar to most research trials (which we refer to as the “high-intensity implementation” condition).

**Aim III “Routine Delivery Implementation”**

In Phase two, research and implementation teams provided less direct support and engagement in training, and Group PM+ was then delivered again using routine procedures and supervision (which we refer to as the “routine delivery implementation” condition), in which a sub-group of women who had originally be trained to facilitate the Group PM+ sessions took on the roles of trainers and supervisors, with minimal professional and technical support. The goal of this study is to inform best practices for the implementation of low-intensity scalable mental health intervention in humanitarian contexts, and ideally to shorten the time lag and “voltage drop” between intervention research and routine uptake.

**METHODS**

This study reflects an *implementation science* strategy, with short-term, community- based, group mental health services to assess the barriers and facilitators in the adoption of a task-sharing intervention. We utilized a *type 2* hybrid implementation design (Curran et al., 2012; Landes et al., 2020), to evaluate the utility and effectiveness of Group PM+ and several implementation outcomes, such as adoption, fidelity, and maintenance. We compared participant level outcomes when the intervention was delivered with robust professional and technical support and facilitator supervision by psychologists versus routine care delivered by lay providers who are supervised by lay supervisors.

This research design offers a few points of comparison:

- 1) Change in primary and secondary outcomes at 1-week follow-up (T1) and 3-month follow-up (T2) amongst participants that receive Group PM+ with high technical support (high-intensity condition) compared to those that receive delayed intervention within routine delivery implementation; [Primary objective]
- 2) Differences in implementation indicators (e.g., Facilitator competencies, fidelity to PM+, participant retention, cost effectiveness, adverse events, human resource involvement and more) in the high-intensity vs. routine delivery
- 3) Change in primary and secondary outcomes amongst participants in the high-intensity arm compared to participants receiving routine care; because the two arms are staggered and because all participants intended to receive PM+ were recruited at the same time, the Phase 2 participants will serve as a wait-list control for those receiving PM+ in phase 1.

**FINDINGS**

Women with minimal prior experience in delivering mental health interventions were successfully trained in Group PM+

Preliminary analyses indicate that women who received Group PM+ found that interventions to be beneficial for their mental health and felt a strong sense of community with the other women in the group.

Although preliminary findings indicate some change in impact due to “changes in voltage” associated with high intensity vs. routine delivery, this study showed promise for scalability as women who were initially trained in the intervention were successfully trained as trainers and supervisors for subsequent cohorts of Group PM+ recipients

**CONCLUSIONS**

These findings add to a growing body of knowledge that in the context of forced migration and displacement-scalable mental health interventions delivered by non-mental health specialists offer an important strategy for building capacity for mental health support. Additionally, the findings from this work also point to the potential scalability and sustainability of this intervention. Over the course of the program, not only were individuals with minimal formal mental health training able to demonstrate their ability to deliver this intervention to women in their community, but a number of the women initially trained to facilitate groups, then successfully moved into trainer and supervisory roles. Therefore, these findings continue to underscore the important role of task-sharing strategies in response to providing mental health support in humanitarian contexts, and provide emerging evidence that such programs can be sustained and scaled beyond the initial transfer of knowledge from specialists to non-specialists.

## ACRONYMS

Group PM+	Group Problem Management Plus
HIAS	Hebrew Immigration Aid Society
MHPSS	Mental Health and Psychosocial Support
PM+	Problem Management Plus
PEP	Special Permit of Permanence
PAHO	Pan American Health Organization
UNHCR	United Nations High Commissioner for Refugees
USAID	United States Agency for International Development
WHO	World Health Organization

## BACKGROUND

At the end of August 2022, United Nations High Commissioner for Refugees [UNHCR] reported a cumulative total of more than 89.3 million people who were forcibly displaced as refugees, internally displaced persons (IDPs), and asylum seekers, including 4.4 million Venezuelans who were displaced outside of their country (UNHCR, 2022). In 2021, Venezuelans were among the largest groups of people forcibly displaced outside their country. Many of them went to neighboring Colombia, which hosted 1.8 million Venezuelans, making Colombia the country hosting the largest number of forcibly displaced nationals after Türkiye (UNHCR, 2022). In addition to hosting over 70 percent of those forced to flee Venezuela (World Bank, 2021), Colombia has a high number of internally displaced persons (IDPs) (Shultz et al., 2014), estimated at 5.23 million IDPs at year-end, 2021 (IDMC, 2022). Venezuelans residing in Colombia face psychological stressors from potentially traumatic and life changing events, along with the loss of homes, livelihoods, and social support systems (Espinel et al., 2020). Pre-migration stressors are compounded by post-migration factors such as disruption of family and supportive networks, poverty, discrimination, acculturative stress, and lack of social support (Daniels, 2020). Given these contextual factors, Venezuelans and IDPs living in Colombia are at increased risk for depression, anxiety, post-traumatic stress disorder (PTSD), substance use, and gender-based violence (Calderón-Jaramillo et al., 2020; Carroll et al., 2020). This is especially the case within the context of the COVID-19 pandemic where access to healthcare, social services, and work opportunities have decreased and thereby increasing mental health stressors for migrants and IDPs (Daniels, 2020).

Although recent national policies permit access to healthcare for Venezuelans registered in Colombia through the Special Permit of Permanence (PEP), numerous barriers persist for refugees and migrants to receive social services and mental healthcare (Espinel et al., 2020). Colombian persons experience economic and other difficulties that limit their access to mental healthcare, similar to displaced populations. As a method to increase access to mental healthcare, task-sharing psychological interventions have increasingly been used in low-resource settings for refugees and communities in need (Sijbrandij, 2018). Task-sharing interventions are manualized, easily adaptable, and use evidence-based techniques that have been successfully implemented and have been proven effective in many contexts. With competency-oriented training and supportive supervision, such interventions can be delivered by people without formal training in psychotherapy, including community members who may share demographic similarities with the target population, which makes these interventions ideal for people on the move (Sijbrandij, 2018).

Problem Management Plus (PM+) is one such task-sharing intervention developed by the World Health Organization (WHO) and has been found to be feasible, acceptable, safe, and effective in numerous settings (Dawson et al., 2015; de Graaff et al., 2020; Jordans et al., 2021; Sangraula et al., 2020; Spaaij et al., 2022). PM+ is a 5-session psychological intervention that focuses on four evidence-based strategies: a) stress management, b) problem solving, c) behavioral activation, and d) accessing social support (Dawson et al., 2015). A group version of PM+ was effective in reducing symptoms of depression and psychological distress among women in a post-conflict setting in Pakistan (Rahman et al., 2019) and adults affected by humanitarian disasters in Nepal (Jordans et al., 2021). The intervention also shows great promise for refugee and migrant populations (Bryant et al., 2022). Group PM+ was found to be feasible and acceptable for Syrian refugees in Türkiye (Acarturk et al., 2022). The individual version has previously been adapted for Venezuelan migrants, refugees, and Colombian returnees (Perera et al., 2022; Perera et al., 2020).



