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Acceptability of the use of Motivational Interviewing to reduce underage drinking in an Native American community

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Abstract

Thirty-six Native American tribal leaders and members living on contiguous rural Southwest California reservations were surveyed concerning their view of the acceptability of a Motivational Interviewing (MI) intervention to youth (ages 8–18 years) who are drinking and their families. The results suggest that: (1) a substantial proportion of reservation youth would be willing to accept MI for behavior change; (2) relatively few are actually ready to change; (3) most reservation youth are in the pre-contemplation stage of change; and (4) MI may be well suited as an intervention to prevent underage drinking in that population. Supported by NIH.

Keywords

Motivational Interviewing; Underage Drinking; Native American

INTRODUCTION

The U.S. Surgeon General has issued a call to action to prevent underage drinking. Native American adolescents are at higher risk than other ethnicities for underage drinking and its associated morbidity and mortality (Bachman et al., 1991; Beauvais et al., 2008; Blum et al., 1992; Wallace et al., 2003). Onset of drinking in adolescence has been associated with higher rates of lifetime alcohol use disorders in the general U.S. population (Grant and Dawson, 1997; Grant et al., 2001). In one Native American community study, earlier ages of first intoxication were found to be associated with higher lifetime rates of alcohol use disorders, even in the presence of other risk factors (Ehlers et al., 2006). In that study, age of first intoxication was not found to be heritable. These findings raise the possibility that acceptable and effective environmental interventions which prevent underage drinking may have significant impact not only on underage alcohol use and its associated morbidity and mortality but also on rates of alcohol use disorders in adulthood in Native American communities.

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One psychotherapeutic intervention that holds promise for reducing underage drinking in Native Americans is motivational interviewing (MI). MI is a brief psychotherapeutic intervention technique which assesses a patient's readiness to change (or stage of change) and implements a treatment program specific for his or her stage of change (Miller and Rollnick, 2002). In the stage of pre-contemplation, the earliest stage of change (Prochaska et al., 1992), the young alcohol user is either unaware that drinking is a problem or is unmotivated to change his or her drinking. In the next, contemplation, stage, the youth realizes he or she has a problem with alcohol and has begun to think seriously about changing his or her drinking behavior (Miller and Rollnick, 2002). MI for substance use has been shown to be effective in samples of predominantly Euro-American adolescents and young adults (Monti et al., 1999, 2001; Spirito et al., 2004) as well as Native American adults (Villanueva et al., 2007). MI is a shorter and more efficient alternative to longer term treatments with similar efficacy (Monti et al., 1999, 2001, 2007; Project MATCH, 1997; Spirito et al., 2004). MI is also effective in patients with little motivation to change (Miller and Rollnick, 2002); and is a non-judgmental, non-confrontational, and non-authoritarian therapy which emphasizes respect for and empathy with the adolescent as he/she currently sees himself (Miller, 1996; Miller and Rollnick, 1991, 2002; Moyers et al., 2005; Prochaska, 2003). As such, MI may be particularly well-suited to adolescents who, as a rule, respond poorly to confrontational and authoritarian approaches outside enforced treatment settings (Monti et al., 2001). For similar reasons, MI may be particularly useful in non-Euro-American treatment populations because MI interventions can be modified to emphasize respect for the underage drinker not only as an individual, but as a member of a family, a larger extended family, and a tribal unit that may have a different, unique history and culture. In this sense, "cultural relevance" is a natural part of and can be easily built into MI in minority ethnic populations, including Native Americans (Venner et al., 2007).

The purpose of this study was to survey tribal leaders and tribal members in a Native American community for their assessment of (1) the potential acceptability to reservation youth of a research program to assess efficacy of individual and family MI interventions aimed at the prevention of underage drinking, and (2) the extent to which youth readiness to change might be associated with their acceptance of the MI intervention.

METHODS

This study on Motivational Interviewing acceptability was conducted as part of a larger project to build the capacity of a Native American community health center to assess and implement a program to reduce underage drinking on contiguous Southern California tribal reservations. The capacity building project is a collaboration between the Native American community health center, the Scripps Research Institute (TSRI), and the Pacific Institute for Research and Evaluation (PIRE). The Institutional Review Board (IRB) representing the nine Southern California tribes included in the study requires that the research team not reveal the name of the health clinic or the names and exact locations of the reservations. For the purposes of this report, the health clinic will be called the Southern California Tribal Health Center (SCTHC). The research team had identified Motivational Interviewing as part of the proposed interventions to reduce underage drinking and wanted to ensure that this approach was viewed as culturally appropriate by tribal leaders and tribal members from the nine tribes. The protocol for the study was approved by the Institutional Review Boards (IRBs) of SCTHC, PIRE, and TSRI. Written informed consent was obtained from each participant after the study was explained. Recruitment for the survey was initially undertaken from a group of 34 tribal leaders and tribal members who had previously completed an hour-long face-to-face semi-structured ethnographic interview regarding the extent of underage drinking in their tribes and previous community efforts to define and reduce the problem as part of the larger study. These 34 participants had given permission

