HHS Public Access

Author manuscript

J Ethn Subst Abuse. Author manuscript; available in PMC 2020 April 08.

Published in final edited form as:

J Ethn Subst Abuse. 2018 ; 17(4): 519–531. doi:10.1080/15332640.2017.1300557.

Vida PURA: An Assessment of the Fidelity of *Promotor* Delivered Screening and Brief Intervention to Reduce Unhealthy Alcohol Use among Latino Day Laborers

Samantha E. Serrano, MS [Research Coordinator],
University of Washington Department of Health Services, 4333 Brooklyn Ave NE, Seattle, WA 98195-9455, Box 359455

Kelly Serafini, PhD [Physician],
Swedish Family Medicine Residency, 1401 Madison St., Suite 100, Seattle, WA 98104

Nikki Eller, BS [Graduate Research Assistant],
University of Washington Department of Health Services, 4333 Brooklyn Ave NE, Seattle, WA, 98195-9455

Vanessa N. Torres, MPH [Graduate Research Assistant],
University of Washington Department of Health Services, 4333 Brooklyn Ave NE, Seattle, WA, 98195-9455, Box 359455

Dennis Donovan, PhD [Director],
Alcohol and Drug Abuse Institute, University of Washington, 1107 NE 45th St, Suite 120, Seattle, WA 98105-4631, Box 354805

India J. Ornelas, PhD [Assistant Professor]
University of Washington Department of Health Services, 4333 Brooklyn Ave NE, Seattle, WA, 98195-9455, Box 359455

Abstract

We assessed the fidelity of *promotores* conducting screening and brief intervention (SBI) to reduce unhealthy alcohol use among Latino immigrant day laborers in the Vida PURA study. We reviewed 32 audio recorded brief interventions to assess *promotor* adherence to the intervention protocol and to evaluate their motivational interviewing (MI) technique with the Motivational Interviewing Treatment Integrity (MITI) 4.2.1 tool. *Promotores* delivered three core intervention steps in 78% of recordings and achieved basic MI competence across all domains and proficiency in 50% of measures. Our results suggest that *promotores* can be trained to deliver SBI in community settings with fidelity.

Keywords

screening and brief intervention; fidelity; promotores; alcohol use

seserr@uw.edu.

BACKGROUND

Screening and brief intervention (SBI) has been identified by the United States Preventive Services Task Force (USPSTF) as an effective method for reducing unhealthy alcohol use among primary care patients (Moyer, 2013). SBI typically consists of clinicians identifying at-risk drinkers followed by one or more short counseling sessionsknown as brief interventions, often using motivational interviewingto encourage behavior change (Babor et al., 2007; Moyer, 2013). Although evidence supports the efficacy of primary care-based SBI in reducing unhealthy alcohol use, access to these services is limited among racial/ethnic minorities due to barriers in health care(Babor et al., 2007; Hargraves & Hadley, 2003; Manuel et al., 2015; Ornelas, Allen, Vaughan, Williams, & Negi, 2015).

One group that is at increased risk for unhealthy alcohol use is Latino immigrant men. Recent studies have shown that rates of binge drinking and alcohol-related health and social consequences are higher in Latino immigrant men than men in other racial/ethnic groups (Caetano, Ramisetty-Mikler, & Rodriguez, 2008; Daniel-Ulloa et al., 2014; Loury, Jesse, & Wu, 2011; Ornelas, Eng, & Perreira, 2011; Tran, Lee, & Burgess, 2010; Witbrodt, Mulia, Zemore, & Kerr, 2014). Many Latino immigrant men turn to day labor as a source of employment after arriving in the United States. Latino day laborers are particularly vulnerable to unhealthy alcohol use because of the physical stress and economic instability of their work (Negi, 2011; Worby & Organista, 2013). A recent study by Ornelas, Torres & Serrano (2016) found that 65% of day laborers in Seattle met the criteria for unhealthy alcohol use and 49% reported binge drinking in the past month.

