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Development and Implementation of CHOICES Group to Reduce Drinking, Improve Contraception, and Prevent Alcohol-Exposed Pregnancies in American Indian Women

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Abstract

Public health officials assert that prevention of alcohol-exposed pregnancies (AEP) should begin before conception, by reducing alcohol consumption in women at-risk for or planning pregnancy, and/or preventing pregnancy in women who are drinking at risky levels. One such effort is the Oglala Sioux Tribe (OST) CHOICES Program. While the OST CHOICES Program has been successfully implemented, a community-based needs assessment determined that the OST CHOICES intervention should expand and be delivered in a group setting using group motivational interviewing (MI) techniques. After extensive group MI and CHOICES group trainings, recruitment for CHOICES Group began and within a ten month period, a total of twelve groups with non-pregnant American Indian women were held for this pilot intervention. Evaluations completed by participants indicated that CHOICES Group sessions positively engaged members, had low levels of anger or tension, and had average levels of avoidance of personal responsibility. An evaluation of the CHOICES Group leaders indicated strengths in certain MI skills, although improvement is needed in some core MI and group leadership skills. This is an important expansion of a successful AEP prevention program (CHOICES), as well as a novel application of MI, and recommendations and future plans for this intervention are outlined.

Keywords

Alcohol-exposed pregnancy; Prevention; Group intervention; Motivational interviewing

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Background

Prenatal alcohol consumption is a public health concern due to potential lifelong physical and cognitive effects in offspring, often presenting in the form of fetal alcohol syndrome (FAS) or other fetal alcohol spectrum disorders (FASD) (Caetano, Ramisetty-Mikler, Floyd, & McGrath, 2006; May, McClosky, & Gossage, 2002). Completely preventable, FASD is the continuum of outcomes in children prenatally exposed to alcohol and includes a diagnosis of FAS, partial-FAS, alcohol-related neurodevelopmental disorders (ARND), or alcohol-related birth defects (ARBD) (Floyd et al., 2005). FAS, the most damaging outcome of alcohol consumption during pregnancy, is characterized as having facial abnormalities (i.e., palpebral fissures, thin vermilion, smooth philtrum); evidence of growth retardation; evidence of delayed brain growth, including small head circumference; and if possible, confirmation of maternal alcohol consumption (Centers for Disease Control and Prevention, 2004). In addition to physical features, prenatal exposure to alcohol is linked to conduct disorder, mental illness, and psychosocial functioning (Disney et al., 2008; Hellemans et al., 2009; Roebuck, Mattson, & Riley, 1999). A recent study of the Upper Midwest of the United States found the rate of FAS in this area was 5.9 to 10.2 per 1,000 children from two separate sampling methods (May et al., 2014). The total rate of FASD was estimated at 2.4 to 3.3% or as high as 4.8 to 8.2% from the randomly-selected children in the study (May et al., 2014).

Previous FASD prevention projects within American Indian communities have focused exclusively on pregnant women (May et al., 2008) or on broad community education (Ma, Toubbeth, Cline, & Chisholm, 1998; May & Hymbaugh, 1989; Plaiser, 1989; Rentner, Dixon, & Lengel, 2012; Shostak & Brown, 1995; Williams & Gloster, 1999). However, public health officials assert that prevention of alcohol-exposed pregnancies (AEP) should begin before conception, either by reducing alcohol consumption in women at-risk for or planning pregnancy, and/or preventing pregnancy in women who are drinking at risky levels (Caetano, Ramisetty-Mikler, Floyd, & McGrath, 2006; Floyd et al., 2008). Preconceptional prevention of AEP, or prevention before pregnancy, is of particular concern for American Indian communities. For example, a previous project with non-pregnant American Indian women from three Northern Plains tribes found that approximately 30% were at-risk for AEP (Hanson, Miller, Winberg, & Elliott, 2013), compared to an estimated 10–26% at-risk for AEP nationally (Ethen et al., 2009). Another study from the Tribal Pregnancy Risk Assessment Monitoring System, a tribally-focused surveillance project from the Centers for Disease Control and Prevention, found that 43% of American Indian women were binge drinking in the 3 months prior to pregnancy, and 65% who were sexually active (but *not* trying to get pregnant) were not using any birth control at the time of conception (Rinki, Weng, & Irving, 2009).