However, the feasibility and effectiveness of PM+ does not guarantee its uptake and widespread use (Bauer and Kirchner, 2020). Little research exists on whether PM+, or Group PM+, can be delivered as effectively in routine care settings, without robust external technical support and the resources that are often available within the context of controlled research trials. As evidence on the effectiveness of task-sharing interventions increases, additional needs to examine how interventions can be translated and sustained in settings similar to those in routine implementation in low resource contexts (Jordans & Kohrt, 2020). In order to increase access to care, the replication and expansion of brief psychological interventions must be paired with an understanding of – and strategies to navigate – barriers to routine implementation in low resource contexts (Fuhr et al., 2020). Based on implementation science research, changes in how providers are trained and supervised contributes to what is known as “the voltage drop” in effectiveness in real world settings (Bauer et al., 2015). Therefore, trials that compare psychological treatments implemented with high levels of professional and technical resources versus mental health services provided with routine amounts of resources is a necessary step to scale-up and more widely disseminate interventions such as PM+ (Purgato et al., 2021; Turrini et al., 2021).

In an effort to address these gaps we sought to integrate *implementation science*, a field that focuses on a research-to-practice approach (Bauer and Kirchner, 2020; Wainberg et al., 2017), with short-term, community-based, group mental health services to assess the barriers and facilitators in the adoption of a task-sharing intervention. We utilize a *type 2* hybrid implementation design (Curran et al., 2012; Landes et al., 2020), to evaluate the utility and effectiveness of Group PM+ and several implementation outcomes, such as adoption, fidelity, and maintenance. We compared participant level outcomes when the intervention is delivered with robust professional and technical support and facilitator supervision by psychologists versus routine care delivered by lay providers who are supervised by lay supervisors.

Group PM+ was delivered in two phases. Phase one included high levels of technical support through intensive training and supervision by mental health professionals, a process similar to most research trials (which we refer to as the “high-intensity implementation” condition). Group PM+ was also delivered in phase two using routine procedures and supervision (which we refer to as the “routine delivery implementation” condition). The phases were conducted sequentially, rather than in parallel, because of the need to provide training for basic implementation. The type of recipients (beneficiaries) for the two conditions met the same inclusion/exclusion criteria, and the type of person providing PM+ (non-specialists) were the same in both arms.

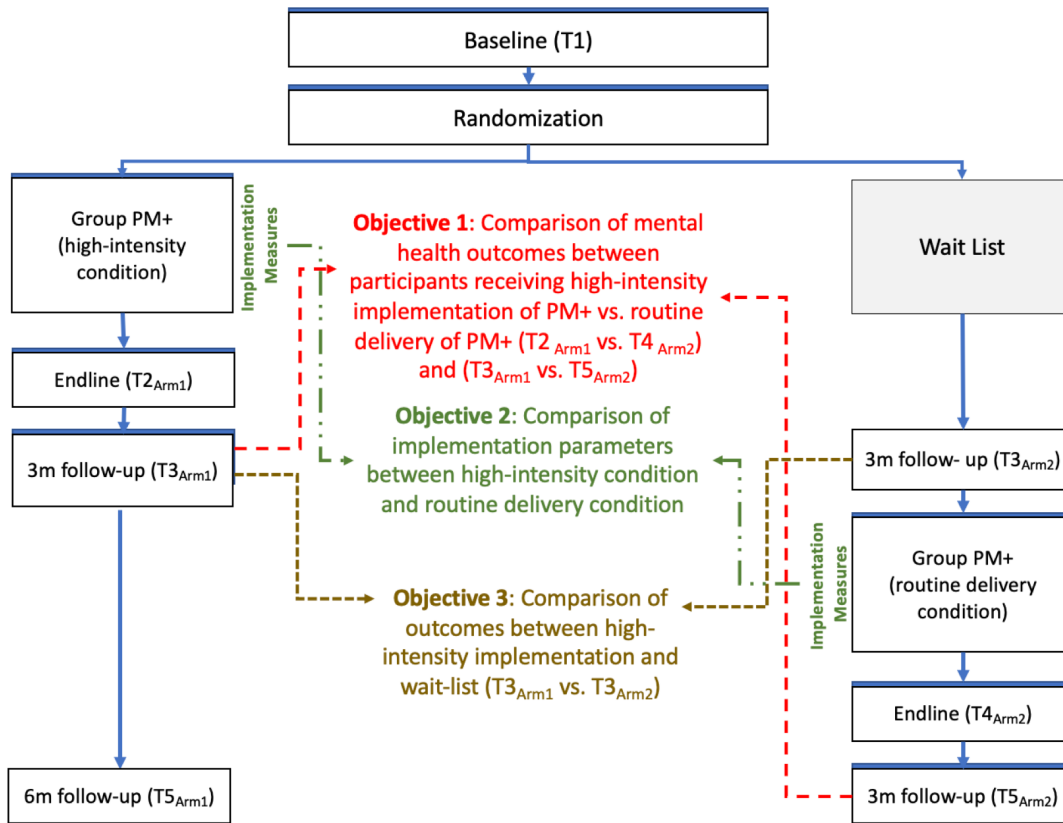
The training and supervision differed between the two implementation conditions, however. Community members, with no formal mental health education, who are trained and supervised by psychologists to deliver PM+ as part of the high-intensity implementation phase were trained to become supervisors. They trained and provided support for a cohort of new non-specialist facilitators for Group PM+ delivery in the routine delivery phase. This model employed a train-the-trainers (ToT) model to replicate routine service delivery especially in settings where mental health specialists may not be available to provide robust professional and technical support and supervision of lay PM+ facilitators. Our aim was to compare effectiveness and implementation outcomes of Group PM+ when delivered with focused professional and technical support and supervision from mental health specialists as compared to routine care, where non-specialists assume the majority of training and supervision responsibilities. These findings will help inform best practices for implementation, and ideally to shorten the time lag and “voltage drop” between intervention research and routine uptake.

## Objectives

The main objective of this study was to compare implementation processes and outcomes for participants when Group PM+ is delivered with the high-intensity focused technical support condition compared to routine delivery condition (**FIGURE 1**). This research design offers a few points of comparison:

1. Change in primary and secondary outcomes at Endline/1-week follow-up ( $T2_{Arm1}$  vs.  $T4_{Arm2}$ ) and 3-month follow-up amongst participants that receive Group PM+ with high technical support (high-intensity condition) compared to those that receive delayed intervention within routine delivery implementation ( $T3_{Arm1}$  vs.  $T5_{Arm2}$ ); [Primary objective]
2. Differences in implementation indicators (e.g., Facilitator competencies, fidelity to PM+, participant retention, cost effectiveness, adverse events, human resource involvement and more) in the high intensity vs. routine delivery,
3. Change in primary and secondary outcomes amongst participants in the high-intensity arm compared to participants receiving routine care ( $T3_{Arm1}$  vs.  $T3_{Arm2}$ ); because the two arms are staggered and because all participants intended to receive PM+ will be recruited at the same time, the routine will be able to serve as a wait-list control for those receiving Group PM+ as part of the high-intensity condition.

Figure 1. Study Flow Chart Illustrating the Two Phases of the Group PM+ Study



## Study Setting

This study took place in Barranquilla, Colombia, a rapidly growing coastal city that hosts the third largest number of migrants of any city in Colombia (Zambrano-Barragán et al., 2021). Migrants and refugees in Barranquilla have poorer housing conditions compared to the host population, limited access to public services, and most lack temporary legal status that would allow them to work in the country (Fernández-Niño et al., 2018). Colombian and Venezuelan women in Colombia also experience high rates of gender based violence (GBV), which poses a considerable threat to their mental health (Calderón-Jaramillo et al., 2020). Therefore, this study focused on only recruiting participants that identify as women. The study was conducted in collaboration with the implementing partner that provides refugee protection in Barranquilla and other cities in Colombia.