Vida PURA (*PuedeUstedReducirsuConsumo de Alcohol)* which translates to Pure Life (You Can Reduce Your Alcohol Use) is a cultural adaptation of screening and brief intervention aimed to reduce unhealthy alcohol use among Latino day laborers. In this program, *promotores* are trained to provide SBI in Spanish at a day labor worker center. *Promotores*are trusted health advisors who have a cultural awareness of the communities they serve, in part, due to their shared demographic characteristics. Previous research has shown that *promotores* can improve population health and address health disparities, especially among those with limited access to health care (Ayala, Vaz, Earp, Elder, & Cherrington, 2010; Perry, Zulliger, & Rogers, 2014). Recent reviews of *promotor*-based interventions in Latino populations in the U.S. have cited the need for research on the selection of *promotores*, their training, and their activities in order to effectively evaluate these programs (Rhodes, Foley, Zometa, & Bloom, 2007). It is especially important to assess *promotores'* fidelity to intervention protocols in order to verify that interventions are delivered as intended (Moyers, Martin, Manuel, Hendrickson, & Miller, 2005). To our knowledge, only one other study has evaluated a promotor-delivered intervention to reduce alcohol use among day laborers(Moore et al., 2016). Our study aims to address this gap in the literature by assessing the fidelity of *promotores* in a pilot randomized control trial of Vida PURA.

METHODS

We conducted a pilot randomized control trial of Vida PURA in 2015 – 2016 in Seattle, Washington. The intervention consisted of *promotores* screening Latino immigrant day laborer men for unhealthy alcohol use using the Alcohol Use Disorder Identification Test (AUDIT) and providing a one-time brief intervention utilizing motivational interviewing techniques to those randomized to receive the intervention. The 30-minutebrief intervention included personalized feedback about alcohol use in comparison to low risk limits, the discussion of motivations and consequences of drinking, an assessment of readiness to change, the negotiation of a plan or goal for reducing alcohol use, and information on local substance use treatment services. The key cultural adaptations of the BI included: *promotores* providing BI in Spanish at the day labor center, incorporating the social and cultural context of drinking for Latino immigrant men in the BI and referring the men to low-cost services in Spanish (Ornelas et al., 2015).All research procedures were approved by the University of Washington Human Subjects Division.

Promotor Selection

Promotores were selected based on their previous experience in health education and public health research, as well as their involvement with Latino communities. During the interview process, candidates were asked to role-play an alcohol counseling scene in order to assess their natural warmth and empathy, which are critical to motivational interviewing. *Promotores* were Spanish-speaking male and female Latino immigrants with no previous clinical training and a bachelor's level education or less. Both had a paid half-time position as part of the research team. In this study, *promotores* were also responsible for conducting surveys with participants in order to evaluate the efficacy of the intervention.

Training

Promotor training included an overview of alcohol-related disorders and disease; as well as basic information about alcohol use, including what is considered a "standard drink", AUDIT risk levels, and National Institute for Alcohol Abuse and Alcoholism (NIAAA) guidelines for unhealthy alcohol use(NIAAA, 2015). During brief interventions, *promotores* used this information to provide personalized feedback on participants' daily and weekly alcohol consumption in comparison to NIAAA guidelines and to explain the risks associated with different AUDIT scores.

Additionally, the *promotores* participated in two days of instruction on motivational interviewing in Spanish by a bilingual trainer affiliated with the Northwest Addiction Technology Transfer Center (ATTC). MI is a patient-centered and collaborative style of counseling for exploring and resolving ambivalence in order to strengthen a person's own motivation and commitment to change(Miller & Rollnick, 2013). The MI training began with activities to understand the stages of change, ambivalence and motivation. The trainer then discussed the four aspects of the MI spirit: partnership, acceptance, compassion and evocation. The four step process of motivational interviewing and core skills were discussed and trainees practiced asking open-ended questions, affirming, reflective listening, and summarizing (Miller & Rollnick, 2013). *Promotores* learned how to use these MI skills to

explore participants' ambivalence with their alcohol use during the brief intervention. The readiness ruler was also utilized to gauge participant's readiness to change behaviors and negotiate a plan. *Promotores* were taught to draw ideas for a change plan from participants, but were also provided with some harm-reducing strategies to offer during this step.