To address this significant rate of AEP risk, the Oglala Sioux Tribe (OST) in South Dakota has implemented an AEP prevention program called the OST CHOICES (Changing High-risk alcohol use and Increasing Contraception Effectiveness Study) Program. OST, often called the Pine Ridge Indian Reservation, is the largest American Indian reservation in the Northern Plains area and the second largest reservation in the United States, comprising approximately 4,353 square miles, an area twice the size of Delaware but considered

completely rural/frontier. The tribal enrollment is 45,364 and approximately 30,000 enrolled members live on the reservation (Oglala Lakota Nation, 2014).

The OST CHOICES Program is based on the efficacious Project CHOICES intervention that reduced risk for AEP through alcohol reduction and pregnancy prevention with four Motivational Interviewing (MI) counseling sessions (Floyd, Ebrahim, & Boyle, 1999; Floyd et al., 2007; Ingersoll et al., 2003; Project CHOICES Research Group, 2002; Sobell et al., 2003; Velasquez et al., 2009). MI “guides the individual to explore and resolve ambivalence about changing [behavior], highlighting and increasing perceived discrepancy between current behaviors and overall goals and values” (Project CHOICES Intervention Research Group et al., 2003). The original CHOICES intervention was an MI plus feedback intervention that used the MI counseling style to deliver personalized feedback about drinking and risk for pregnancy, and goal setting regarding drinking and contraception (Ingersoll et al., 2003). Several take-home assignments were included, such as a daily journal of the target behaviors, and modifying notes on decisional balance exercises. The intervention also included a medical appointment to discuss birth control options. Now listed in SAMHSA’s National Registry of Evidence-based Programs and Practices (NREPP) (Substance Abuse and Mental Health Services Administration, 2014), the CHOICES intervention significantly decreased the risk for an AEP in the intervention group when compared to the control group in a large multisite randomized clinical trial (Floyd et al., 2007).

Utilizing the impressive results of this previous research, the OST CHOICES Program seeks to prevent AEP in non-pregnant American Indian women by applying a MI plus feedback intervention based on CHOICES to decrease binge drinking and/or increase contraception use. The program emphasizes a positive collaborative relationship between AI women and the interventionist to encourage adoption of healthy behaviors. This tribally-run program is currently enrolling participants and analyzing the impact that the CHOICES curriculum has on AEP risk among American Indian women.

While the OST CHOICES Program has been successfully implemented, a community-based needs assessment was utilized to evaluate which components the community deems important. The background and methodology for this community-based needs assessment are described elsewhere (Hanson & Jensen, 2015). Based on information taken from these focus groups and key informant interviews, the OST CHOICES Program staff decided to expand the CHOICES intervention to be delivered in a group setting. The use of group communication is consistent with an American Indian focus on oral traditions and on providing support through personal interaction and group consensus (Momper, Delva, & Reed, 2011; Rothe et al., 2006). American Indians have long used “talking circles” to facilitate open communication about health issues (Lowe, 2006), believing that “healing and transformation should take place in the presence of a group” and that AIs “can always use the support of fellow brothers and sisters to move away from something and toward something else” (Garrett, 2004).

The purpose of this paper is to describe the development and pilot testing of the CHOICES Group model among American Indian women at risk for AEP. The CHOICES intervention

has not been tested previously in a group setting. We assert that just as MI can be conducted in groups, the CHOICES intervention can also be completed within groups (Velasquez, Stephens, & Ingersoll, 2006; Wagner & Ingersoll, 2013a). CHOICES Group expands an already successful tribal program to include culturally appropriate modes of interaction and may reduce rates of AEP risk.

1. Methods

1.1. Development and Implementation

Based on the model of MI in Groups (Wagner & Ingersoll, 2013a) and the CHOICES intervention, Ingersoll developed an initial clinical manual to guide the implementation of CHOICES Groups by OST therapists (Ingersoll, 2013). At that time, OST was conducting individual CHOICES sessions using a 2-session intervention format previously tested in Baltimore and Denver STI clinics (Hutton et al., 2014), so the CHOICES Group intervention also used a two-session model. Ingersoll conducted training with four current OST CHOICES staff (2 Native and 2 non-Native) to fine-tune their MI and CHOICES intervention skills, to demonstrate how to conduct CHOICES sessions in a group format, and to provide opportunities to practice CHOICES Group skills. All participants in the training were experienced in conducting CHOICES in an individual format and therefore knowledgeable about both MI and the CHOICES curriculum.