## Trial Design

This study is a two-arm randomized controlled trial (RCT) comparing implementation and participant outcomes when Group PM+ is delivered by facilitators that are trained and supervised by psychologists versus by lay supervisors. At the start of the study, approximately 127 participants were recruited and randomized into two arms. This sample size has been used in previous PM+ trials (Khan et al., 2019) and enables the formation of 8 to 9 groups, with 6 to 8 participants in each group. One arm received Group PM+ with high technical support (high-intensity implementation) while the other received this intervention within routine care (routine delivery implementation). Participants for both arms were recruited at the start of the trial and randomized to receive the intervention first as part of the high intensity intervention arm or after this first phase of delivery as part of the routine delivery implementation arm to reduce immigrative selection bias (i.e., potential baseline differences in participant characteristics between the two study conditions). Because the focus of the type 2 implementation hybrid design is on participant and implementation outcomes, process evaluations were conducted throughout the trial.

## METHODS

### Eligibility Criteria

#### *Participant Inclusion Criteria*

People were eligible for inclusion if they identify as a woman, are over 18 years of age, and were planning to live in Barranquilla for at least three months after the date of screening. Participants can self-identify as Venezuelan, Colombian, or another nationality. The inclusion criteria include the following: 1) moderate functional impairment as indicated by scoring greater than 16 on the WHO Disability Assessment Schedule 2.0 (WHODAS 2.0) for health and disability (Üstün et al., 2010) and 2) moderate psychological distress as indicated by scoring greater than 2 on the General Health Questionnaire 12 (GHQ-12) (Goldberg, 1988; Minhas, 1996). The WHODAS and GHQ-12 have been used as the inclusion criteria in prior PM+ studies.

#### *Participant Exclusion Criteria*

Participants will be excluded if they 1) have an imminent risk of suicide as identified by the MINI (Sheehan et al., 1998), 2) show severe cognitive impairment (e.g. severe intellectual disability or dementia) or a cognitive impairment assessed with a disabilities questionnaire (Durkin et al., 1994). Participants excluded from the study were referred for appropriate treatment and support and those who met the criteria were invited to complete a baseline assessment prior to randomization.

### **Informed Consent**

Participants were invited for screening and were informed about the study along with their right to withdraw at any time. Participants were informed about why data are being collected, how it may be used, anonymity, and possibility of sharing relevant data for research purposes only. Verbal consent was

required for screening and written consent was required before completing baseline assessments for eligible participants.

**Intervention: Group PM+**

Group PM+ is a trans-diagnostic, brief psychological intervention developed by the WHO. Group PM+ consists of five sessions delivered in five consecutive weeks and includes strategies that are aimed to decrease symptoms of depression, anxiety, general distress, and other related conditions. Group PM+ is designed to be delivered by non-specialists, persons without a formal education and licensure in psychology or mental health. Participants were matched to facilitators that either live in, or close to, their communities. Because of varying degrees of access to remote communication amongst participants, all Group PM+ sessions were conducted in-person in open community spaces, such as schools, community rooms, and backyards, while taking necessary privacy and COVID-19 precautions recommended by the organization and local authorities in Colombia. Prior to implementation, the research team conducted a cultural adaptation process using a Group PM+ manual that has previously been translated into Spanish. This process included interviews with community stakeholders, training of trainers, translation of the manual, manual read throughs, and practice rounds by supervisors and facilitators (Sangraula et al., 2021). The adaptation process aimed to increase the fit of the intervention and trial procedures for the migrant and IDP populations in Barranquilla. Specific attention was paid to adapting the language and illustrations in the guide, the delivery of the training and intervention, and the data outcome tools.

**Study Conditions and Procedures**

The comparison conditions for this study included implementation of Group PM+ with intensive technical support, training, and supervision provided by psychologists (high-intensity arm) to delayed implementation of Group PM+ with routine support, training and supervision provided by non-specialists trained as trainers and supervisors (routine delivery arm). Detailed procedures for each of these study conditions are provided below.

*High-intensity implementation arm:* At the start of the research trial, Colombian and Venezuelan local leaders and community members who identified as women and were previously involved with local programming will be recruited and trained as Group PM+ facilitators. The clinical supervisor and other members of the research team conducted interviews to identify six to eight facilitators that have natural helping skills, such as empathy and supportive listening, and are able to commit time to the role. As recommended by the WHO, they completed a 10-day training to become Group PM+ facilitators. The Enhancing Assessment of Common Therapeutic Factors (ENACT), a rating system that measures competency of non-specialists (Kohrt et al., 2015), was completed before and after training and after the facilitators have delivered Group PM+ to all of their assigned groups.

Prior to implementing PM+, newly trained facilitators completed at least one practice round with local community members. They were supervised weekly by psychologists on the research team who completed a Group PM+ training of trainers (ToT). Because of the COVID-19 pandemic, face-to-face group supervision was not always possible on a weekly basis. Therefore, individual and group supervision was conducted by phone and internet most of the time. A clinical supervisor was present in every session to collect data using the fidelity checklist and GroupACT, an observational tool that measures non-specialists' competencies in delivering group-based sessions (Pedersen et al., 2021). Participants randomized to receive Group PM+ as part of the intervention arm were invited to join a group within 1 - 3 weeks of enrollment.

*Routine delivery implementation arm:* At the start of the research trial, half of the recruited participants were randomized to the routine delivery arm. While the intervention arm received Group PM+, participants in the routine delivery arm only received a flier with referrals to mental health resources for this first phase of the trial. Randomization occurred after baseline and consenting took place during baseline. That is, for ethical purposes, after they were enrolled in the study, they were randomized to either Group PM+ or Routine Delivery.

During this first phase, participants receiving the intervention as part of the high intensity condition only will be assessed 7 – 8 weeks after baseline ( $T_{2Arm1}$ ). Participants in both arms were assessed at 3 months ( $T_{3Arm1}$  &  $T_{3Arm2}$ ). Routine delivery participants were contacted prior to the three-month follow-up to confirm that they are still living in the area and to increase likelihood of successful follow-up for the intervention. The  $T_{3Arm2}$  timepoint functioned as a baseline for the routine delivery condition participants prior to them receiving Group PM+. After the completion of the first phase, all participants in the routine delivery implementation arm, who are not lost to follow-up and still interested in the intervention, received PM+.

The training and supervision procedures for the routine delivery arm were guided by protocols established by the organization. Procedures were also guided by lay-supervisors trained to oversee intervention delivery to the routine delivery arm. This is to emulate if Group PM+ was integrated into routine organizational programming. Of the facilitators who delivered PM+ to the intervention arm, two to four facilitators that showed excellent skills and performance, as identified by the clinical supervisor and research team, were selected to become lay-supervisors by taking part in a 5-day Group PM+ Training of Trainers (ToT). Lay-supervisors learned skills to train, supervise, and support incoming facilitators. Once they completed the ToT, they led the recruitment and selection of facilitators who will deliver PM+ as part of the routine delivery arm, with the support of organization staff. They provided brief guidelines on this process, but the lay-supervisors selected six to eight facilitators mainly based on the skills they identified as necessary from their own experience as facilitators.