For approximately one month prior to recruiting participants, the *promotores* practiced providing the brief intervention in mock sessions using cases based on previous research. The principal investigator and research coordinator gave refresher presentations on the basic concepts of MI and assigned SBI videos and webinars for the *promotores* to watch throughout the study period.

Fidelity Measures

Adherence Checklist.—To evaluate adherence to the Vida PURA intervention protocol, we listened to audio recordings of brief intervention sessions and reviewed field notes. We noted whether the brief intervention included the following five components: 1) accurate personalized feedback on alcohol use 2) discussion of motivations and consequences of drinking 3) assessment of readiness to change 4) negotiation of plan or goal and 5) information on local services.

Motivational Interviewing Proficiency.—We evaluated the*promotores'* competence and proficiency using motivational interviewing during the brief interventions with the Motivational Interviewing Treatment Integrity (MITI) coding system 4.2.1 (Moyers, Manuel, & Ernst, 2014). This system consists of two components: global scores and behavior counts. Global scores are given on a five-point Likert scale and are meant to capture the rater's global impression or overall judgement of the use of MI skills and spirit during a session. The four global scores include: cultivating change talk, softening sustain talk, partnership and empathy. Behavior counts are the tally of instances of eight particular interview behaviors consistent with MI including: giving information, persuading with permission, questions, simple reflections, complex reflections, affirmations, seeking collaboration and emphasizing autonomy. Two behaviors that are not consistent with MI are also tallied (persuading and confronting). Summary scores as reported by Moyers et al. (2014)are used as comparisons for basic competence and proficiency thresholds. These include: reflection to question ratio, percent complex reflections (out of total reflections), relational global (average of empathy and partnership scores), and technical global (average of cultivating change talk and softening sustain talk scores).

The research coordinator [author SES], who was familiar with motivational interviewing, attended a 3-day training in the MITI 4.2.1 (Moyers et al., 2014). She then trained two other bilingual researchers to code using the MITI. The training included the reading of sections of Miller and Rollnick's book on motivational interviewing and the MITI manual followed by a meeting where an overview of each was presented and questions were answered(Miller & Rollnick, 2013; Moyers et al., 2014). During four, 3-hour meetings, coders used seven transcripts and recordings found on the University of New Mexico's Center on Alcoholism, Substance Abuse, and Addictions website to practice and discuss the individual coding of global dimensions and behavior counts and later the coding of both measures simultaneously

(CASAA, 2015). Coders then practiced coding and established common rules using recordings from a previous pilot study. Coders were considered trained when at least 80% of the absolute difference in summary global scores was within one point (on a Likert scale of 1–5) and intraclass correlation coefficients (ICCs) of summary behavior count scores were 0.6 and above (D. Ernst, personal communication, February 11, 2016).

During the entire study period, 85 brief interventions were completed, of which, 73 were audio recorded. Samples were selected for assessment with guidance from Jelsma et al. 2015 (Jelsma, Mertens, Forsberg, & Forsberg, 2015) and a research workshop at a MITI 4.2.1 training (D. Ernst, personal communication, November 11, 2015). We stratified recordings by promotor and selected 50% for review across a 12-month period in order to account for changes in MI skill over the course of the study. For recordings over 20 minutes in length, we alternated coding the first and last 20 minutes of the sessions while recordingsof 20 minutes or less were coded in their entirety. This was done in order to capture the entire range of each sessions' content (D. Ernst, personal communication, November 11, 2015; (Jelsma et al., 2015; Moyers et al., 2014; Moyers, Rowell, Manuel, Ernst, & Houck, 2016). The final selection constituted 44% of the total sample of recorded interventions (N = 32) and 38% of total brief interventions completed, with 16 recordings per promotor. Each recording was evaluated by two coders. Coders participated in biweekly meetings to double-code and discuss recordings in order to prevent drift from the manual (Bohman, Forsberg, Ghaderi, & Rasmussen, 2013; Jelsma et al., 2015; Moyers et al., 2016; Seng, Lovejoy, & Project, 2013).