Following the initial training, OST staff launched the CHOICES Group program. Eleven months later, a second training event was held, with ½ day devoted to discussion of issues raised by CHOICES Group therapists, and ¾ day devoted to demonstration of or practice of CHOICES Group components. Ingersoll also provided therapists with feedback on their fidelity to the MI Group model using scores on the *AMIGOS* (described below in measures). Scores can be used to provide feedback and identify areas for improvement.

1.2. Recruitment and Eligibility

To recruit for CHOICES Groups, staff utilized referrals from health care providers; media outlets, such as utilizing local newspapers and local radio stations; networking with local health and non-profit agencies that serve women; distributing flyers in local businesses and at health fairs; and through word-of-mouth. In addition, concerted efforts to were made recruit at community centers, non-profit organizations, and businesses across the reservation. These recruitment efforts occurred both on the reservation and outside the reservation.

Before enrolling in CHOICES Groups, women were screened for eligibility. Eligible participants were self-identified American Indian women ages 18 to 44 who were screened for AEP risk. Specifically, participants must drink at “risky” levels, defined as four or more drinks on a single occasion or eight or more drinks per week (for women) (National Institute on Alcohol Abuse and Alcoholism, 2008). Participants must also be at-risk for pregnancy: sexually active with a male (vaginal intercourse within the past 90 days); fertile (i.e., able to get pregnant, has not experienced menopause, and has not been sterilized); and not using an effective form of contraception, defined by the CDC as either not using any contraception at a sexual encounter or using a method incorrectly or inconsistently (i.e., check which type of

birth control was used in the past few months and whether it was effective based on definitions given to participants). The alcohol consumption and contraception screening measures were adopted from previous CHOICES studies and are currently used within the OST CHOICES Program. Women were recruited until there were at least 5–6 eligible participants per group. After completing the eligibility/baseline survey, eligible participants were given a date and time for the next CHOICES Group session. They received reminder calls 1–2 days prior to the session and also the day of the session.

1.3. Measures

Data collected from participants as described in the sections below were collected anonymously. Participants completed the *Group Climate Questionnaire* after each group session to evaluate *engagement*, or the positive group atmosphere; *conflict*, or any tension felt in the group; and *avoiding*, or perceived avoidance of personal responsibility or group work by the other members (MacKenzie, 1983). These measures included statements such as *the members liked and cared about each other* (engagement); *there was friction and anger between the members* (conflict); and *the members avoided looking at important issues going on between themselves* (avoidance). Possible responses were measured on a 0 to 6 Likert-type scale, with “0” representing “*Not at all*,” “3” representing “*Moderately*,” and “6” representing “*Extremely*.” Items were scored by calculating the mean and median of the relevant items within each of the three categories. Coefficient alphas for the Group Climate Questionnaire have ranged from .74–.94 (engagement); .40–.92 (avoidance); and .75–.88 (conflict) (Johnson et al., 2006), although has never been tested for reliability or validity in American Indians.

To address fidelity of implementation of the CHOICES Group intervention, we audiotaped sessions with permission from participants (if even one participant did not want to be recorded, that session was not audiotaped). Audiotapes were rated after all group sessions were completed by Ingersoll, a Motivational Interviewing Network of Trainers (MINT) trainer who was a consultant to the project. The de-identified recordings were coded using two measures of therapist behavior in leading the group. To assess fidelity and MI skills, we used the *Motivational Interviewing Treatment Integrity* (MITI 3.1.1.), which includes three global scores for MI Spirit, Direction, and Empathy that are rated on a 1–5 scale, with a score of four or higher representing MI competence, and behavior counts that allow the calculation of ratios such as the ratio of reflections to questions and the percent MI adherent (composed of asking permission, affirm, emphasizing personal choice and control, and support) (Moyers et al., 2009). The reliability estimates for the MITI ranging from .76 to .98 (Moyers et al., 2005).