Supervision and support for the lay-supervisors followed a training of trainers model; the clinical supervisors outlined overall guidance for the lay-supervisors and conducted check-ins every week to answer any concerns and monitored for safety issues. Lay-supervisors delivered a 10-day Group PM+ facilitator training guided by the training manual provided by WHO. Similar to the high-intensity arm, ENACT assessments were conducted before and after the Group PM+ facilitator training, and after routine condition facilitators deliver PM+ to their assigned groups. The lay-supervisors used the ENACT competency assessment to ensure that the newly trained facilitators had enough skills to keep their participants physically and emotionally safe during Group PM+ delivery. Similar to the protocol for the intervention arm, lay-supervisors attended every session for on-site supervision and to monitor fidelity and competency. The new supervisors drew on their experiences from delivering Group PM+ to the intervention group to design a supervision schedule and agenda that they believed would be most supportive to facilitators.

After participants in the routine delivery condition received the intervention, assessments were conducted 25 – 26 weeks ( $T_{4Arm2}$ ) and 36 – 37 weeks ( $T_{5Arm2}$ ) after initial screening and baseline. Additionally, all participants in the high intensity implementation arm were contacted again at 6 months after baseline ( $T_{5Arm1}$ ). Participants from both arms received services and treatments as usual outside of the trial. They were asked to participate in the Patient Health Questionnaire 9 (PHQ-9), the primary

outcome, to compare attrition amongst the two arms. This also provided a parallel time point to compare depression symptoms of the participants at T5<sub>Arm1</sub> with their baseline scores.

## Participant Recruitment Methods

Participants were recruited for screening into the study using several methods. Women who have previously received services from the organization were contacted by phone for a pre-screening to ensure they met the basic criteria for inclusion. The pre-screening informed participants about the study and a verbal consent will be required to continue. The pre-screening included a question about gender identity, length of stay in Barranquilla and several questions from the General Health Questionnaire (GHQ-12) to select participants for screening that identify as having general distress and meet basic demographic criteria. A Community Advisory Council (CAC) was also formed to support the facilitation of relationships with local communities. Group PM+ facilitators and other local leaders recommend persons in their communities, with their consent, that are facing problems with distress. They were then assessed using the pre-screening tools and continued to the principal screening, if eligible.

### Randomization

Prior to randomization, participants were stratified according to their community of residence. Once at least 12 participants within a particular community completed the baseline, they were randomly assigned on a 1:1 basis to either the high-intensity implementation condition or the routine delivery implementation condition. Therefore, randomization occurred on a rolling basis within each community once there were enough participants to form a PM+ group of at least 6 people per intervention arm, and another PM+ group of at least 6 people who received the intervention during the second phase as part of the routine delivery implementation condition. Randomization was completed using a computerized software by a researcher who is not involved in the recruitment process.

### Outcome Measures

All instruments were administered by research assistants (RAs), who were trained staff employed by the organization or trained students, at all timepoints. Because of the COVID-19 pandemic, assessments were administered in-person or over the phone depending on the comfort and availability of participants (**TABLE 1**).

**TABLE 1. Quantitative Outcome Measures**

Construct	Instrument	Description	Assessment Time Periods				
			Screening (T0)	Baseline (T1)	Endline (T2 & T4)*	3m follow-up (T3 <sup>a</sup> & T5 <sup>b</sup> )	6m follow-up (T5 <sup>a</sup> )
<b>Primary Outcome (Participants)</b>							
Depression symptoms	<i>Patient Health Questionnaire (PHQ-9)</i>	Participants rate depression symptoms over past two weeks		X	X	X	X
<b>Secondary Outcomes (Participants)</b>							
General Psychological Distress	<i>General Health Questionnaire (GHQ-12)</i>	Participants measure their general psychological distress	X				
Daily Functioning	<i>WHODAS</i>	Participants rate their ability to engage in daily activities	X				
General Psychological Distress	<i>Reducing Tension Checklist (RTC)</i>	Participants note if they have had any tension recently		X	X	X	
Post-traumatic stress symptoms	<i>PTSD Checklist (PCL-5)</i>	Participants rate their post-traumatic stress symptoms on a scale			X	X	
Personalized Outcome	<i>Psychological Outcome Profiles (PSYCLOPS)</i>	Participants list their emotional and practical problems and rate how much each problem affects them		X	X	X	
Reducing tension skills	<i>Reducing Tension Checklist (RTC)</i>	Participants assess their own behavioral and psychosocial skills related to coping		X	X	X	
Traumatic Events	<i>Traumatic Events Inventory (TEI)</i>	Participants rate if they have been exposed to certain traumatic events throughout their lifetime		X			
Identification of Gender-based Violence	<i>ASIST-GBV</i>	Participants note whether they have experienced various forms of gender-based violence		X			



Suicidality	<i>Suicidality</i>	Participants rate if they have recently had suicidal thoughts, ideation, and plans	X	X		
Migration related distress	<i>Post-Migration Living Difficulties (PMLD)</i>	Participants rate the impact of post-migration living difficulties on mental health		X	X	X
Stress related to Covid-19	<i>Perceived Stress Scale (PSS-10) of Covid-19 Pandemic</i>	Participants rate the impact of the COVID-19 pandemic on their mental health		X	X	X
Alcohol use disorder	<i>Alcohol Use Disorders Identification Test (AUDIT)</i>	Participants rate alcohol use and associated behavior, as well as daily ethanol consumption		X	X	X

\* At 8-8.5 weeks after baseline, i.e. 1-1.5 weeks after the final Group PM+ session for intervention participants

<sup>a</sup>High-intensity condition

<sup>b</sup>Routine delivery condition

#### *Participant level primary outcome measure*

Along with implementation outcomes (see below), the primary participant level outcome measure of this study is the Patient Health Questionnaire 9 (PHQ-9), a well-known 10-item instrument that measures symptoms of depression and general distress (Kroenke et al., 2001). It has been used in prior PM+ studies as the primary participant level outcome (Jordans et al., 2021) and has been translated and clinically validated in a primary care population in Bucaramanga, Colombia with an optimal validated cut-off score of  $\geq 7$  (sensitivity = 0.90, specificity = 0.81, PPV<sup>1</sup> = 0.57, NPV = 0.96) (Cassiani-Miranda et al., 2021).

#### *Participant level secondary outcome measures*

The Post-traumatic stress disorder (PTSD) Checklist (PCL-5) is a 20-item checklist that corresponds with the 20 DSM IV PTSD symptoms (Blevins et al., 2015). The 4-item Psychological Outcome Profiles (PSCYHLOPS) instrument seeks participants' perspectives on their psychological distress related to the problems they are facing, and well-being, scored on a 0 to 5 scale (Ashworth et al., 2004). The Reducing Tension Checklist (RTC) is a 12-item assessment of psychological and behavioral skills related to PM+ to evaluate skill acquisition (Sangraula et al., 2020). It has previously been used to measure PM+ intervention mechanism of action (Jordans et al., 2021). Hazardous and harmful alcohol use will be assessed by the alcohol use disorders identification test (AUDIT) (Babor et al., 2001).

## Other Measures

Demographic information including access to material goods ownership as a proxy for socio-economic status (Jordans et al., 2021) was assessed during enrollment. The ASIST-GBV is a 7-item tool that assesses women's exposure to physical and sexual violence and has demonstrated validity amongst refugees and IDPs who experience GBV in Colombia (Wirtz et al., 2016). The Post-Migration Living Difficulties Checklist (PMLD) measures 17 post-migration challenges on a scale of 0 to 4 (Silove et al., 1997). Perceived stress associated with the COVID-19 pandemic was assessed by the 10-item COVID PSS-10 previously tested in Colombia (Pedrozo-Pupo et al., 2020). Traumatic events were assessed with the Traumatic Events Inventory (TEI), an 11-item assessment of lifetime trauma exposure (Schwartz et al., 2005). These measures were used for descriptive analysis and potential mediators and moderators of observed changes.

