

# Research Article

## GATEKEEPER TRAINING FOR SUICIDE PREVENTION IN FIRST NATIONS COMMUNITY MEMBERS: A RANDOMIZED CONTROLLED TRIAL

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**Background:** *Gatekeeper training aims to train people to recognize and identify those who are at risk for suicide and assist them in getting care. Applied Suicide Intervention Skills Training (ASIST), a form of gatekeeper training, has been implemented around the world without a controlled evaluation. We hypothesized that participants in 2 days of ASIST gatekeeper training would have increased knowledge and preparedness to help people with suicidal ideation in comparison to participants who received a 2-day Resilience Retreat that did not focus on suicide awareness and intervention skills (control condition).* **Methods:** *First Nations on reserve people in Northwestern Manitoba, aged 16 years and older, were recruited and randomized to two arms of the study. Self-reported measures were collected at three time points—immediately pre-, immediately post-, and 6 months post intervention. The primary outcome was the Suicide Intervention Response Inventory, a validated scale that assesses the capacity for individuals to intervene with suicidal behavior. Secondary outcomes included self-reported preparedness measures and gatekeeper behaviors.* **Results:** *In comparison with the Resilience Retreat (n = 24), ASIST training (n = 31) was not associated with a significant impact on all outcomes of the study based on intention-to-treat analysis. There was a trend toward an increase in suicidal ideation among those who participated in the ASIST in comparison to those who were in the Resilience Retreat.* **Conclusions:** *The lack of efficacy of ASIST in a First Nations on-reserve sample is concerning in the context of widespread policies in Canada on the use of gatekeeper training in suicide prevention.* *Depression and Anxiety 00:1–9, 2013.* © 2013 Wiley Periodicals, Inc.

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## INTRODUCTION

Suicide, especially among some First Nations communities in Canada, has been an enormous problem.<sup>[1-5]</sup> In the Swampy Cree Tribal Council on-reserve First Nations communities, the rates of suicide and suicide attempts are four to five times that of the general population.<sup>[4]</sup> Gatekeeper training has specifically been endorsed as an important suicide prevention strategy<sup>[6]</sup> and has been included in policies across the world.<sup>[7]</sup> Gatekeeper training involves the training of people (adults and youth) in the community to recognize and identify those who are at risk for suicide and assist them in getting care.<sup>[8]</sup> Gatekeepers are persons who have primary contact with those at risk for suicide and go about identifying them by recognizing suicidal risk factors. Historically, they have been divided into two main groups, defined as either “designated” or “emergent.”<sup>[8]</sup> The “designated” group consists of those who are trained and designated as helping professionals (e.g., those who work in the fields of medicine, social work, nursing, and psychology). The “emergent” group consists of community members who may not have been formally trained to intervene with someone who is at risk for suicide, but “emerge” as potential gatekeepers as recognized by those with suicidal intent (e.g., clergy, recreation staff, police, coaches, teachers, and counselors). It has been suggested that family and friends may be those best suited to act as gatekeepers based on their close relationship with those at risk for suicide. In essence, gatekeepers “open the gate to help” for those at risk of suicide. A number of gatekeeper training methodologies are commercially available as train-the-trainer models, such as Applied Suicide Intervention Skills Training (ASIST) by LivingWorks, Question, Persuade, and Respond (QPR), and Yellow Ribbon International (YR) for Suicide Prevention.<sup>[8]</sup>

Our systematic review of gatekeeper training<sup>[8]</sup> found that only a small number of studies had assessed whether the gatekeeper educational training actually had an impact on the participants knowledge and skills in suicide intervention. To date, one randomized controlled trial (RCT) of gatekeeper training has been conducted in school staff in the United States on this topic. Wyman et al.<sup>[9]</sup> randomized 342 staff to receive the 1-hr QPR training versus no training. Although QPR led to increases in self-reported knowledge of suicide risk, there was little impact on gatekeeper behaviors during the followup period. Only teachers who were previously comfortable in approaching students had an increase in likelihood of asking students about suicidal ideation (SI). Recently, Gould et al.<sup>[10]</sup> conducted an RCT of ASIST across the National Suicide Prevention Lifeline’s network of crisis hotlines in the United States. Based on silent monitoring of 1,507 monitored calls by observers blind to counselors’ ASIST-training sta-

tus, callers who spoke with ASIST-trained counselors appeared less depressed, suicidal, and overwhelmed, and there was greater improvement in callers’ feeling hopeful than among callers who spoke with a counselor in the wait-listed condition. Few significant changes in ASIST-trained counselors’ interventions emerged; however, improvements in callers’ outcomes were linked to ASIST-related counselor interventions.