We coded group characteristics with the *Assessment of Motivational Interviewing Groups Observer System* (AMIGOS) (Wagner & Ingersoll, 2013b), which includes a checklist of MI group strategies, and 3 global scales representing five group processes, four leader general tasks, and eleven leader MI group tasks. Items in the group process scale of the AMIGOS include climate, openness, cohesion, altruism, and hope. Items in the leader general tasks scale include leader floor time, linking, framing, and time orientation. Items in the leader MI tasks include empathy, autonomy, strengths, engaging, focusing, evoking, progress,

momentum, depth, broadening, and narrowing. These global items are scored on a 1–5 scale, with 3 representing a neutral or basic skill level, while scores of 1–2 represent poorer group leader skills from the MI group perspective, and 4–5 represent stronger group leader skills. An initial evaluation of the psychometric properties of the AMIGOS shows that it has construct validity and strong inter-rater reliability (Ingersoll and Wagner, 2014), although reliability has never been established with American Indians. Both the MITI and the AMIGOS are scored in one pass, with the rater marking behavior counts while listening to the tape, then marking global ratings after listening to the entire segment.

1.4. CHOICES Group Intervention

The CHOICES Group intervention is similar to the individual CHOICES intervention in that therapists use MI counseling techniques, such as reflective listening, open questioning, and evocation of group members' reasons for, and thoughts about change. MI techniques are also used to guide the participants through activities designed to build momentum for change, such as considering the pros and cons of change if the group members are ambivalent, identifying change goals, and articulating change plans for alcohol consumption and birth control. However, it also draws heavily on the model of MI Groups by emphasizing linkage and bonding among members, and fostering open communication among members that leads them to consider healthy changes using the momentum and encouragement of the group. There were two CHOICES Group sessions, each designed to last between 1–2 hours. The second CHOICES Group session was held approximately two weeks after the first session.

The sessions were a closed-group format, to foster group cohesion among returning members. In general, two staff members facilitated CHOICES groups. Participants who arrived late to the group were either incorporated into the current group or rescheduled to the next group depending on how much she had missed. Groups were rescheduled if there were fewer than two participants in attendance.

Facilitators began sessions by asking participants if anyone would like to begin with an opening prayer or smudging, per American Indian traditional practices. An eagle feather was also incorporated to represent the sacredness of the group. Groups then typically completed an "icebreaker" and introductions, and members were asked to define their own group guidelines. Members often discussed the importance of confidentiality and respecting the experiences and opinions of others in the group. Facilitators asked group members to share their reactions to information about drinking and contraception, and reflected those responses and asked questions to engage other group members.

The CHOICES Group intervention includes referrals to a local health care provider for birth control. This is not a requirement, but participants are encouraged to make an appointment to discuss their birth control options between Session 1 and Session 2. Participants were offered a gift card after completion of both sessions. The interventionists also had a contact list for any necessary referrals for services, including contact information for alcohol treatment services, domestic violence services, and other social service agencies in the event these are needed for CHOICES participants.

2. Results

2.1. Participants

3.1.1. Group Membership—Recruitment for CHOICES Group began in February, 2014, and by the end of 2014, a total of twelve groups (two sessions for each group, or 24 total group sessions) had been held for this pilot intervention. The number of participants in each group ranged from 2 to 5 (average 3.3). Overall, $n = 40$ completed Session 1, and $n = 33$ completed Session 2, although eight of these participants completed Session 2 in an individual session with the interventionist as additional group members either did not show or they were not able to attend Session 2 of CHOICES Group. Therefore, of the planned 24 group sessions, 22 sessions were conducted in group. Seven out of the twelve groups had participants who did not participate in the second session (i.e., were no-shows or had individual sessions). See Table 1 for additional details.

3.1.2. Member Characteristics—Participants were self-identified American Indian women with an average age of 28.9 (± 7.9 , range 19–44). No other demographic characteristics such as education or employment were captured. By design, all women who participated were sexually active with a male (i.e., vaginal intercourse within the past 90 days); fertile (i.e., had not experienced menopause, and not been sterilized); and not using an effective form of contraception, defined as either not using *any* contraception at a sexual encounter or using a method *incorrectly* or *inconsistently*. CHOICES Group participants reported that the *average* number of standard drinks in a typical drinking day was 14.9 (± 17.3), although the *most* that a woman reported drinking in an above-average drinking day was 20.3 (± 20.6). Consuming alcohol was a social activity for nearly all of these women. Only 3% drank alcohol alone, with the rest consuming alcohol with other people. In addition to consuming bottles or cans of beer, women reported sharing large jugs or bottles of malt liquor and hard liquor with others. While a thorough assessment of other substance use was not conducted, over half (59%) reported that they were cigarette smokers.