for follow-up contact to consider further participation in other aspects of the study. Eight potential participants did not return two phone calls, and were thus deemed passive refusals. Therefore, the initial sample consisted of three men and twenty-three women. In order to obtain data sufficient to make gender comparisons, ten additional surveys from men were conducted with male tribal leaders and members. All ten men contacted to participate in the additional sample agreed to do so and completed the survey. Selection criteria for the tribal leaders and tribal members included membership in one of the nine tribes and either a position on the tribal council (including tribal chair) or an expert position as a medical professional involved in providing care to youth, tribal law enforcement and firefighter personnel, or as a tribal youth activities coordinator. All participants were personally or professionally known to Native American students working as part of the research team at the SCTHC.

Recruitment to the study and administration of the MI survey was carried out by four Native American students working as part of the research team at the SCTHC who had previously been trained in semi-structured ethnographic interviewing by PIRE personnel and who had previously conducted the hour-long face to face ethnographic interviews. After a brief description of the proposal to research the effectiveness of MI as an intervention for reservation youth who were drinking, participants were asked to rate on a 5-point scale how accepting (very accepting, somewhat accepting, neutral, a little accepting, not at all accepting) reservation youth would be of a research project assessing MI for behavior change in five conditions: (1) for behaviors youth already want to change, (2) for behaviors others want youth to change, (3) with family involvement, (4) with audio-taping of the MI sessions, and (5) with video-taping of the MI sessions. After each question, participants were asked to state their reasons for answering how accepting reservation youth would be of MI for each behavior change condition. No prompting or guidance for response categories was offered by the student interviewer. Responses were recorded in handwriting by the interviewer, usually in a shortened version of the original verbal response. Survey interviews were carried out in person or by phone; interviews were not audio- or video-taped.

Following completion of the 36 interviews, the raw survey data was tabulated and responses on the five point scale (very accepting to not at all accepting) were counted for each MI behavior change condition in the sample as a whole and for males and females separately. Each reason given by participants for each MI behavior change condition was assessed by a research addiction psychiatrist (DAG) as to whether the answer indicated a readiness for change. Answers such as “They would be very accepting because they already want to change” and “Somewhat [accepting] because most of them already want to change” were considered to indicate readiness to change. Answers such as “They don’t think it’s a problem; it’s someone else’s problem” and “Because they are in denial” were considered to indicate absence of readiness to change. Responses indicating “readiness to change” were also counted for each MI behavior change condition in the sample as a whole and for males and females separately.

For purposes of data analysis, participants’ responses concerning the potential acceptance of MI for behavior change, and their actual “readiness for change” were tabulated. Acceptance responses were then dichotomized into two levels of response, (1) those responses that indicated youth would be “very accepting” or “somewhat accepting” (accepting) and (2) those that indicated youth would be “neutral,” “a little accepting,” and “not all accepting” (non-accepting). Percentages of accepting and non-accepting responses for acceptance of MI for behavioral change and readiness for change for the sample as a whole and for males and females separately were then calculated. Chi-Square analyses were undertaken to determine if there were significant gender differences between accepting and non-accepting responses for the five conditions (behavior youth themselves wanted to change, behavior others

wanted youth to change, with family involvement, with audio-taping, and with video-taping) and for readiness to change in the first three conditions, since none of the participant gave readiness for change as a reason for acceptance of MI for the fourth or fifth condition.

RESULTS

Of the total sample of 36 participants, 23 (64%) were female. Interviewers did not have IRB permission to collect other demographic information. Results of perceived acceptability of MI are shown in Table 1. Sixty-seven percent of tribal leaders and members believed reservation youth would be accepting of MI that targeted behaviors that youth themselves wanted to change. Forty-two percent of tribal leaders and members believed that reservation youth would be accepting of MI for behaviors others wanted youth to change. Fifty-three percent believed that youth would be accepting of MI with family involvement. Participants believed that there would be less acceptance of audio- and video-taping of MI sessions (28% and 39% believed that youth would be accepting, respectively).

