Risk Pathways for Suicide Among Native American Adolescents

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Abstract

Native American (Native) adolescents have the highest suicide rates in the United States, yet no conceptual models describing risk factors specific to this population exist. We sought to further hone a Native-specific conceptual model developed from quantitative data with qualitative data collected from a longitudinal series of interviews with (*N* = 22) Native adolescents who had attempted suicide. Four levels of suicide risk emerged, detailing individual, family, community, and societal factors that affect youths' pathways to suicide, along with a variety of subthemes and constructs. Some themes parallel established models of suicide risk; however, others are unique to the experience of this sample, including the impact of overtaxed households and family composition, significant grief burden, contagion, and stigma surrounding treatment seeking. We suggest adaptations of existing themes and constructs in the model. We discuss practical implications for research and intervention development, along with strengths and limitations of the study.

Keywords

Native American (Native) adolescents have the highest suicide rate in the nation at 29.6 suicides per 100,000 youths, roughly 3.5 times the U.S. average (Indian Health Service [IHS], 2009; Mullany et al., 2009). However, among Native adolescents, suicide rates and patterns vary widely, with some tribes having rates as high as 15 times the national average (IHS, 2009; Mullany et al., 2009). Known risk factors for suicide across ethnic groups include depression, hopelessness, substance use, access to lethal means, history of suicidal behavior, physical or sexual abuse, and stressful life events (King & Apter, 2003; Olson & Wahab, 2006). The few studies attempting to understand the inexplicably high rates of suicide in Native communities identified loss of ethnic identity and language, frequent exposure to suicide and other premature deaths, and binge substance use as specific risk factors (Barlow et al., 2012; Cwik et al., in press; Olson & Wahab, 2006).

Intervention with those at highest risk for suicide requires refining and organizing risk factors into coherent conceptual models that address common risk factors for suicide, as well as those that might be specific to Native teens and their communities. A variety of conceptual models of suicide have been developed with implications for suicide prevention, such as those that focus on psychopathology (Shaffer et al., 1996), sociology (Durkheim, 1897), cognition (Beck, Steer, Kovacs, & Garrison, 1985), and behavior (Linehan, 1993). However, none of these models have taken an ecological approach to understanding suicide, nor were they developed specifically by and for suicidal behavior as it is experienced in Native communities.

Qualitative studies of youths who have attempted suicide could be useful in understanding relationships between variables identified by quantitative approaches and to hone an ecologically based, Native-specific suicide risk model. Applying such a model to understanding risk pathways to suicidal behavior among Native youths can enlighten culturally anchored prevention approaches that might be relevant to other Native communities with high suicide rates.

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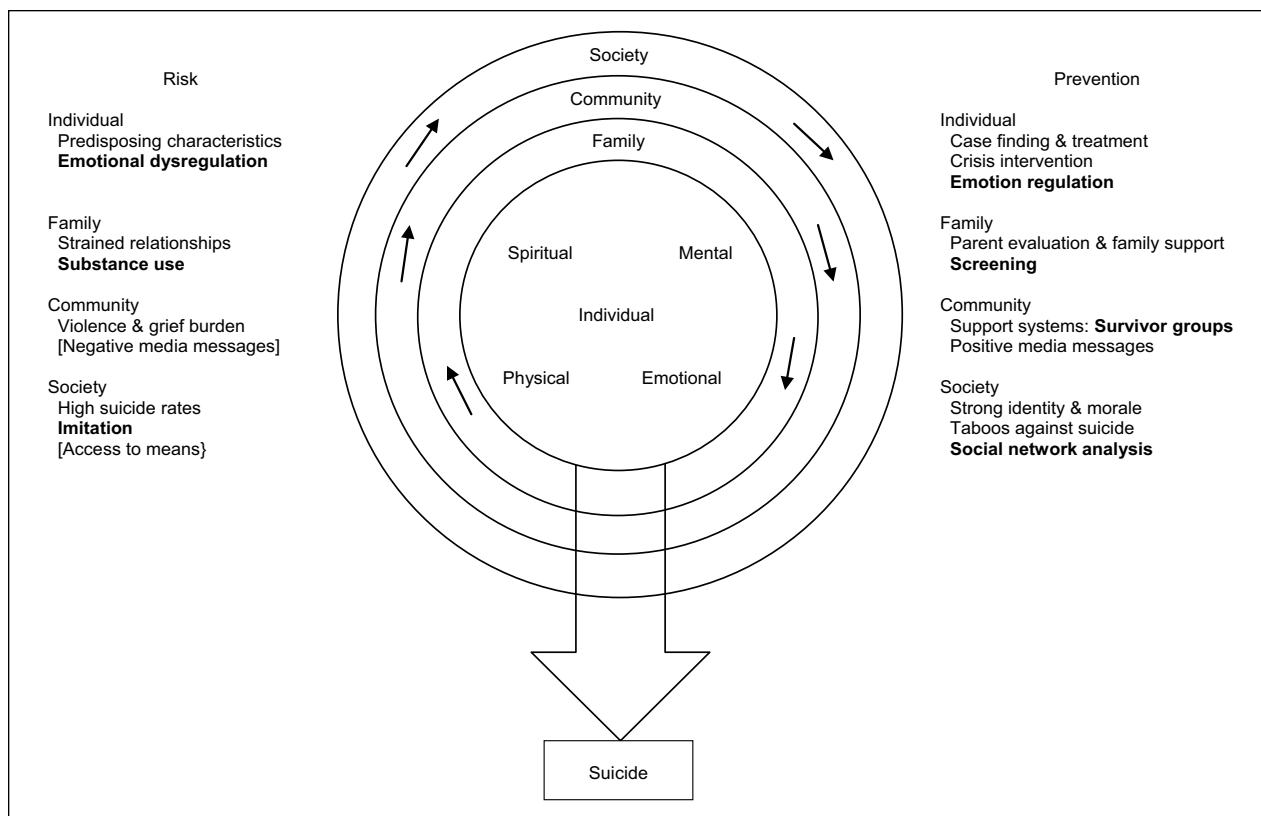
Figure 1. White Mountain Apache descriptive model of youth suicide.