3.2. Group Climate

All participants in the groups completed the *Group Climate Questionnaire* for both Session 1 and Session 2. Participants rated the group climate as they perceived it as good. On a scale from 0 to 6, Group Climate subscales revealed that median engagement was 4.8 (high), conflict was 0.6 (low), and avoidance was 3.7 (middle) during the first CHOICES Group session. At the second CHOICES Group session, median engagement was 4.4 (high), conflict was 0.4 (low), and avoidance was 3.3 (middle). This indicates that the CHOICES Group sessions positively engaged members, had low levels of anger or tension, and had average levels of avoidance of personal responsibility. See Table 1 for median scores by group.

3.3. CHOICES Group Intervention Fidelity

Audiotapes were available for 12 of the 22 groups session conducted. In this project, we evaluated 2–3 segments totaling 30 minutes that randomly sampled from that group's audiotape. Most sessions were 90 minutes, so this procedure represents coding of about 1/3 of the time of each group session.

3.3.1. MI Skills—MI Global skills in Empathy, MI Spirit, and Direction based on the MITI were good on average, although leaders did not achieve a benchmark of four in Empathy in 5 of the 12 sessions, in MI Spirit in 2 of 12 sessions, and in Direction in 1 of 12 sessions. In terms of ratios derived from MITI behavior counts, leaders were strong in MI Adherent, achieving a 100% rate of MI Adherent to MI Adherent+ MI Non Adherent behaviors. They did not achieve the benchmark of two reflections for every question in any group, indicating a clear need to improve skills in reflective listening. Table 2 presents ratings per group and medians.

3.3.2. Group Strategies—In terms of group strategies assessed by the AMIGOS' checklist, the most common strategies in the first sessions of each group were a warm-up exercise, occurring in 6 of the 7 first sessions, a pros and cons discussion, occurring in 5 of the 7 first sessions, followed by discussion of the group's rationale, development of group guidelines, exploration of lifestyles, presentation of the CHOICES model (to discuss both contraception and drinking in order to prevent an AEP), and review of feedback from daily journals all occurred in 4 of the 7 first sessions. Among the five second sessions, the most common strategies were an orientation to the second session, and a review of progress since last time, occurring in all sessions. A warm-up exercise and goal setting occurred in 3 of the 5.

3.3.3. Group Leader Skills—Leaders evidenced a mix of Group leadership skills on the AMIGOS. Their strongest leadership skills on average were in establishing a positive group climate, respecting group members' autonomy, engaging group members, and establishing a useful focus for discussion. In contrast, their weakest leadership skills were in leader floor time, in which they dominated group conversations rather than letting group members speak more, linking group members to each other via linking reflections of common themes and experiences, maintaining a focus on progress or forward momentum on group member goals, guiding the members to speak at more depth, and broadening and narrowing the conversation as needed. They demonstrated average or better skills on the remaining AMIGOS scales. Table 2 presents the median scores on each AMIGOS scale by group and in aggregate. Based on these data, the primary recommendation was for CHOICES group leaders to increase the use of reflections generally, and to increase the use of linking reflections specifically to encourage group bonding.

4. Discussion

Over the course of ten months, we piloted the CHOICES Group intervention with non-pregnant American Indian women. Data resulting from this pilot of CHOICES Group (i.e., behavioral changes of participants at follow-up and total reduction of AEP risk) will be reported in subsequent manuscripts in order to focus on the development and implementation of the intervention itself. Based on our implementation fidelity data, CHOICES Group is a feasible intervention to reduce risk for AEP. Within the intervention, the interventionists were overall MI adherent and implemented appropriate group strategies within CHOICES Group. As well, our interventionists showed good group leader skills. In addition, CHOICES in a group setting appears to be an acceptable way of interacting with

women at-risk for an AEP. CHOICES Group participants were positively engaged and there were low levels of tension between group members.