## Process Evaluation and Implementation Outcomes

The RE-AIM framework, a framework that was developed specifically to support the transition of scientific advances into practice, was used to guide and evaluate the differences in the implementation indicators in Group PM+ implementation with high technical support compared to delivery with routine care (Glasgow et al., 1999). Each dimension of the framework was linked with research questions pertaining to whether reach, effectiveness, adoption, implementation, and maintenance differs when Group PM+ was delivered with high levels of technical support, training, and supervision as compared to routine service delivery (**TABLE 2**).

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<sup>1</sup> PPV = Positive Predictive Value; NPV = Negative Predictive Value

**TABLE 2. RE-AIM Process Evaluation Indicators**

Dimension and Research Question	Outcome	Indicator
Reach  Can Group PM+ reach and retain as many participants in the intervention when delivered with high vs. standard levels of technical support, training, and supervision?	Reach	Rate of recruitment
	Retention	% of participants who completed intervention (3 sessions or more); % of participants who did not complete endline and 3-month follow-up
	Demographic profile	% host community vs. migrant community enrolled; % host community vs. migrant community who attended one or more intervention sessions; % with GBV history enrolled; % with GBV history who attended one or more intervention sessions
	Baseline distress	Mean psychological distress/mental health scores
	Equitable reach	Perceptions of intervention reach to underserved or marginalized populations based on qualitative data
Effectiveness  Does Group PM+ yield comparable changes in psychological distress when delivered with high vs. standard levels of technical support, training, and supervision?	Non-inferior effect sizes	Non-significant between-group differences in effect sizes
	Mechanisms	Use of skills as a mediator of change in outcomes (baseline, endline, and 3-month follow-up RTC and PHQ-9 data)
	Use of PM+ Skills	Use of PM+ skills in RTC baseline, endline, and 3-month follow-up data
Adoption  Do lay providers, trainers, and other personnel continue to apply Group PM+ as intended when delivered with high vs. standard levels of technical support, training, and supervision?	Provider retention	Facilitator attendance in intervention sessions, training, supervision
	Training and supervision implementation	# hours in training and supervision
	Usability and Adoption	Intention of facilitators to continue using Group PM+ after completion of trial
Implementation  Does the acceptability and feasibility of Group PM+ differ when delivered with high vs. standard levels of technical support, training, and supervision?	Perceived effectiveness of training and supervision	Perceived quality and impact of training and supervision based on qualitative data
	Fidelity to the intervention	Mean fidelity score (facilitator level); Mean fidelity (per session)

	Trainer and facilitator competency	Mean ENACT score (facilitator-level); Mean GroupACT score (facilitator-level); Mean change in GroupACT over time
	Safety	# adverse events (AE), # serious adverse events (SAE)
	Group cohesion	Group cohesion and dynamics based on qualitative data
	Motivation and self-efficacy	Facilitator motivation to deliver PM+ and self-efficacy based on qualitative data
	Ease of implementation	Challenges and success to scaling-up Group PM+ during routine service delivery and supervision, indicated by qualitative data
	Stakeholder engagement	# community council meetings, # meetings with other stakeholders
Maintenance	Potential for sustainability and scalability	Feasibility and usability of Group PM+ by NGOs/CBOs based on qualitative data
Is group PM+ sustainable in the absence of high levels of technical support, training, and supervision?	Cost of PM+ implementation	Total Cost (COP) of Implementation (including staff hours and compensation)
	Identity, recognition, and ownership of the program	Perceptions of changes to identity, recognition, and ownership of the program as experienced by the facilitators, based on qualitative data

Quantitative, qualitative (focus groups and individual interviews), and process level indicators were collected throughout both phases of the trial. Data sources such as notes from sessions, training and supervision and evaluation tools such as the GroupACT and checklists were utilized for the process evaluation to collect data on intervention fidelity and quality. We also explored themes related to intervention potential for sustainability and scalability for migrant populations, retention, usability and adoption, and overall impact of the intervention on participants, facilitators, lay-supervisors, and the implementing organization (**TABLE 3**).

Qualitative interviews were conducted with facilitators after they had received Group PM+ training and after delivery to the intervention arm. They were also interviewed after the ToT once they have become supervisors and after routine Group PM+ implementation. Facilitators trained as part of routine care delivery will be interviewed after their initial training and after delivery to the routine delivery implementation arm. Organizational staff, including leadership and program staff, and the Community Advisory Council were also interviewed after routine implementation, specifically on themes of adoption and maintenance. Participants were interviewed between T3 and T4 assessments to gather information about their experiences after they have received PM+ from facilitators trained by lay supervisors.

**TABLE 3. Qualitative Interview Schedule**

Domain	Description and <i>Sample questions</i>	Interviewees and Timepoints
Reach (equity)	Access and participation; whether certain people were not reached by the program	Participants (after receiving Group PM+ at the end of the study)
	<i>What are some of the factors that influenced your ability to participate in PM+ sessions?</i>	Facilitators (after delivering Group PM+ in both study conditions)
	<i>What types of people in your community could have benefited from PM+, but did not have access to it?</i>	Non-specialist supervisors (after delivery of Group PM+ to routine delivery condition)
Use of PM+ Skills	Whether participants applied PM+ skills in their daily lives	Participants (after receiving Group PM+)
	<i>How did you use the information and skills from PM+ in your daily life?</i>	
Perceived impacts of the program	Other program impacts	Participants (after receiving Group PM+)
	<i>What are some of the impacts that the program had on:</i>	Facilitators (after delivering Group PM+ in both study conditions)
	- <i>Participants</i>	Non-specialist supervisors (after delivery of Group PM+ to routine delivery condition)
	- <i>Facilitators</i>	
	- <i>Participants' family members</i>	
	- <i>The community</i>	
Adoption	Intentions to use PM+	Facilitators (after delivering Group PM+ in both study conditions)
	<i>What factors contributed to your ability to use PM+?</i>	Non-specialist supervisors (after delivery of Group PM+ to routine delivery condition)
	<i>Would you use PM+ in the future?</i>	
	<i>What are some of the barriers to adopting PM+ as a program in the community?</i>	
	<i>What are some of the things that would make it easier to adopt PM+ as a program in the community?</i>	
Training/ Supervision	Perceived effectiveness of training and supervision	Facilitators (after Group PM+ trainings in both study conditions)
	<i>What parts of the training and supervision could be changed to make you feel more prepared to deliver PM+?</i>	Non-specialist supervisors (after ToT for supervision of Group PM+ delivered to routine delivery condition)
Group cohesion	Group cohesion and dynamics	Facilitators (after delivering Group PM+ in both study conditions)
	<i>What were the relationships like between group participants?</i>	Non-specialist supervisors (after delivery of Group PM+ to routine delivery condition)