Although gatekeeper training is being implemented across the world, to date the efficacy of this intervention has not been demonstrated. There is a need to evaluate whether this educational intervention improves the short- and long-term capacity of individuals to intervene with people who are suicidal. There is also a lack of evidence as to whether gatekeeper training is safe or whether it might increase distress and SI among participants. Suicide contagion, especially among youth, has been well described.<sup>[11]</sup> School-based suicide screening and intervention programs have been controversial based on the potential for increasing SI.<sup>[12]</sup> Gould demonstrated, however, that screening for suicide in schools did not induce SI or create distress.<sup>[13]</sup> However, screening for suicide and gatekeeper training using models such as ASIST are quite different. Our group’s indigenous knowledge-based studies demonstrated that there are high levels of grief in these communities based on the epidemic levels of suicidal behavior.<sup>[14]</sup> It remains unknown whether gatekeeper training can be safely delivered (i.e., without creating high levels of post-training distress and/or suicidality).

To overcome these limitations, we designed a study to test whether ASIST was efficacious and safe in community members. As part of the community consultation process, the Swampy Cree Community Advisory Committee suggested that this intervention was seen to be useful. However, due to several factors (e.g., lack of funding, lack of trainers, concerns about increasing distress), ASIST had not been implemented broadly. The Community Advisory Committee was supportive of evaluating ASIST through an RCT. However, they felt that it was important to offer the “control” group more than just a waiting list. Thus, our group, in consultation with First Nations community liaisons, created a 2-day Resilience Retreat (RR) with a focus on increasing youth resilience. Our group’s qualitative studies with over 130 community members in Swampy Cree communities showed a strong perceived need for youth, community members, and elders to work together to develop solutions within their own communities.<sup>[15]</sup> Not only is their concern about the loss of culture and language, but a breakdown in the communication between youth and community members. The Community Advisory Committee suggested that there is a need for retreats that bring together multiple generations that are focused on

building resilience among youth and community. They suggested that focused work within communities to reduce substance abuse and violence are also likely to have an impact on reducing suicides. Thus, a 2-day RR that did not focus on suicide education and awareness was developed as a control group for ASIST. Since the RR did not focus on suicide risk factors or preparedness for intervention, it was not expected to result in improvement in the main study primary outcome measure.

The objective of the present study was to compare the short- and long-term capacity of two interventions, the RR versus ASIST, to improve First Nations community members' preparedness to help those at risk for suicide. We hypothesized that participants in the ASIST would demonstrate increased knowledge and preparedness to help people with SI compared to participants in RR. Although the larger aim of these interventions is to impact mental health service use and resiliency for youth living in these communities who were not involved in the training, it is important to underscore that in this pilot study we *only* measured outcomes of people who participated in the ASIST or RR groups.

## METHODS

The University of Manitoba Human Research Ethics Board approved the study. The study was registered with <http://www.clinicaltrials.gov>—Registration no. NCT01287416. The sample was recruited and followed between May 2010 and May 2011.

### STUDY POPULATION

**Inclusion and exclusion criteria.** All members of the Swampy Cree tribal communities who were currently residing on the reserves were eligible to participate in the study. Approximately 11,000 people live across these eight communities. Exclusion criteria for the study included being less than 16 years of age, prior training in SafeTALK (a briefer version of suicide awareness training) or ASIST, being an elected official in a First Nations community, living off reserve, and an inability to read or write English.

**Recruitment and randomization procedures.** The recruitment and randomization process for the study was determined based on ongoing consultations with community representatives and investigators. Since these are small communities, community representatives suggested that a random and fair process was necessary to invite participation in the study. In each community, various methods of advertising for volunteers occurred in collaboration with each community liaison (i.e., radio advertisements, Swampy Cree Suicide Prevention Team newsletter, posters). Community activities were organized by community representatives in an effort to recruit individuals to participate in the study (i.e., through a bingo night, barbecue, etc.).