To further promote the feasibility and acceptability of CHOICES Group with American Indian women, we successfully recruited participants for CHOICES Group, although in some cases the second session was completed as an individual session due to “no shows.” Some of the cultural adaptations we included for groups of American Indian women included having the option of an opening prayer or smudging, per American Indian traditional practices, and the incorporation of an eagle feather to represent the sacredness of the group. The inclusion of these practices were suggestions made by the American Indian staff within OST CHOICES and were at the discretion of each individual group. Besides these, there were no other additional cultural adaptations made to CHOICES Group. Should this intervention be developed and implemented with other tribal communities, each tribe will need to adapt cultural practices based on their own individual community norms.

This is an important expansion of a successful AEP prevention program (CHOICES), as well as an important expansion on published literature on group MI. In general, MI groups have been shown to reduce the social isolation of members and “bring individuals together to share concerns and support one another,” increasing their hope and confidence (Wagner & Ingersoll, 2013a). Conducting MI in a group is advantageous as groups can be developed in the context of members’ needs and goals, and can be adapted to fit the setting in which they are run (Wagner & Ingersoll, 2013a). Preliminary evidence shows that MI groups lead to behavioral changes, including reductions in substance use, and can increase the quality of subsequent participation in treatment and aftercare (Brown et al., 2007; Foote et al., 1999; Lincourt, Kuettel, & Bombardier, 2002; Michael, Curtain, Kirkley, Jones, & Harris, 2006; Santa Ana, Wulfert, & Nietert, 2007; Wagner & Ingersoll, 2013a), similar to individual MI (Burke, Arkowitz, & Menchola, 2003; Sobell, Sobell, & Agrawal, 2009). With follow-ups planned at 3- and 6-months post-intervention with CHOICES Group members and a subsequent analysis and publication of these results at a later time, we anticipate the CHOICES Group intervention will reduce alcohol consumption and risky sexual behaviors, as shown in the original CHOICES studies (Floyd, Ebrahim, & Boyle, 1999; Floyd et al., 2007; Ingersoll et al., 2003; Project CHOICES Research Group, 2002; Sobell et al., 2003; Velasquez et al., 2009).

An informal evaluation with the CHOICES Group interventionists highlight some important findings from this pilot project to address in future groups as it continues to be replicated. First, the interventionists expressed concern that women in CHOICES Group appeared more likely to choose birth control methods such as Depo Provera or oral contraceptives as opposed to long-acting reversible contraceptives (LARCs, such as intrauterine devices like IUDs), which tend to be more reliable as they do not rely on remembering to take a daily pill or obtain a follow-up shot (Espey & Ogburn, 2011; Winner et al., 2012). There was also concern that the self-reporting for alcohol intake by participants was less than what the women were actually drinking. This is not unique to this setting or group of women (Livingston & Callinan, 2015; Northcote & Livingston, 2011; Stockwell et al., 2004; Stockwell, Zhao, & Macdonald, 2014). Concerted efforts to discuss LARCs as a valid method of contraceptive and encouraging ongoing discussion of the pros and cons of

different methods, as well as highlighting drink size and reporting alcohol consumption, will be ongoing efforts made as CHOICES Group moves forward with this population.

In addition, the CHOICES Group interventionists expressed opinions about the need to segment groups. Specifically, the interventionists felt that CHOICES Group seemed to have a stronger impact with younger women (i.e., those under 35) versus older women of reproductive age. Younger women seemed more engaged and responsive to the group setting when compared to older women, in the opinion of the interventionists. As well, when there was a group of women of mixed ages (i.e., younger women and older women combined as opposed to a group of just young women), the interventionists felt that interaction between group members was impacted and that there was less fruitful conversation between members. This is possibly because of the “stage of life” that women are in at different ages; for example, younger women have younger children and are just completing school and starting jobs, compared to older women with older children who are more established in life and perhaps less malleable to changing behaviors. Therefore, the interventionists recommend segmented groups by age. While the observations by the CHOICES Group pilot interventionists cannot be generalized, these are important notations to be mindful of as CHOICES Group moves from the pilot stage into being tested with a larger, more generalized sample. Other research has found that while organizing groups by homogenous membership (such as age) can be more appropriate for certain target populations with definite needs, heterogeneous membership has some advantages, such as getting feedback from many diverse sources (Corey, 2011). Therefore, further testing of CHOICES Group is necessary to confirm this need to segment by age.