Motivation and self-efficacy	<p>Motivation to deliver PM+ Self-efficacy from experience as a facilitator</p> <p><i>Why did you want to be a PM+ facilitator? What made you continue on as a PM+ trainer/supervisor? What were the impacts of being a facilitator on your life?</i></p>	<p>Facilitators (after delivering Group PM+ in both study conditions)</p> <p>Non-specialist supervisors (after delivery of Group PM+ to routine delivery condition)</p>
Implementation	<p>Ease of implementing PM+ at the organizational and group level</p> <p><i>What were some of the challenges implementing PM+? In Barranquilla? What are some strategies to overcome these challenges? What are some of the challenges you faced when delivering PM+? What are some strategies to overcome these challenges?</i></p>	<p>Facilitators (after delivering Group PM+ in both study conditions)</p> <p>Non-specialist supervisors (after delivery of Group PM+ to routine delivery condition)</p> <p>Staff (after delivery of Group PM+ to routine delivery condition)</p>
Sustainability	<p>Potential for sustainability, intention to continue using PM+</p> <p><i>Do you think PM+ could continue to be delivered? In Barranquilla? What would be needed to maintain ongoing delivery of PM+? In Barranquilla?</i></p>	<p>Facilitators, Non-specialist supervisors, staff (after delivery of Group PM+ to routine delivery condition)</p>
Scalability	<p>Feasibility and usability of Group PM+ by NGOs/CBOs</p> <p>Would group PM+ be appropriate for other communities in Colombia? What other organizations or groups in Barranquilla would be able to deliver Group PM+?</p>	<p>Facilitators, Non-specialist supervisors, staff (after delivery of Group PM+ to routine delivery condition)</p>
Stakeholder engagement	<p>Stakeholder identification, recognition, and ownership of the program</p> <p><i>Who were the stakeholders involved in the successful introduction and delivery of PM+ in Barranquilla? Who would need to be engaged to ensure ongoing delivery of Group PM+?</i></p>	<p>Facilitators, Non-specialist supervisors, staff (after delivery of Group PM+ to routine delivery condition)</p>

## Data Management

All data was collected and managed by the research staff and university research team. Quantitative data was collected using KoBo Toolbox data collection software. Identifying information will not be entered into the software and will be kept at a separate secure location. Qualitative interviews were saved and

transcribed without personal identifiers and safely stored with the research team. Researchers continued to provide support to the Barranquilla research team during the duration of the study.

## Planned Analyses

Descriptive analyses, exploratory analyses, and primary and secondary analyses were performed in STATA version 17. Mixed effects regression models were used to analyze differences in change in participant-level effectiveness outcomes and time-varying implementation outcomes between the high-intensity implementation condition and routine delivery implementation condition from T1 to T3<sub>Arm1</sub> & T3<sub>Arm2</sub> for primary and secondary outcomes. We analyzed differences in change in outcomes contemporaneously between the two arms. Implementation outcomes measured at a single time point (e.g., intervention completion measured at T2<sub>Arm1</sub> and T4<sub>Arm2</sub>) were compared using mixed effects regression models comparing differences in levels of these outcomes between the two conditions. In the various analyses, two-tailed tests will be reported with  $P < 0.05$ . Intention-to-treat (ITT) analyses will be conducted, including with all participants that are analyzed as randomized.

We conducted a series of sensitivity analyses to assess whether temporal trends or post-randomization confounding influenced our findings. First, we restricted our comparison between high intensity implementation condition versus within routine delivery condition and routine delivery outcomes to all high intensity condition participants and only routine delivery condition participants who continue to meet criteria for PM+ at the 3-month assessment (T3<sub>Arm2</sub>) prior to starting PM+ sessions. We also explored whether it is feasible to use propensity score matching or weighting to re-balance our groups using data at T1 (high intensity condition participants) and T3<sub>Arm2</sub> (routine delivery condition participants) as a doubly robust method to account for selection bias in our estimates. We also conducted a *per protocol analysis* to compare outcomes among participants who completed three or more PM+ sessions within the condition to which they were randomized.

We conducted exploratory analyses to generate hypotheses around the mechanisms and moderators of implementation and effectiveness outcomes. First, we explored whether the Reducing Tension Checklist (RTC) assessment mediates within- and between-group changes in primary participant-level outcomes. We examined whether post-migration living difficulties, baseline levels of primary participant-level outcomes, GBV history, and demographic characteristics moderate changes in primary participant-level outcomes. Qualitative data analysis was also analyzed thematically (Pope et al., 2000) and coded using Dedoose (Salmona et al., 2019).

## Ethical Considerations

Participants with severe mental health needs and risk of suicidality were referred to appropriate services especially those that provide care for migrant populations. If participants experience severe psychological distress during the study, they will be offered additional support regardless of study condition and group. All study staff working directly with participants will be trained on recognizing and reporting adverse events (AEs) and severe adverse events (SAEs). AEs and SAEs were recorded on forms and will be reported to an independent Data Safety Management Committee (DSMC) to provide oversight of the trial and to

review AEs and SAEs. The DSMC included researchers and psychologists in Colombia. Any changes in treatment as a result of AEs and SAEs were discussed with and reported to the DSMC and amendments will be submitted to appropriate institutions.

## Results

Throughout the course of the formative phase of research, a number of strategies were undertaken in order to contextually and culturally adapt the Group PM+ manual. We utilized rapid qualitative methods to develop and adapt intervention, implementation, and research procedures. Once the intervention adaptations were complete and the manual was finalized, we developed a feasible and acceptable implementation mapping. As part of implementation mapping, we: (1) performed a needs and assets assessment to identify potential implementation providers and settings; (2) selected implementation strategies; (3) developed implementation protocols and standard operating procedures, and (4) operationalized implementation.

### Group PM+ Adaptations

#### ADAPTATIONS

**Changes to Group Size.** The size of the group was changed due to the COVID-19 pandemic. The protocol proposed for the grant anticipated approximately 15 individuals per group. However, this study began at the beginning of the pandemic in which there was very serious concern about the exposure and transmission of COVID-19. It was therefore decided to reduce the number of participants per group to 8. Sessions were also held primarily outdoors and the smaller group size provided greater flexibility for where the interventions took place.

**Changes to Language.** There were several minor changes to the phrases and terms used throughout the manual to better reflect the language of the intended recipients. For example, “dificultades psicológicas” was changed to “problemas.” (page 2). It was suggested during qualitative interviews with local community members that “psychological difficulties” might not be clear for participants, or make them feel they are somehow dysfunctional. Please see table for full list of language adaptations.



**Table 3: Language adaptations**

Type of Adaptation	Implementation (what should be changed)	Rationale	Source of Adaptation
Language: technical terms replaced by colloquialisms	Pag. 2. Changed "dificultades psicológicas" to "problemas"	"psychological difficulties" might not be clear for participants, or make them feel they are somehow dysfunctional	Group PM+ manual Appendix A
Language: use of local idioms	page 3. Changed "estudiando en la escuela, un terciario o una universidad?" to "estudiando en el colegio, una institución técnica o una universidad?"	in many spanish-speaking countries, the term "escuela" (school) is not common, and it can also be used as a reference to a university or other institution different from "colegio"	Group PM+ manual Appendix A
Language: use of local idioms	page 3. change "en cohabitación" to "conviviendo con alguien"	"en cohabitación" is not a common designation for unmarried couples who live together in the Colombian and Venezuelan context.	Group PM+ manual Appendix A
Language: translation	page 7 change "oyo hablar de abordar el estres" for "escucho la estrategia de enfrentando el estres"	"abordaje" is very formal (non-colloquial), i "manejando" is the commonly used equivalent.	Group PM+ manual Appendix EJ_FEM page 7
Language: use of local idioms	page 19 change "sentarse en un banco proximo a su vivienda" to "estar sentada afuera de su casa"	is more typical of the context sitting outside the home	Group PM+ manual Appendix EJ_FEM page 19
Language: use of local idioms	page 19 change "solía salir a tomar té" for "solia salir a tomar un cafe"	it is more typical of the context to drink coffee than to drink tea	Group PM+ manual Appendix EJ_FEM page 19
Language: technical	page 14. once again, it is	"psychological difficulties"	Group PM+ manual