Readiness for change as a reason for youth acceptance of a MI intervention was found at the following rates: for behaviors youth already wanted to change: 31% accepting, 3% non-accepting; for behaviors others wanted youth to change: 8% acceptable, 3% non- accepting; with family involvement: 3% accepting, 0% non-acceptable. Readiness for change was not given as a reason for acceptance of MI with audio- or video-taping (see table 1).

Tribal leaders and members' beliefs about acceptance of MI by reservation youth were compared by gender of the participant. Male and female participants did not differ in the proportions who believed that reservation youth would be accepting versus non-accepting of MI for behavior change for: (1) behaviors youth already wanted to change, (2) behaviors others wanted youth to change, (3) with family involvement, (4) with audio-taping, and (5) with videotaping. Gender differences in readiness to change as a reason for acceptance of MI for behavior youth themselves want to change, behavior others want youth to change, and with family involvement was also assessed. More men (4 of 13) than women (0 of 23) (Chi-Square = 7.96, df = 1, $p < 0.01$) gave readiness for change as a reason for youth acceptance of MI for behaviors others want youth to change. Men and women did not differ in the proportions who gave readiness for change as the reason for acceptance of MI for behaviors youth themselves want to change and with family involvement. Similarly, readiness for change as a reason for acceptance of MI for youth who were accepting of MI for behavior others want youth to change was believed to be more frequent by men (3 of 6) than women (0 of 9) (Chi-Square = 5.63, df = 1, $p = 0.02$). There were no significant gender differences in beliefs about readiness to change for behaviors youth themselves want to change or with family involvement.

DISCUSSION

Rates of alcohol dependence that are 2–6 times the percentages seen in the general population are still evident in some Native American communities (see Beals et al., 2005; Ehlers et al., 2004; Kunitz, 2006; Leung et al., 1993; Robin et al., 1998; Walker et al., 1985). American Indian communities are experimenting with several approaches to prevention and treatment of substance use disorders including: traditional spirituality, prohibition of drinking on reservations, allopathic medicine, traditional healing experiences, as well as Alcoholics Anonymous, pharmacotherapy and other approaches such as community mobile treatment (see Coyhis and Simonelli, 2008; Jiwa et al., 2008; Kovas et al., 2008; O'Malley et al., 2008; Westermeyer, 2008). Most of these programs have not specifically targeted underage youth or suggested specific programs for this age group.

MI offers several advantages as an intervention technique aimed at underage youth. MI is effective in adolescents and young adults (Monti et al., 1999, 2001; Spirito et al. 2004). In some studies, one session MI has been shown to be significantly more effective than a control intervention (McCambridge and Strang, 2004) and to have significantly increased effects persisting for 1–2 years post intervention (Marlatt et al., 1998) in alcohol using teens. MI is able to address the broad spectrum of patients who are using alcohol, not only those who have been using for long periods of time, who have developed major life problems, or who meet criteria for alcohol dependence (Tevyaw and Monti, 2004). Although reduction in drinking is emphasized, MI also takes a harm reduction approach (Colby et al., 2004; Monti et al., 1999), something particularly important for alcohol-related morbidity in underage drinkers.

MI has also been tried to a limited extent in Native American settings. Analysis of treatment response of 25 adult Native Americans in the Project MATCH study found superiority of the MI as compared to cognitive-behavioral and 12-step facilitation interventions (Villanueva et al., 2007). Woodall and colleagues (2007) found that a treatment intervention incorporating MI principles for first time adult DWI offenders in a primarily Native American sample was associated with significantly greater reductions in alcohol consumption compared to no intervention. A family component joined with individual MI may increase the effectiveness of MI for Native American youth because the collectivistic ethos of many Native American communities and/or the large extended families found on some reservations render the peer group vs. family influences less distinct than they are in Euro-American community (Spillane and Smith, 2007). A recent meta-analysis of 72 clinical trials using MI indicated a greater treatment effect size for MI in minority as compared to Euro-American samples (Hettema et al., 2005) and Miller and colleagues (2008) have shown that cross-cultural training in MI with African American, Native American, and Spanish-speaking addiction treatment providers is effective. Other individual approaches to modifying demand in young adults, primarily in college students, including cognitive-behavioral skills-based and normative re-education programs, have shown some success (for a review, see Larimer and Cronce, 2007). None of these studies involved youth ages 13–17 years old and none involved alcohol using Native American underage youth.