To evaluate inter-rater reliability, we calculated ICCs of the summary scores for the two raters and the research coordinator, who served as the criterion coder. Because the restricted range of global measures can reduce the utility of the ICC as an assessment of inter-rater reliability, we also calculated percent agreement within one point for global summary scores (Seng et al., 2013). UsingCicchetti's criteria, we found that ICCs for summary behavior count measures were within the good and excellent range except for percent complex reflections (0.5) and MI-non adherent summary scores (0.45) for one set of raters (see Appendix)(Cicchetti, 1994). Although ICCs for the global summary scores fell within the poor to fair categories, raters were at least 76.2% in agreement of scores within one point.

Supervision

During weekly meetings, the research coordinator and principal investigator listened to the *promotores'* recordings of brief interventions and provided them with feedback on MI spirit and the use of basic MI skills (open-ended questions, affirmations, reflective listening and summarizing). Mid-way through the study period *promotores* participated in a short training on the MITI 4.2.1 system. Raw MITI scores were then used to discuss MI adherence and focus on areas needing improvement. *Promotores* were provided with sample language to incorporate into their sessions to increase fidelity.

Data Analysis

Data were analyzed using STATA 14. We evaluated adherence to the Vida PURA intervention protocol by calculating the percent of recorded brief interventions with each of

the five protocol components.For the evaluation of motivational interviewing, we averaged raw and summary scores for each MITI measure. Because ICCs were in the good to excellent categories, we used the scores of the criterion rater to calculate all mean MITI scores (D. Ernst, personal communication, June 10, 2016). We compared mean summary scores to basic competence and proficiency thresholds and determined the percentage of recordings achieving these thresholds (Moyers et al., 2014).

RESULTS

In regards to the adherence to the five-step brief intervention protocol, *promotores* provided personalized feedback on alcohol use and discussed motivations and consequences with participants in all selected sessions. We also found that more than half of the sessionsincluded an assessment of readiness to change (75%), negotiation of a plan or goal (59%) and information on local services (78%). The majority of sessions included steps 1, 2 and 5 (78.1%).

Mean MITI global scores are reported in Table 1. Mean global scores for cultivating change talk, softening sustain talk, partnership and empathy ranged between 3.8 and 4.3. In regards to behavior counts, *promotores* asked an average of 15 questions while they had an average of 11 simple reflections and 10 complex reflections per recording. MI-adherent behavior counts were between 0.4 and 2.6. *Promotores* did not exhibit confrontational behavior during brief interventions, however, they attempted to persuade participants an average of 0.5 times per session.

Mean summary MITI measures included a technical global score of 4.1, relational global score of 4.1 and a reflection to question ratio of 1.7. Of total reflections, an average of 48% were complex. Compared with published benchmarks, we found that *promotores* achieved basic competence for all summary scores and proficiency for the technical and relational global measures (Table 2).

DISCUSSION

In this study, we assessed the fidelity of *promotores* to conduct screening and brief intervention according to the Vida PURA intervention protocol. We found that *promotores* followed most steps of the intervention protocol and achieved basic competence in their motivational interviewing technique.

In almost all of the brief interventions, *promotores* provided three main components of the intervention (e.g. personalized feedback, discussion of motivations and consequences, and information of local substance use treatment services). We found that *promotores* made decisions about what steps to take during the intervention based on what they had learned about the MI spirit and the principles of person-centered care, in particular, honoring and respecting each participants' autonomy and avoiding the righting reflex(Miller & Rollnick, 2013). For example, the readiness to change ruler was not used in situations where the participant was clearly in a state of pre-contemplation. Similarly, *promotores* did not attempt to negotiate a plan or goal with participantsdemonstrating low motivation.