From the eligible applications, we selected names using a random number generator until we had six adolescents, four adults, and two elders in each community who met criteria for participation in the study. We aimed to create a balance of youth and adults in the groups. Twelve community members (youth, adults, elders) from each of the eight Swampy Cree communities were recruited to participate in this study (i.e.,  $n = 96$ ). Each participant provided written informed consent prior to randomization. Randomization was stratified at the community level as well as at the three subgroups (youth, adults, elders). For each community, six participants (three adolescents, two adults, and one elder) were randomized to ASIST and six to the RR.

**Compensation.** The group-based interventions were held in a central location where participants traveled from each of their communities to a central site (a hotel in The Pas, Manitoba and a hotel in Winnipeg, Manitoba). Travel, meals, and hotel costs were covered by the project. Completion of the 6-month followup measures was facilitated by the community liaisons in the participants' respective communities. Each participant was compensated \$25 for completion of the final time point.

**Intervention description.** ASIST is a 2-day intensive, interactive and practice-dominated workshop aimed at enabling people to recognize risk and learn how to intervene immediately to prevent suicide.<sup>[16]</sup> The workshop, facilitated by two trained facilitators, allows for a maximum enrollment of 30 participants. In the present study, we limited the number of participants to 24 people per training session based on feedback from Swampy Cree communities. Two First Nations ASIST trainers from the Swampy Cree region, in collaboration with two ASIST trainers from Winnipeg, carried out the training for each of the two ASIST groups. Although the option was given to provide the training in the Cree language, the majority of the training was delivered in English.

ASIST is designed for anyone from professionals and volunteers to members of the community. Participants ranged from those in caring roles to people concerned about family members or friends. ASIST is designed to help all caregivers become more willing, ready and able to help persons at risk of suicide. Just as "CPR" skills make physical first aid possible, training in suicide intervention develops the skills used in suicidality first aid. The ASIST program has five learning sections: (1) *Preparing*—This section sets the tone, norms, and expectations of the workshop; (2) *Connecting*—This section allows participants to explore their own attitudes toward suicide and creates an understanding of the impact that attitudes have on the intervention process; (3) *Understanding*—This section describes the intervention needs of a person at risk, focusing on providing participants with the knowledge and skills needed to recognize risk and develop safe plans to reduce the risk of suicide; (4) *Assisting*—This section presents a model for suicide intervention, allowing participants to develop their skills through observation and supervised simulation experiences in large and small groups; (5) *Networking*—This section generates information about resources in the local community, encouraging participants to explore local resources to create wider networks of support in the community.

The workshop develops skills using a variety of formats, including mini lectures, group discussions, simulations, role plays, and audio visuals. It provides participants with an understanding of the impact of their own attitudes about suicide, how to recognize and review the risk of suicide, effective suicide intervention techniques, as well as community resources for caregivers. After training, ASIST participants should be able to: (1) recognize that caregivers and persons at risk are affected by personal and societal attitudes about suicide, (2) discuss suicide in a direct manner with someone at risk, (3) identify risk alerts and develop related safe plans, (4) demonstrate the skills required to intervene with a person at risk of suicide, (5) list the types of resources available to a person at risk, including themselves, (6) make a commitment to improving community resources, and (7) recognize that suicide prevention is broader than suicide first-aid and includes life promotion and self-care for caregivers.

**Resilience Retreat.** The 2-day RR was divided into cultural teachings and activities, sharing circles, small group discussions, and story telling. Swampy Cree community liaisons from each community identified two First Nations community members who are respected in their communities and have had experience in leading camps and working with youth. These individuals were chosen to lead each retreat. The RR, developed in collaboration with First Nations community members, included four main components: (1) Seven Sacred Teachings—after a presentation by a First Nations community member and discussion amongst all communities on this topic, attendees

separated into individual community groups for discussion, wherein each community member selected one teaching and shared a personal meaning with their community group. (2) Self-identity—focused on knowing your identity, the past, and celebrating your history. Following the presentation, participants divided into community groups for discussion and then reconvened with all attendees to share discussion points. (3) Healthy communities—explored and discussed the following questions regarding healthy communities using both verbal and pictorial explanations: (a) What is a healthy community? (b) What are the strengths of your community? (c) What are the challenges in your community? and (d) How can your community move from these challenges to being a healthy community? All participants then reconvened to share discussions. (4) Bracelet-making activity—this was facilitated by a community member and involved each participant selecting several beads in a color(s) that represented something significant for them. Once the bracelets were made, each participant shared the “meaning” of their bracelet with another participant. The intention of the exercise was to make connections with people and get to know them. The RR ended with a sharing circle attended by all participants.