Data from the current survey collected in a Native American community suggest that MI may be well suited as an intervention to prevent underage drinking and that a MI research program to reduce underage drinking would be generally well tolerated in this reservation community. Specifically, the data suggest that tribal leader and member participants believe that although a substantial percentage of reservation youth would be willing to accept MI for behavior change for behaviors youth already want to change, for behaviors others want youth to change, and with family involvement, relatively fewer youth are actually ready to change. Thus, the findings in the current study are consistent with the hypothesis that most of the reservation youth in this community are in the “pre-contemplation” stage of readiness to change with respect to their drinking. If that is the case, MI may be an ideally suited intervention to prevent underage drinking in this community, particularly for drinking behaviors that others, but not the youth themselves, want youth to change. These findings are also consistent with the belief that youth would accept a research MI intervention involving family, suggesting that a family component to the MI intervention would be appropriate. Lower acceptance of audio- or video-taping for research purposes indicate that these components are unlikely to be accepted by reservation youth and therefore would not be useful parts of a MI intervention.

More men than women believed that youth would be ready to change behaviors others wanted youth to change. This difference may reflect gender differences in how motivation to

change is conceptualized, parenting roles within the culture, and/or in experiences of successfully effecting behavior change in youth.

The results of this study should be seen in the light of several limitations. The results may not be representative of all tribal leaders and members on the reservations from which the survey sample was drawn and may not be representative of other Native American communities. The study was limited in its ability to assess potentially significant covariates which might have been associated with participants' responses. These include socio-demographic variables other than gender as well personal and family histories of alcohol and other substance use related morbidity which might have affected the participants' beliefs about acceptance of MI and readiness for behavior change in youth. In the Chi-Square analyses of gender differences in readiness to change, as well as in the analysis of acceptance of audio-taping in the sample as a whole, small cell sizes (i.e. <5) render the interpretation of significance of the results tentative. Finally, since this study gathered data from a sample of tribal leaders and tribal members willing to participate in the survey, as opposed to the youth themselves, the findings may not represent how youth themselves would respond to an MI research program. Overall, however, the findings suggest that a MI research program to reduce underage drinking would be feasible in this reservation community.

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Glossary

Motivational Interviewing MI	a brief psychotherapeutic intervention technique which assesses a youth's readiness to change (or stage of change) and implements a treatment program specific for his or her stage of change
Stage of change	one of a series of incremental psychological and behavioral states which lead to intentional behavior change
Pre-contemplation stage of change	the earliest stage of change in which the youth alcohol user is either unaware that drinking is a problem or unmotivated to change his or her drinking
Contemplation stage of change	the next stage of change in which the youth realizes he or she has a problem with alcohol and has begun to think seriously about changing his or her drinking behavior

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Table 1

Motivational Interviewing Acceptability and Readiness to Change Survey: Acceptance and Readiness to Change Results for Entire Sample (N=36); Males (N=13); and Females (N=23)

Motivational Interviewing for behavior change with youth:	Accepting		Non-Accepting		Totals
	N (%)	Ready (%)	N (%)	Ready (%)	N (%)
1. For behaviors youth already want to change:					
Entire Sample	24 (67)	11 (31)	12 (33)	1 (3)	36 (100)
Male	8 (62)	3 (23)	5 (38)	1 (8)	13 (100)
Female	16 (70)	8 (35)	7 (30)	0 (0)	23 (100)
2. For behaviors others want youth to change:					
Entire Sample	15 (42)	3 (8)	21 (58)	1 (3)	36 (100)
Male	6 (46)	3 (23)	7 (54)	1 (8)	13 (100)
Female	9 (39)	0 (0)	14 (61)	0 (0)	23 (100)
3. With family involvement:					
Entire Sample	19 (53)	1 (3)	17 (47)	0 (0)	36 (100)
Male	8 (62)	1 (8)	5 (38)	0 (0)	13 (100)
Female	11 (48)	0 (0)	12 (52)	0 (0)	23 (100)
4. With audio- taping:					
Entire Sample	10 (28)	0 (0)	26 (72)	0 (0)	36 (100)
Male	4 (31)	0 (0)	9 (69)	0 (0)	13 (100)
Female	6 (26)	0 (0)	17 (74)	0 (0)	23 (100)
5. With video- taping:					
Entire Sample	14 (39)	0 (0)	22 (61)	0 (0)	36 (100)
Male	5 (38)	0 (0)	8 (62)	0 (0)	13 (100)
Female	9 (39)	0 (0)	14 (61)	0 (0)	23 (100)