MITI scores reflect that *promotores* consistently used motivational interviewing techniques during the majority of sessions. Compared with published benchmarks, we found that *promotores* achieved basic competence for all summary scores and proficiency for the technical and relational global measures. Specifically, the *promotores* in our study achieved mean global ratings of 4.1, 48% complex reflections and a reflection to question ratio of 1.7. In comparison, a separate investigation that assessed treatment fidelity in a cultural adaptation of motivational interviewing for Latino heavy drinkers showed that interventionists (graduate or post-graduate clinical psychology students),attained global ratings at an average of 4.1, 41% complex reflections, and a reflection to question ratio of 3:1 (Lee et al., 2013; Lee, Tavares, Popat-Jain, & Naab, 2015). Except for the reflection to question ratio, the *promotores* in our study were able to reach similar summary scores as these clinically trained students. *Promotores* also had higher MITI scores than acute care nurses and social workers in a study of mandated SBI in acute trauma centers with mean global ratings of 4.0 and 4.1, 20.7% complex reflections and a reflection to question ratio of 0.7 (Darnell, Dunn, Atkins, Ingraham, & Zatzick, 2016). A study by Dunn et al. (2015) on MI fidelity within a Screening, Brief Intervention and Referral to Treatment (SBIRT) program in primary care showed that clinical social workers reached global scores of 4.4 and 4.6, 47% complex reflections and a reflection to question ratio of 1.3. *Promotores* in our study reached and, in some instances, surpassed these scores. The clinical interventionists in all of these studies received comparable training in motivational interviewing as the *promotores* in our study as well as some form of feedback or coaching post-training (Darnell et al., 2016; Dunn et al., 2015; Lee et al., 2013). These results suggest that *promotores* can be trained in motivational interviewing to the levels of clinical providers, giving further evidence to results of Baer et al. (2004) that neither academic degree nor years of clinical experience were related to reaching MI proficiency after training. In fact, a study comparing MI fidelity between peer outreach workers and mental health clinicians to improve youth retention in HIV primary care, demonstrated that outreach workers can be trained to MI competency, but in the context of providing MI to HIV positive youth, peer workers may provide better services (Naar-King, Outlaw, Green-Jones, Wright, & Parsons, 2009).

Few programs have evaluated the fidelity of health advisors in conducting motivational interviewing for alcohol interventions. However, one such study by Moore et al.(2016) on a promotora-delivered Spanish language, counseling intervention for heavy drinking Latino day laborers, found acceptable MI fidelity for all sessions during the uncontrolled phase of the study using the GROMIT scale (Global Rating of Motivational Interviewing Therapists). Another study by Tollison et al.(2013) found that peer facilitators delivering SBI to college students at universities met beginning proficiency criteria for the percentage of MI adherent statements, open questions, and complex reflections. Our results add to the literature on health advisor's ability to provide brief interventions with fidelity.

Routine supervision may have played a role inachievingthe MITI scores we observed. According to a recent meta-analysis of 15 studies on clinicians' MI-training and MI-skills, additional coaching and supervision beyond initial training improved MI proficiency (de Roten, Zimmermann, Ortega, & Despland, 2013). A study by Dewing et al. (2014) investigated the impact of refresher training and monthly group supervision sessions on the MI skills of lay counselors delivering a sexual risk reduction intervention in South Africa.

The authors found a substantial increase in the number of counselors achieving competence in the percentage of MI adherence, number of open-ended questions and ratio of reflections to questions after the refresher training and supervision sessions. Research on the implementation of evidence-based practices, including MI, have found that didactic training (i.e., workshops) is generally insufficient to achieve competence and proficiency and that ongoing supervision and personalized feedback are crucial (Beidas & Kendall, 2010; Carroll, 2010). Thus, this type of training model for *promotores* is likely to have the most impact.

Some limitations of this analysis include the small sample size of coded recordings which impacted ICCs of global measures. There may have also been some potential bias in coding the recordings given that the research coordinator worked closely with the *promotores*; however, we tried to control for this by double-coding all recordings with raters that were not part of the research team. The generalizability of these findings may be limited in that the *promotores* for our study had some college education, a high level of interest in research and evidence-based practices, and were specifically recruited based on their ability to be warm and empathic.