## DATA COLLECTION

The first questionnaire (pretraining) was administered prior to the start of the training/retreat for both groups. The post-training questionnaire was conducted with all participants immediately following the training/retreat. The followup questionnaire was conducted at a time 6 months following the post-training evaluations.

## MEASURES

**Primary Outcome.** Skills in Suicide Intervention: *Suicide Intervention Response Inventory*.<sup>[17]</sup> The Suicide Intervention Response Inventory-2 (SIRI-2) was used to detect enhancement of intervention skills in participants. The SIRI is a self-administered test that was designed to measure competence in choosing appropriate responses to a series of clinical scenarios with suicidal individuals. Research on the SIRI has shown it to have good psychometric properties, freedom from social desirability effects, and responsiveness to training in suicide prevention.<sup>[17]</sup> It contains 25 items, each of which consists of a “client” remark and two “helper” responses. Respondents are required to choose which “helper” response is the most appropriate. Correct responses are judged based on response options made by highly expert suicidologists. The SIRI has shown good internal consistency with an alpha of 0.83<sup>[17]</sup>, and good test-retest reliability. Scores on the SIRI are the number of correct responses.

**Secondary Outcomes.** Self-reported preparedness to intervene with suicidal behavior was measured by four questions that were developed in conjunction with LivingWorks, Inc. The questions assessed knowledge of the intervention process, confidence in intervening, skills in identifying suicidal individuals, and preparedness to intervene. Responses to each of these questions were asked on a 4-point likert scale with higher scores representing greater skills. For example, one of the questions was: “How confident would you say you are currently that you could intervene effectively with someone who is at risk for suicide?” The response options were very confident (4), confident (3), somewhat confident (2), or not at all confident (1). At 6-months followup, gatekeeper behaviors were measured using similar items used by Wyman et al. in the school-based study<sup>[9]</sup>: (1) “Since the Circle of Life ASIST training/RR, have you asked someone directly whether they were thinking about killing themselves?” (2) Since the Circle of Life ASIST training/RR, did you ever think that someone you know might have been having thoughts of killing themselves, but did not ask them about those thoughts?

**Distress, Alcohol Use, Resilience, and Suicidal Behavior Were Also Measured Among ASIST and RR Participants.** The Kessler 6-item distress measure (K-6) assessed the level of distress in the past month. This measure has shown good reliability and validity and has been utilized in the Canadian Community Health Surveys and World Mental Health Surveys. Cairney et al.<sup>[18]</sup> found the K-6 distress had satisfactory sensitivity and specificity in relation to screening for major depression. The Alcohol Use Disorder Identification Test, a continuous measure of alcohol use, was utilized. This measure has good psychometric properties and has been widely used.<sup>[19]</sup> The Connor-Davidson Resilience Scale (10-item) was utilized to measure resilience. This scale has shown excellent psychometric properties.<sup>[20]</sup> Lifetime history of SI and suicide attempt was assessed using items from the Canadian Community Health Survey.<sup>[21]</sup> Past 2-day suicide ideation was measured at baseline. In the post-retreat/training questionnaire a single item assessed “Since the time of last survey, how often have you had thoughts about suicide?” At 6 months, we assessed, since the training/retreat, whether the respondent had had thoughts of suicide or made a suicide attempt using the following questions: “Since the Circle of Life ASIST training/RR, have you had serious thoughts of committing suicide or killing yourself?” “Since the Circle of Life ASIST training/RR, have you attempted suicide or tried to take your own life?”