The White Mountain Apache Tribe (Apache) and Johns Hopkins University have an over 20-year collaboration to reduce youth suicide. The primary strategy to understand suicide in this community is the tribally driven Apache Suicide Surveillance and Prevention System, in place since 2001 (Cwik et al., 2014). To date, the surveillance system has been instrumental in identifying high rates of youth suicide (Mullany et al., 2009), suicide attempts (Barlow et al., 2012), and nonsuicidal self-injury (Cwik et al., 2011). Quantitative data from the surveillance system have yielded patterns of suicidal behavior and provided the foundation for a preliminary Apache conceptual model of youth suicide (see Figure 1).

In this article, we further develop the Apache conceptual model of youth suicide with qualitative data from a community-based sample of Apache adolescents ($N = 22$) who have attempted suicide (Hsieh & Shannon, 2005). Qualitative approaches are essential to deepening how we understand suicide risk unique to a community and for moving the suicide prevention field forward (Hjelmeland & Knizek, 2010; Leenaars, 2002). We sought to obtain in the participants' own language an account of their experiences prior to and following their suicide attempts (Sandelowski, 2000). Results suggest that existing themes and constructs in the model should be adapted to illuminate possible intervention approaches. To our knowledge, this is the first qualitative study of an exclusive sample of Native adolescents who had made a recent suicide attempt (Freedenthal & Stiffman, 2004).

Method

Community-Based Participatory Research (CBPR) Approach

The CBPR approach is defined as that which engages community members, employs local knowledge in the understanding of health problems and the design of interventions, and invests community members in the processes and products of research (Agency for Healthcare Research and Quality, 2002). A collaboration between Native and non-Native researchers, community leaders, members of the Elders Council, key stakeholders, and a community advisory board utilized a CBPR process to develop all aspects of the study design. This included identifying the study population, developing topics for exploration, designating data collection methods, and interpreting and disseminating results.

Sample

We recruited participants from a community-based descriptive study of $N = 71$ Apaches (aged 13–19 years) with a recent suicide attempt who had completed a cross-sectional quantitative assessment battery (Cwik et al., in press). We selected participants from the larger sample to be approached using a randomization sequence created by the study data manager using Stata 9.0 (StataCorp, 2005). We used random selection to gain a more representative sample, avoid privacy concerns in a small community, and distribute enrollment across time based on available resources. Participants aged 18 to 19 years provided written informed consent, and we obtained parental consent for participants aged 13 to 17 years.

Data Collection

We collected data through in-depth individual interviews using a semistructured guide to ensure that every participant was asked about all topics in the Apache conceptual model. The guide focused on what the participant considered most important to his or her own unique pathway to suicide and covered all key model categories, with open-ended topical questions followed by relevant probes (Hsieh & Shannon, 2005).

Topics included (a) individual factors, such as personal identity and thoughts about self, spirituality, emotional state during the suicide attempt, and current well-being; (b) experience in the family, including household composition, residential status and mobility, kinship ties, deaths of family members, relationships with caretakers, caretaking responsibilities, and impact of the suicide attempt on family and household; (c) experience in the community, including social networks, intimate relationships, academic achievement, extracurricular activities, community and tribal activity involvement, and impact of the suicide attempt on these networks; and (d) social circumstances surrounding the suicide attempt, including events or forces that led to the attempt, help seeking and sources of mental health care, treatment history, and beliefs about preventing a reattempt.