terms replaced by colloquialisms	suggested to change the words "dificultades psicológicas" for "problemas"	might not be clear for participants, or make them feel they are somehow dysfunctional	Appendix A
Language: translation	"¿Quisiera alguno contar sus experiencias de sentirse triste y no poder hacer sus actividades?"	The sentence could be changed by "¿Quisiera alguno contar sus experiencias sobre sentirse triste y no poder hacer sus actividades?" to make it easier to comprehend	Group PM+ manual Chapter 7, p. 81
Language: translation	Page 1. "refrescos" should be changed by "refrigerios"	the word "refrigerios" fits better in the Colombian context	Group PM+ manual Chapter 6
Language: technical terms replaced by colloquialisms	Page 3. Change this translation "Puedo ver que este problema parece no tener solución, pero creo que usted podría resolverlo si..." to "Puedo ver que este problema parece no tener solución, pero creo que usted podría resolverlo parcialmente si..."	To add the word "parcialmente" could make easier the comprehension of the sentence	Group PM+ manual Chapter 6

## Changes to Methods

Several changes were made for the implementation of Group PM+. Whereas the original manual emphasized the importance of neutrality between the facilitator and the intended recipients, feedback received during the adaptation process underscored the importance of diversity of personal, geographic, and professional backgrounds and perspectives of those participating as facilitator or recipients of Group PM+ (page 15). Adaptations were also made in several instances to the roles of the facilitators in navigating group dynamics and responding to individuals in distress (page 17).





## Changes to Materials

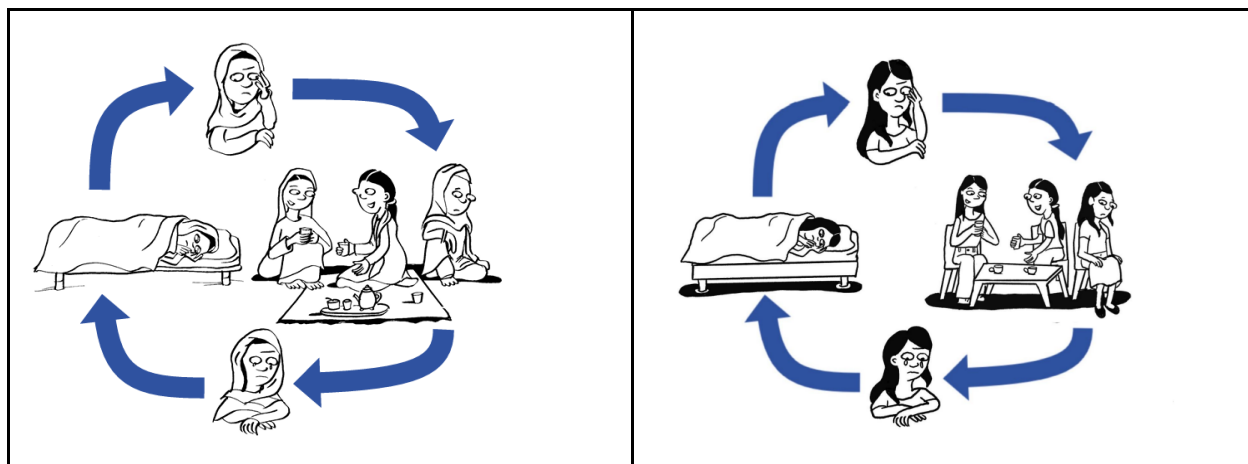
During the beginning stages of implementation, it became clear that due to issues of health (e.g. COVID-19) and adverse weather events (e.g. flooding) there were times in which clients were unable to attend sessions. In order to ensure that all group members had access to the strategies being taught, digital flyers were sent to all members of the group (whether or not they attended). All group members were encouraged to review and practice the strategy before their next session.

## Changes to illustrations

Throughout the qualitative interviews, local stakeholders identified a number of images in the manual that they felt did not reflect the specific cultural context of Latin America. For example, women sitting on blankets were changed to women sitting in chairs, rural landscapes were changed to urban settings, and headscarves were removed.

**Table 6: Adaptations to illustrations**

Original illustration	New illustration
<p>Group norms</p> 	<p>Adapted group norms</p> 
<p>Poster 2: What is the adversity? (Generic)</p> 	<p>Adapted Poster 2</p> 
<p>Inactivity cycle</p>	<p>Adapted inactivity cycle</p>



## Preliminary Quantitative and Qualitative Outcomes

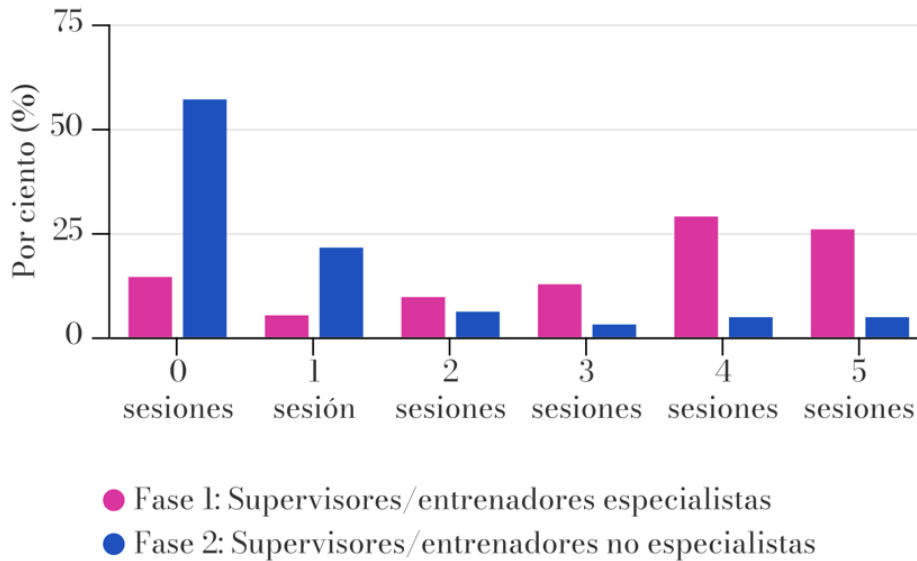
### Demographics

The average age of participants was 33 years old. Among those who participated in the study, 5% were employed (part-time, full-time, freelance). In addition, 44% had completed high school or higher education. In terms of relationship status, 53% were married or in a domestic partnership and the large majority of individuals in the study had never received mental health and psychosocial services (80%).

### Engagement in Sessions (Attendance and Retention)

Attendance was higher in phase 1 compared to phase 2. In phase 1 almost 50% of participants completed the intervention, which we defined as completing 4 or 5 sessions. Whereas in Phase 2, only about 10% completed the intervention. Based on our qualitative findings and observations throughout the study, we think that this lower attendance in phase 2 is partly due to the delay in starting the intervention among those who were assigned to the waitlist condition. Many participants had moved to or their availability changed during this period making it more difficult for us to reach them or for them to regularly attend sessions.