**Demographic Measures.** Sociodemographics including sex, age, education, occupation, and income were also measured.

## DATA ANALYSIS

Descriptive statistics were compared across both groups at baseline. Chi-square analyses were used for categorical variables. Fisher’s exact test was used if the expected count in any of the cells was less than five. Mean values on the primary and secondary outcomes were compared across the three time points using linear mixed effects regression models.<sup>[22]</sup> This analytic technique was chosen for its ability to account for missing data in the longitudinal design. Regression models were adjusted for baseline differences between the groups. Group-by-time interactions were examined in these models. Intention-to-treat analysis was employed for the primary and secondary study outcomes. Gatekeeper behaviors and suicidality measures were examined using chi-square analyses and Fisher’s exact test where necessary. Distress, alcohol use, and resilience measures at baseline and followup were compared across the groups using generalized linear models (ANCOVA), adjusting for differences between the groups at baseline. Group-by-time interactions were examined for these models as well.

## RESULTS

Figure 1 illustrates the CONSORT diagram. Ninety-six participants were randomized to each of the two interventions based on community recruitment events. Both interventions were held in centralized locations such that participants had to travel from their communities to the site of the intervention (Hotel in Winnipeg or Hotel in The Pas, Manitoba—cost of travel was covered). Due to a significant length of time (2–6 weeks) between the community recruitment events, randomization, and the intervention, a substantial proportion of participants were unable to travel outside of their communities at the time of the intervention due to personal reasons. Thirty-one participants began the 2-day ASIST training, and 24 participants began the 2-day RR. There were five people

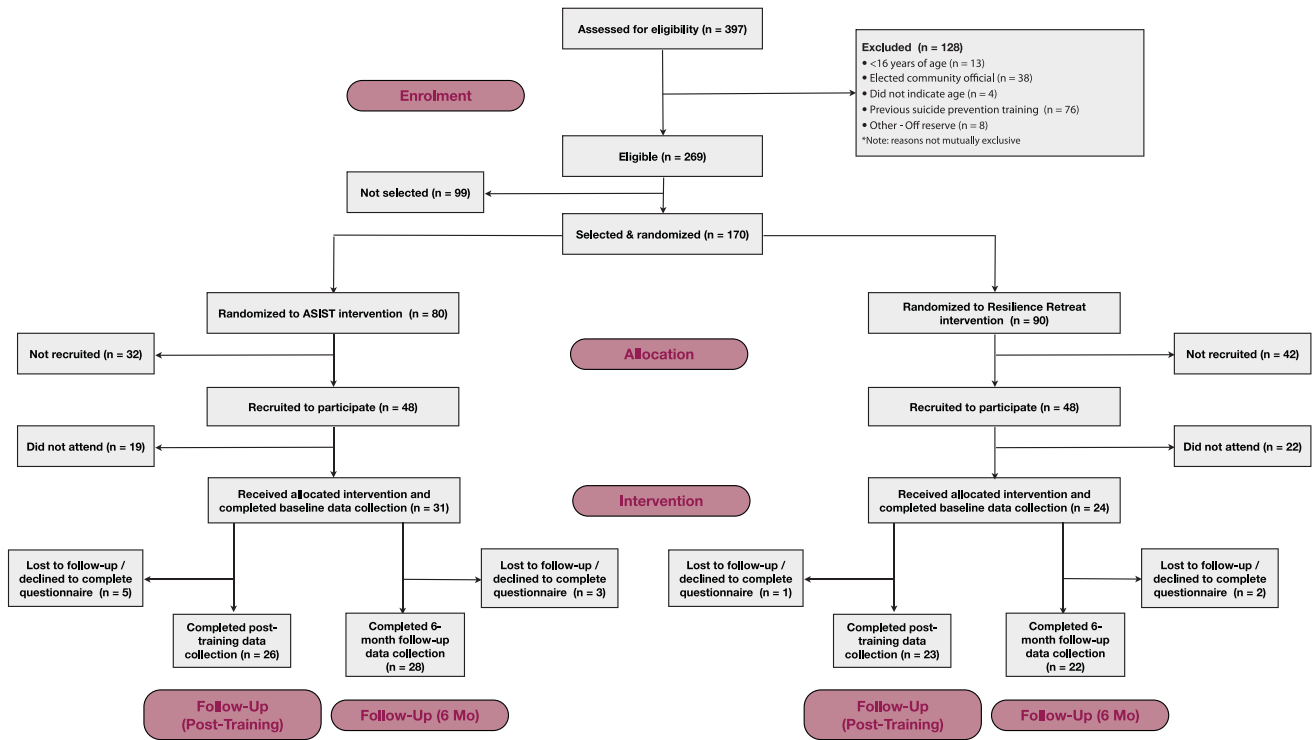


Figure 1. CONSORT Flow Diagram-Circle of Life Pilot Project.

who did not complete the ASIST training in comparison with only one participant who did not complete the RR.