Participants completed up to five interviews over the course of 1 year, approximately every 2 months from the date of enrollment. We designed the prospective schedule of interview administration to establish trust and facilitate increased sharing over time, as well as to track attitudes, suicidal behavior and service utilization for a critical risk period postattempt. We collected data from February 2007 to September 2009. Apache research assistants (RAs) conducted in-person interviews in a private setting selected by the participant, which could include the research office, the participant's home or another private location, and recorded the interviews using hand-held digital audio recorders. RAs conducted interviews in English or Apache, according to participant preference, which, for the vast majority, was English. Each interview lasted approximately 60 to 90 min. Participants received a US$20 Wal-Mart gift card for each interview.

Quality Assurance

We took several steps to ensure quality and confidentiality of the data collection process. RAs underwent intensive training in qualitative data collection, human subjects research, and ethics prior to data collection. To ensure high-quality interviews, we randomly selected and reviewed 25% of audio files and provided RAs with feedback when necessary. The study team held weekly conference calls to discuss study progress, provide supervision, and address additional training needs.

Risk Protocol

In the interview, the RA asked about the participant's suicide attempt and other potentially sensitive issues. We trained RAs to respond to participants who became distressed and refer to the local community mental health center as necessary. To assess for imminent suicide risk, RAs completed the Suicide Ideation Questionnaire (SIQ) or the Suicide Ideation Questionnaire–Junior (SIQ-JR; Reynolds, 1988) with participants at the end of each visit. If the participant scored ≥30 on the SIQ or ≥23 on the SIQ-JR, the RA followed the established study risk protocol.

Data Management

We labeled audio files, transcripts, and study files with unique participant identification, and we removed identifying information from interview transcripts. We password protected all computers and maintained copies of interviews in locked cabinets accessible only by the study team. The Johns Hopkins School of Public Health and Phoenix Area Indian Health Service Institutional Review Boards, as well as the Apache Tribal Council and Health Advisory Board approved the study. The Apache Tribal Council and Health Advisory Board approved this article.

Data Analysis

We utilized a qualitative descriptive approach. We described the data in terms of the existing Apache conceptual framework and presented results in the everyday terms and language of the events as participants described (Sandelowski, 2000). Our analysis remained close to the surface of words and experiences participants described

using language as the vehicle of communication as opposed to a highly interpretive approach (Sandelowski, 2000). We audiotaped and transcribed interviews verbatim (translation from Apache to English occurred when indicated). Two independent coders imported transcripts into ATLAS.ti Version 6 (Scientific Software Development, 2011) for coding. We analyzed completed interviews at the end of data collection and did not group them by participant.

The study team used a directed method of qualitative content analysis because the existing Apache model of youth suicide would benefit from further description to extend this conceptual framework (Hsieh & Shannon, 2005). With directed content analysis, our goal was to offer supporting and nonsupporting evidence for the Apache model of youth suicide (Hsieh & Shannon, 2005). Therefore, we developed some codes before analysis based on the Apache conceptual model and risks identified in the literature, and we generated others from the data themselves (Hsieh & Shannon, 2005; Sandelowski, 2000).

Coding was inclusive, and we added as many codes as possible so as not to limit ideas; the same statement could be coded into multiple themes (Mohatt et al., 2004; Sanger & Veach, 2008). We operationalized coding definitions to ensure that each code was clearly distinguished from the others and systematically applied to transcripts (Sandelowski, 2000). We conducted constant comparisons of data pertaining to emerging themes to identify similarities and differences and to further refine coding categories, to produce major themes, and to identify corresponding illustrative quotes. This analysis process resulted in 60 separate codes and 1,853 quotes. Analysis continued to the point of data saturation, when additional transcripts failed to identify new themes.

We took several steps to maintain the validity of the data, including team data coding with ongoing reliability checks and refinement of the coding system, triangulation through multiple researcher perspectives and examination of interpretations that did not fit emerging themes, cultural auditing of the coding and interpretive process, and team-based consensual analysis (Mohatt et al., 2004). We did not conduct member checking as a form of validation for two reasons: (a) suicide is a very sensitive topic, and authors agreed that it was not appropriate to go back to participants to confirm our results, and (b) member checking is not always recommended because it can lead to false confidence or potentially derail good analytic interpretation (Thorne, 2008).

Alternatively, we conducted repeat interviews (up to five over 1 year) as a mechanism for confirmation, clarification, and elaboration of themes that emerged (Thorne, 2008). University researchers (Native and non-Native) discussed the data and reconciled divergence through refinement of coding categories, continued open coding, and revision to the codebook. Study team members achieved final agreement regarding all coding, interpretation, and comparison of data with the Apache model. We assessed 34% of interviews for intercoder reliability and achieved 95% agreement.