4.1. Limitations

There are a few possible limitations related to CHOICES Group, as with any group intervention, such as nonparticipation within the group (Wagner & Ingersoll, 2013a; Walters, Ogle, & Martin, 2002). For instance, there was discussion during the CHOICES Group training that participants might not respond to questions or interact with other group members due to a concern that American Indian participants might be uncomfortable with self-disclosure in a group setting (Garrett, 2004; Momper et al., 2011). However, the piloting of CHOICES Group showed extensive participation from all participants, even with group leaders who had not yet achieved mastery of MI and group leadership skills. The positive effects we found may be in part due to utilizing trained and experienced interventionists, one of whom is an enrolled member of the tribe, potentially adding to participant comfort. Group leader MI skills were strongest in MI Spirit and Direction, but relatively weak in reflective listening, resulting in a lower Empathy score than desirable. Their group leader skills were strongest in establishing a positive climate, which was consistent on the AMIGOS and the Group Climate Questionnaire. Many of their MI Group leadership skills were above the benchmark, but some were significantly lower than expected, especially balancing leader speech with group member speech or “floor time.” Additional areas needing improvement are group leaders skills in linking members to each other thematically using reflections, building momentum for change across group members, and deeper MI group leadership skills considered to be advanced conversational shaping.

These ratings indicate a need for additional training and supervision for CHOICES Group leaders in both core MI skills such as reflective listening, and some group leadership skills.

In addition, as highlighted in Results, there were some difficulties retaining participants into participating in the second session. Participants might be unable to attend Session 2 for a variety of reasons (which we did not investigate) and therefore not receive the complete intervention. However, we found that we could then provide them with an individual intervention, thereby providing them with the entire CHOICES curriculum. Because of the option of having the second session as an individual session, only seven out of the 40 (17.5%) total CHOICES Group participants were completely lost to follow-up and did not complete the CHOICES intervention. This is only slightly higher than other research on group therapy with a general population of women, which found a 13.5% drop-out rate (Greenfield et al., 2014). Future implementation of CHOICES Group must take into account the need for several reminders to participants about the second session. Despite these difficulties in retention, group leaders showed the “spirit” of MI in the group format, and interventionists successfully supported positive interactions among members and capitalized on strengths across group members.

4.2. Conclusion

In conclusion, while preliminary findings indicate the applicability and significance of the CHOICES Group intervention, expansion of this pilot study through additional research is needed. There are only a few examples of randomized clinical trials using MI groups to address issues other than AEP risk (D’Amico, Hunter, Miles, Ewing, & Osilla, 2013; LaChance, Feldstein Ewing, Bryan, & Hutchison, 2009; Noonan, 2001; Sobell, Sobell, & Agrawal, 2009), with other studies being nonrandomized trials, non-comparison studies, and pilot designs (Brown et al., 2007; Foote et al., 1999; LaBrie, Thompson, Huchting, Lac, & Buckley, 2007; Lincourt, Kuettel, & Bombardier, 2002; Michael, Curtin, Kirkley, Jones, & Harris, 2006; Santa Ana, Wulfert, & Nietert, 2007). While the CHOICES Group intervention pilot study found that it positively engaged members, had low levels of anger or tension, and had average avoidance of personal responsibility, the intervention needs additional investigating with a greater number of groups and participants. Additionally, the quality of MI and group leadership skills varied, and in some cases did not meet benchmarks for competence. This indicates that more training in MI skills and group leadership skills is needed, along with supplementary and ongoing supervision. After completing follow-up data collection, this team aims to go beyond the pilot stage and compare the CHOICES Group intervention to the individual CHOICES intervention using a randomized control trial and a greater number of American Indian women participants.

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Highlights

- OST CHOICES prevents AEP with non-pregnant American Indian women.
- OST CHOICES Program expanded to be delivered in a group using group MI.
- This is a novel application within a successful AEP prevention program (CHOICES).
- This is also expands knowledge about motivational interviewing within a group setting.