Table 1 shows the demographics of the two groups at baseline. There were no significant differences between the groups with the exception that people who received the ASIST intervention were less educated than those who received the RR.

Table 2 shows the primary and secondary outcomes' analysis. In models that adjusted for educational differences at baseline, ASIST training had no significant impact on the SIRI or on self-reported confidence, skills, knowledge, or preparedness to help someone who is suicidal.

There were no significant differences between the two groups on gatekeeper behaviors during the followup period. Thirty-two percent of people in the RR group had asked someone about SI (6/22), compared to 12% of the ASIST group (3/28) (Fisher's exact test,  $P = .137$ ). Forty-one percent of RR group (9/22) endorsed that they did not ask someone about SI when they thought that the person was at risk, in comparison with 32% of the ASIST group (9/28) (chi-square analysis  $P = .41$ ). Table 3 shows that there were no significant time-by-group effects on measures of distress, alcohol use, and resilience between the two groups.

Table 4 illustrates measures of suicidal behavior of participants in the trial. At baseline, 2-days pre and immediately post intervention, there were no significant differences in SI and attempts between the two groups.

However, at 6 months followup, there was a trend toward increased SI among the ASIST participants. Twenty-five percent of people in the ASIST trial had SI in the 6-months following the training/retreat in comparison with 4.5% who received the RR ( $P = .064$ ). There were no suicide deaths or suicide attempts among participants at followup.

## DISCUSSION

To the best of our knowledge, the present study is the first RCT of a gatekeeper intervention in a remote on-reserve First Nations community sample. The main finding of the study is that the ASIST training did not have a significant impact on the primary outcome measure or on the secondary outcomes of the study. Furthermore, ASIST training did not increase gatekeeper behaviors over the 6-month followup period in comparison to the RR. Finally, people who received ASIST training were not more distressed at follow-up than the RR group. However, there was a trend toward increased SI among ASIST participants compared to those who received the RR.

The current study's finding of lack of increased self-reported preparedness to help those who are suicidal is inconsistent with previous literature in this area. Many uncontrolled evaluations of ASIST and other briefer gatekeeper training (QPR—1.5 hr training) have found a positive impact on self-reported preparedness and observer-rated skills in suicide intervention.<sup>[23]</sup>

**TABLE 1. Descriptive characteristics of the sample at baseline**

	Resilience Retreat ( <i>n</i> = 24)	ASIST ( <i>n</i> = 31)	Chi-squared value
Age stratification			0.619
Youth	10 (41.7)	15 (48.4)	
Adult	11 (45.8)	11 (35.5)	
Elder	3 (12.5)	5 (16.1)	
Sex			1.774
Male	12 (50.0)	10 (32.3)	
Female	12 (50.0)	21 (67.7)	
Age (years)			1.912
16–21	9 (39.1)	15 (48.4)	
22–44	10 (43.5)	8 (25.8)	
45+	4 (17.4)	8 (25.8)	
Marital status			1.013
Never married	14 (58.3)	12 (44.4)	
Widowed/separated/divorced	3 (12.5)	4 (14.8)	
Married/common-law	7 (29.2)	11 (40.7)	
Educational attainment			13.417**
Grade 9 or lower	3 (12.5)	19 (61.3)	
Grade 10 or higher	21 (87.5)	12 (38.7)	
Language spoken most often			1.464
English	20 (83.3)	20 (69.0)	
Cree	4 (16.7)	9 (31.0)	
Current work status			2.038
Working full- or part-time	8 (33.3)	6 (19.4)	
Unemployed/social assistance	11 (45.8)	14 (45.2)	
Retired/at home full-time/student	5 (20.8)	11 (35.5)	
Know someone who had died by suicide	21 (87.5)	28 (90.3)	0.111
Person who died (among those who knew someone)			
Parent	0	0	—
Sibling	2 (9.5)	6 (21.4)	1.245
Grandparent	0	0	—
Other family member	13 (61.9)	10 (35.7)	3.305
Friend	11 (52.4)	11 (39.3)	0.832
Coworker	0	0	
Acquaintance	3 (14.3)	5 (17.9)	0.112
When most recent suicide death			4.578
More than 1 year ago	10 (47.6)	18 (69.2)	
Within the last year	8 (38.1)	3 (11.5)	
Within the last 6 months	3 (14.3)	5 (19.2)	
Within the last 1 month	0	0	

\**p* < .05. \*\**p* < .01.