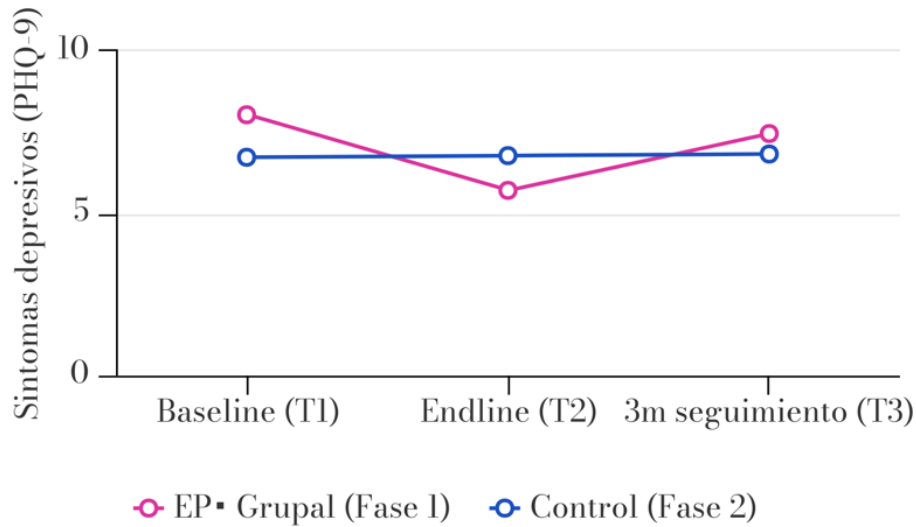
**Figure 2. Bar Graph Showing the percentage of individuals who participated as supervisors or recipients of Group PM in Phase 1 and Phase 2 of the study.**



## Clinical Outcomes

Depressive symptoms saw a decline during the intervention, but such decline was not sustained post-intervention. During the initial phase of the study we saw that the participants assigned to receive Group PM+ during phase 1 (green line) showed an initial reduction in depressive symptoms from during the intervention period – from baseline to endline. However, we do see that the depressive symptom levels return almost to baseline levels during the post-intervention period (from endline to 3-month follow-up). During this same period, we saw no measurable change in depressive symptoms among people who were randomized to the waitlist condition and had not yet received Group PM+.

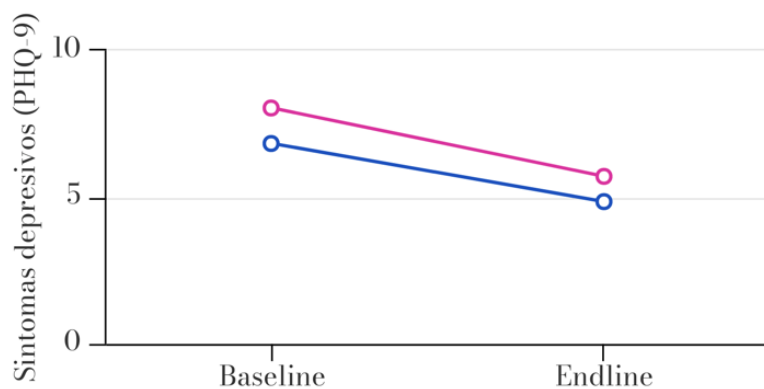
**Figure 3. Line Graph Illustrating Depression Scores Across the Three Phases of Assessment between the Group PM+ Intervention Group and the Control Group**



### Source of Facilitation

When we look at the during intervention changes for both phase and phase 2 we do see that the reductions in depressive symptoms are similar between both groups. Essentially, this suggests that, on average, the level of reductions in depressive symptoms during Group PM+ are similar when the facilitators are trained and supervised by specialists vs. Non-specialists.

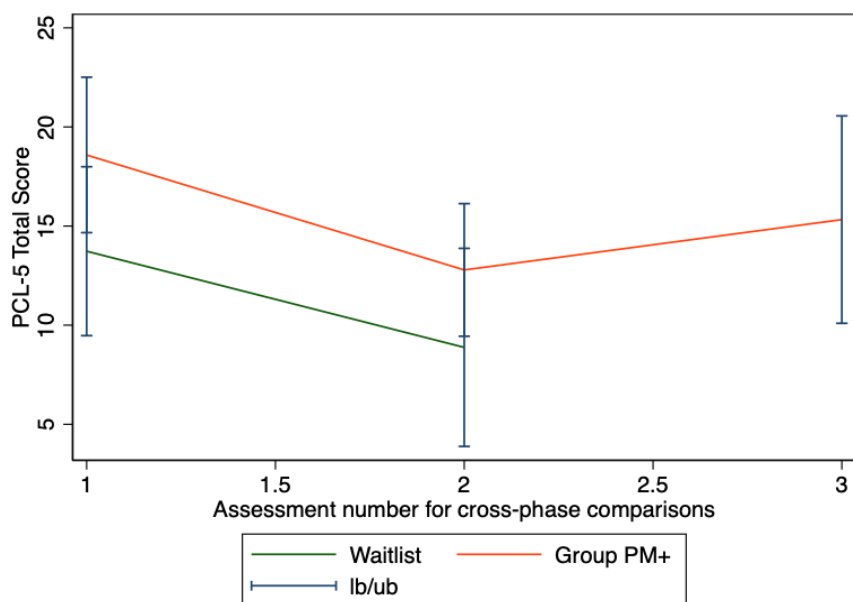
**Figure 4. This Figure Shows a Line Graph Illustrating the Comparison in Depression Symptoms Whether the Individuals Delivering Group PM+ were Trained by Specialists or Non-Specialists**



- EP Grupal (Fase 1; supervisors/entrenadores especialistas)
- EP Grupal (Fase 2; supervisors/entrenadores no especialistas)

With regards to Posttraumatic Stress Disorder (PTSD), we similarly observed significant reductions in PTSD symptoms from pre- to post-PM+ assessments. Phase 1 participants had higher PTSD symptom levels across the study period, but there was no significant difference in the change over time. However, it appears that the PTSD remained decreased over the two endpoints.

**Figure 5. This Line Graph Illustrates Posttraumatic Stress Disorder Symptom Severity Scores Across the Three Phases of Assessment between the Group PM+ Intervention Group and the Control Group**



## Dissemination

Findings from the trial were disseminated through several methods to various audiences. Because of the trial’s focus on implementation and scalability, dissemination efforts focused on engaging local communities and local and national stakeholders that may continue the integration of PM+ to services provided for refugees and migrants. This included a dissemination event held in Barranquilla, Colombia led by HIAS.

Throughout the course of this project members of this team presented scientific presentations, presentations focused on implementation and experience of staff and participants involved, videos, and informal conversations are additional methods contributed to the dissemination of findings from the trial.

Internationally, the findings will be published with reports to the research funders and in academic journals, with a focus on equitable representation in academic authorship of low and middle income country (LMIC) researchers (Kohrt et al., 2014).



## RECOMMENDATIONS

These findings add to a growing body of knowledge on the role of scalable mental health interventions delivered by non-mental health specialists as an important strategy for addressing gaps in mental health and psychosocial support for displaced and migrant populations. Additionally, the findings from this project point to the potential scalability and sustainability of this intervention. Over the course of the program, not only were individuals with minimal formal mental health training able to demonstrate their ability to deliver this intervention to women in their community, but a number of the women initially trained to facilitate groups, then successfully moved into trainer and supervisory roles. Therefore, these findings continue to underscore the important role of task-sharing strategies in response to providing mental health support in humanitarian contexts, and provide emerging evidence that such programs can be sustained and scaled beyond the initial transfer of knowledge from specialists to non-specialists.

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