Table 1**CHOICES Group Participation**

Group	# members session 1	# members session 2	Median Engagement score ^a		Median Conflict score ^a		Median Avoidance score ^a	
			Session 1	Session 2	Session 1	Session 2	Session 1	Session 2
1	3	3	5.3	5.0	2.2	2.7	3.7	4.7
2	5	3 ^b	4.8	4.7	0.4	0.3	3.0	4.0
3	2	1 ^c	6.0	n/a	0.0	n/a	6.0	n/a
4	4	3 ^b	3.3	4.0	1.8	0.0	3.3	5.0
5	4	4	5.3	5.3	0.0	0.0	3.8	4.3
6	4	4	3.3	3.3	1.0	0.5	4.5	4.0
7	3	2 ^b	4.3	5.5	1.3	0.0	4.7	2.5
8	3	3	5.7	5.0	0.0	0.0	3.3	2.0
9	3	3 ^c	5.3	n/a	0.0	n/a	3.3	n/a
10	3	3 ^c	5.7	n/a	0.0	n/a	5.0	n/a
11	3	3	5.0	2.7	0.0	0.0	1.0	0.0
12	3	1 ^c	4.0	n/a	0.0	n/a	2.7	n/a
TOTAL	40	33	4.8	4.4	0.6	0.4	3.7	3.3

^a Scale of 0 to 6^b Some members dropped out/did not receive Session 2^c Due to drop-outs, these individuals completed Session 2 as a 1:1 intervention and did not complete Group Climate Questionnaire

Table 2
MITI Ratings of MI skills and AMIGOS Ratings of CHOICES Groups Leader Skills

Group	1	2	3	4	5	6	7	8	9	10	11	12	Median (Min, Max)
MITI Globals and Ratios													
MITI Empathy	4	3	2	3	4	4	5	4	3	4	5	2	4 (2, 5)
MITI MI Spirit	4.67	4.00	2.33	3.33	4.33	4.00	4.67	4.00	4.00	4.67	4.33	3.33	4.17 (3.33, 4.67)
MITI Direction	5	5	4	5	5	4	5	5	4	3	4	3	4.50 (3, 5)
R:Q	1.17	0.83	0.38	0.93	0.79	0.88	0.60	0.79	0.75	0.80	0.93	0.45	0.79 (.45, 1.17)
MI Adherent %	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.0 (1.0, 1.0)
AMIGOS Items													
Climate	5	4	3	4	4	4	.	5	4	4	5	4	4 (4, 5)
Openness	5	4	3	3	3	4	.	5	4	4	5	3	4 (3, 5)
Cohesion	5	4	2	2	3	3	.	4	4	4	5	3	4 (2, 5)
Altruism	4	3	2	3	3	3	.	3	3	3	3	3	3 (3, 4)
Hope	3	3	2	3	3	3	.	4	3	3	4	3	3 (3, 4)
Floor Time	4	3	2	2	3	2	.	3	4	3	3	2	3 (2, 4)
Linking	4	3	3	2	3	3	.	5	3	4	2	2	3 (2, 5)
Framing	3	4	3	3	3	3	.	4	4	3	3	3	3 (3, 4)
Time Orient	3	4	3	5	3	4	.	5	5	3	4	4	4 (3, 5)
Empathy	4	4	2	4	4	4	.	4	4	4	4	3	4 (3, 4)
Autonomy	5	4	3	5	4	4	.	4	5	4	5	4	4 (4, 5)
Strengths	5	4	2	4	4	4	.	3	3	4	3	3	4 (3, 5)
Engage	5	4	3	4	4	4	.	4	4	5	5	2	4 (2, 5)
Focus	5	4	3	5	5	4	.	5	4	5	5	3	5 (3, 5)
Evoke	4	4	2	2	4	4	.	3	2	4	4	2	4 (2, 4)
Progress	3	3	2	3	3	3	.	3	3	4	3	2	3 (2, 4)
Momentum	2	3	2	5	4	3	.	4	4	3	3	2	3 (2, 5)
Depth	2	3	2	2	3	2	.	2	3	3	3	2	2 (2, 3)
Broadening	2	3	2	3	3	2	.	2	3	2	3	2	2 (2, 3)
Narrowing	2	3	2	3	2	2	.	2	3	2	3	2	2 (2, 3)

* Indicates missing data; the audiotape for group 7 ran out after 8 minutes, and group processes were unable to be rated.