However, the majority of these studies and evaluations have occurred in school staff or workplaces, with the exception of one in Aboriginal communities in Australia.<sup>[24,25]</sup>

The current study found that people who underwent gatekeeper training were not more likely to engage in gatekeeper behaviors over the 6-month followup period in comparison to those who received RR. The only other RCT of a gatekeeper program by Wyman et al.<sup>[9]</sup> also had similar findings. They found that a gatekeeper training program in school staff increased self-reported preparedness, but did not have a significant impact on gatekeeper behaviors during the one year followup period. Wyman et al.<sup>[9]</sup> found that teachers with positive baseline attitudes toward helping students were more likely to be impacted by the training than those who had lower baseline attitudes toward help seeking. Although

the sample size in the current study (*n* = 55) was smaller than Wyman's school based study (*n* = 342), it is important to note that there was a larger "dose of education" in our study. The ASIST training was nearly 10 times longer duration than QPR (14 hr vs. 1.5 hr, respectively). Although the sample size of the current study might not be sufficient to detect small effect sizes that are often associated with public health interventions, larger trials of ASIST should study cost-effectiveness of ASIST training in impacting gatekeeper behaviors at a population level. Our study did not have enough power to examine whether certain subgroups of participants would benefit more from ASIST.

Our findings of a trend level increase in self-reported SI among those who received ASIST training are novel, and to the best of our knowledge have not been reported in the past literature. The increase in SI was not

**TABLE 2. Primary and secondary outcomes in relation to two interventions**

	Retreat ( <i>n</i> = 24)			ASIST ( <i>n</i> = 31)			<i>P</i> -value (LMM) <sup>a</sup>	Partial eta-squared
	Pretraining Mean (SD)	Post-training Mean (SD)	6-month followup Mean (SD)	Pretraining Mean (SD)	Post-training Mean (SD)	6-month followup Mean (SD)		
Primary outcome								
Suicide Intervention Response Inventory (range 0–25)	14.17 (4.10)	14.30 (3.42)	15.05 (3.58)	12.90 (2.78)	14.83 (3.92)	13.52 (3.72)	.61	0.01
Secondary outcomes (range 1–4)								
Confidence to intervene	2.87 (0.80)	2.57 (0.99)	2.68 (0.84)	2.68 (0.91)	2.73 (0.78)	2.63 (0.93)	.95	0.02
Skills at detecting risk	2.00 (0.74)	2.23 (0.97)	2.27 (0.77)	1.94 (0.77)	2.50 (0.76)	2.43 (0.92)	.33	0.02
Knowledge of risk	2.09 (0.79)	2.23 (0.92)	2.23 (0.81)	2.16 (0.97)	2.65 (0.75)	2.50 (0.88)	.03 <sup>b</sup>	0.05
Prepared to help someone	2.33 (0.76)	2.39 (0.84)	2.45 (0.86)	2.19 (0.87)	2.77 (0.91)	2.43 (0.96)	.63	0.01

<sup>a</sup>LMM- linear mixed effects model, adjusted for differences in educational attainment at baseline.

<sup>b</sup>*P* < .05

associated with increases in suicide attempts, suicide deaths or other measures of 6-month distress. Even though the difference in rates of self-reported SI between groups did not reach significance, they are concerning. This concern is prompted by sizable magnitude of endorsement (25%) in the ASIST group and second,

because the item asked about “serious thoughts of committing suicide or killing yourself.” Thus, these were unlikely to be transient fleeting thoughts of suicide. Given that five of the seven people who had serious thoughts of suicide since the ASIST group were young people, the appropriateness of such groups for this age range should

**TABLE 3. Means for distress, alcohol use, and resilience measures, comparing baseline and 6-month followup**

	Retreat ( <i>n</i> = 22)		ASIST ( <i>n</i> = 28)		<i>P</i> -value (ANCOVA)
	Pretraining	6-month followup	Pretraining	6-month followup	
Mean K6 total distress score	6.30	6.77	7.62	6.40	.21
Mean AUDIT alcohol total score	9.70	8.76	12.14	8.38	.46
Mean resiliency total score	38.71	37.82	31.78	33.68	.28

Note: ANCOVA is adjusted for educational differences at baseline.