This study provides evidence that *promotores* can be trained to adequately deliver SBI with ongoing supervision. Future research is needed to assess whether promotor-delivered SBI is effective at reducing unhealthy alcohol use in Latino day laborers and to understand what components of the brief intervention are most relevant for activating change within this community. Additionally, supervision of *promotores* should be investigated under real world conditions to determine whether the MITI would be a useful tool in non-research settings.

Our findings demonstrate the potential of *promotores* to address a gap in care for underserved communities (Cherpitel et al., 2015; Moore et al., 2016; Sorsdahl et al., 2015; Sullivan, Tetrault, Braithwaite, Turner, & Fiellin, 2011). Future studies should continue to develop and test culturally-relevant interventions to address alcohol-related disparities among Latino immigrant men.

ACKNOWLEDGEMENTS

We acknowledge the efforts of the *promotores* as well as the support of our community partners Casa Latina. We further acknowledge the contributions of Brian Cedeno-Betancourt and Daron Ryan for their assistance with training and supervision as well as Dr. Suzanne Doyle for her statistical consultation. This research was supported by the National Institute on Alcohol Abuse and Alcoholism (NIAAA) 1R34AA022696–01A1 and the Center for Studies in Demography and Ecology (CSDE) at the University of Washington.

Appendix

Appendix Table 1 :

MITI inter-rater reliability

Item	ICC (95% CI)		% agreement within one point	
	Coding Group 1	Coding Group 2	Coding Group 1	Coding Group 2
Summary Global Measures				
Technical Global	0.29 (−0.15, 0.64)	0.08 (−0.52, 0.62)	81.8	76.2

Item	ICC (95% CI)		% agreement within one point	
	Coding Group 1	Coding Group 2	Coding Group 1	Coding Group 2
Relational Global	0.61 (0.26, 0.82)	0.37 (−0.26, 0.78)	90.9	95.2
Summary Behavior Counts				
Percent Complex Reflections	0.8 (0.58, 0.92)	0.5 (−0.11, 0.84)		
Reflection-to-Question Ratio	0.91 (0.80, 0.96)	0.88 (0.61, 0.97)		
Total MI-Adherent	0.87 (0.72, 0.95)	0.81 (0.43, 0.94)		
Total MI Non-Adherent	0.65 (0.31, 0.84)	0.45 (−0.17, 0.81)		

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Table 1:

Mean MITI scores (n=32)

Item	Mean Scores (SD)	Range[1]
Global Measures		
Cultivating Change Talk	4.1 (0.91)	2–5
Softening Sustain Talk	4.1 (0.72)	3–5
Partnership	3.8 (0.85)	2–5
Empathy	4.3 (0.60)	3–5
Behavior Counts		
Giving Information	4.4 (3.28)	0 – 12
Persuade with Permission	1.5 (2.49)	0 – 8
Questions	15.1 (6.54)	6–29
Simple Reflections	11.3 (5.93)	2–25
Complex Reflections	9.9 (4.23)	4–22
Affirmations	2.5 (1.92)	0 – 7
Seek Collaboration	2.6 (2.00)	0 – 7
Emphasize Autonomy	0.4 (0.87)	0 – 4
Persuade	0.4 (0.98)	0 – 4
Confront	0 (0.00)	0 – 0

[1]Range of responses within study sample

Table 2:

MITI summary scores and basic competence and proficiency in motivational interviewing (n=32)

Item	Study mean scores (SD)	Basic competence threshold	Proficiency threshold	% of sessions meeting basic competence criteria	% of sessions meeting proficiency criteria
Summary Global Measures					
Technical Global	4.1 (0.76)	3	4	93.8	71.9
Relational Global	4.1 (0.63)	3.5	4	93.8	75.0
Summary Behavior Counts					
Percent Complex Reflections (%)	48 (0.15)	40	50	65.7	43.8
Reflection-to-Question Ratio	1.7 (0.98)	1:1	2:1	75.1	25.0