**TABLE 4. Suicide measures among participants, pre-, post-, and 6 months following interventions**

Measures at baseline	Resilience Retreat ( <i>n</i> = 24)	ASIST ( <i>n</i> = 31)	<i>P</i> value
Lifetime suicidal ideation	14 (58.3)	14 (45.2)	.333 <sup>a</sup>
Lifetime suicide attempt	6 (25.0)	6 (19.4)	.615 <sup>a</sup>
Suicidal ideation in prior 2 days			1.000
Not at all	22 (91.7)	29 (93.5)	
A little to a lot	2 (8.3)	2 (6.5)	
Measures immediately post retreat	Resilience retreat ( <i>n</i> = 23)	ASIST ( <i>n</i> = 25)	<i>P</i> -value
Suicidal ideation in prior 2 days			1.000
Not at all	21 (91.3)	23 (92.0)	
A little to a lot	2 (8.7)	2 (8.0)	
Measures at 6 months post-retreat	Resilience Retreat ( <i>n</i> = 22)	ASIST ( <i>n</i> = 28)	<i>P</i> value
Suicidal ideation since retreat			.064
Not at all	21 (95.5)	21 (75.0)	
A little to a lot	1 (4.5)	7 (25.0)	
Suicide attempt since retreat	0	0	—

Note: *P*-values are reported from Fisher’s exact tests due to small cell sizes, except where indicated.

<sup>a</sup>*P*-values reported from Pearson Chi-square.

also be questioned. There are several possible explanations of this finding. First, it is possible that a discussion of suicidal behavior in a group format might have led to a suicide contagion effect. The literature in Critical Incident Stress Debriefing has demonstrated that group based intervention among a traumatized group might lead to an unexpected increase in traumatic stress symptoms rather than ameliorating these symptoms.<sup>[26]</sup> Second, ASIST training may have increased the willingness of participants to disclose SI instead of increasing distress. Third, it is possible that the incidence of SI in this sample is high and that the RR intervention had a stronger impact on reducing SI than ASIST. Fourth, since we did not measure past 6 month SI at baseline (lifetime and past 2-days SI were measured at baseline), it is possible that there were differences between ASIST and RR participants at baseline. These findings are consistent with emerging literature on programs such as Sources of Strength that focus on youth-peer leadership and social connectedness.<sup>[27,28]</sup>

The results of this study must be considered in the context of several limitations. First, the present study recruited broadly from First Nations communities, rather than designated care providers (teachers, nurses, social workers, police). Thus, the findings of this study may not be generalizable to designated gatekeepers (nurses, school staff). Nonetheless, gatekeeper training has been broadly implemented as part of many provincial and territorial suicide prevention policies. For example, the Nunavut government has explicitly included gatekeeper training as a broad suicide prevention measure. Second, the sample of participants had a high level of self-reported SI and suicide attempts at baseline that might have had an impact on the results of the study. To the best of our knowledge, we were not able to find any previous study that examined the rates of SI and suicide attempts among participants in ASIST or gatekeeper training. Third, there were baseline educational differences between the ASIST group and RR group that might have impacted the outcomes. Fourth, the small sample of participants in our study cannot be assumed to be representative of the entire study population. One must keep in mind that our findings may have been affected by selection bias. Fifth, randomizing individuals within communities may have led to some cross-contamination across interventions. Finally, the training might have had an impact on suicide attitudes that were not measured by our self-report measures.

In the context of these limitations, the present study has the following implications. Although gatekeeper training has been considered an important part of a suicide prevention strategy, the present study does not support the use of this intervention broadly among First Nations communities where suicide rates are high. The lack of significant impact on the main outcomes during the 6-month followup period in conjunction with a trend toward increase in SI among those who received the training warrants careful consideration by policymakers, clinicians, and scientists. These data suggest that careful

evaluation of the implementation of gatekeeper training should be done. It is possible that gatekeeper training may have some positive impact on certain samples but there are also safety concerns to be considered. Thus, at this time, there is a dearth of empirical data to support wide-spread implementation.

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