Results

We randomly selected 34 participants to be approached. Ten participants declined participation: 6 for "noninterest" and 4 because they were moving out of state. Twenty-four participants consented; the study team dropped 2 participants: 1 because of a learning disability that would preclude interview completion and 1 for nonadherence with study visits. The final sample consisted of 22 participants, who completed a total of 74 interviews. The mean number of interviews was 3.7/5 (range 1–5). The small sample size precluded a full subanalysis by age group (13–15 vs. 16–19). However, a cursory review by the study team of each age group did not yield differences in response, with the exception that a greater number of older participants endorsed interpersonal conflict with family members and other adults as a precipitant for their attempts. Results are a descriptive summary organized by themes and situated within the four risk categories of the Apache model (individual, family, community, society).

Individual Factors

Two themes to emerge in this category were related to adolescents' emotional state surrounding the event and the amount of planning or forethought that went into their suicide attempts.

Emotion recognition and dysregulation. Some participants were not able to clearly describe their feelings leading up to their attempt and when interacting with friends posttempt, as one participant indicated, who said, "I didn't feel anyhow." Another answered, "I felt somehow," when asked how the participant felt seeing friends when the participant came back to school. When participants were asked how they felt prior to their attempt, another had a lot to say but was unable to articulate the specific emotions the participant was feeling:

> What's my purpose in life, you know what am I doing here? My youth is wasting away. I can't do what I wanted to because I am not really smart enough. . . . I started to feel like I wasn't important as a human anymore. I was thinking that maybe death was the perfect opportunity for me because I won't have to worry about what was coming in the future.

In contrast, other participants were able to identify feelings of sadness and worthlessness. When asked about

the participant's feelings on the day of the attempt, one participant said, "I felt sad and like nobody needed me around. Why was I even put on earth, is there really a reason? I felt like I was lost, like I wasn't needed anymore, that I didn't even exist." Despite an inability to recognize their emotions and emotional dysregulation experienced by some, other participants clearly described coping strategies they had used in the past, including talking with friends and family, going for a walk, writing and listening to music, thinking about their families, sobering up, and being around friends.

Impulsivity and reactivity. Many participants described their suicide attempts as impulsive or sudden. "It just happened out of nowhere," said one participant. "It was just something that happened I guess," said another. Sometimes participants described their attempts as a swift reaction to an experience or feeling. Often participants said that they were not thinking about the attempt ahead of time and did not prepare for it. Some even said that they did not know they were going to attempt that morning, and looking back on it, they did not actually want to die. As one participant said, "I didn't really think about it. I just took off and tried to look for that rope, but that rope wasn't there and so I was like, why am I even going to do this?"

Family Factors

Major family-level themes included a dynamic characterized by conflict, multifamily household composition, substance use, and social support.

Family dynamics. Some participants described their home lives as tumultuous and involving frequent interpersonal confrontation. One participant described this dynamic as contributing to the participant's attempt:

> I kept telling everyone that it [the suicide attempt] was mostly because my brother and sisters really get to me. They just keep taking my stuff so I got real mad and stayed in my room. I don't really trust anybody.

Another participant painted a vivid picture of the participant's strained relationship with the participant's mother:

> Our relationship is a boat and it's got holes in it and we're both trying to haul out the water. The only time we talk is when I'm going to tell her where I am going and who I am going with and that's it.

Some adolescents described their suicide attempts as a means to receive more attention within the family, as one

participant described in reference to his own suicide attempt:

> What really gets me mad was like when someone else did suicide, they're all there and when my cousin tried suicide, everybody was there, even my mom. When I did it [attempted suicide] my mom wasn't even there, like my family doesn't really care about me.

Another participant said, "Ever since I did it [attempted suicide], they started paying more attention to me or something, like finally caring about me more."

Household composition. Several participants described households in which multiple families lived together out of necessity. This created conflict because of shared space and lack of privacy, as one participant described,

> I live with my mom and her boyfriend, his annoying brother and his dad. I try not to stay at home most of the time. Usually my boyfriend does help because I go see him and it gets me out of the house. But I guess you could say home life, it sucks.

Another participant described limited resources and an uneven division of labor at home:

> Our family doesn't do much to help my grandma. And, my sister, she's twenty-one and she just stays around here and she doesn't even do anything, she's hardly ever helping. She gets mad when people tell her to get a job, she doesn't like anyone telling her what to do, because it's her life, and all she does is drink.

Substance use. Some participants described a heavy burden of substance use within the family and how it exacerbated an already negative interpersonal dynamic. Many named multiple family members who used substances. One participant described a history of parental substance abuse and how it affected the participant's current relationship with the participant's mother:

> My mom was hardly ever around. I always knew what she was doing even when I was about four years old and stayed with my grandma. I only wanted to be around my mom when I knew she was trying to quit, or trying to be around us . . . and it wasn't that long before she would take off and drink more.

Family support. Despite the circumstances described in some families, nearly all participants indicated that they and other family members turned to immediate and extended family when help or psychosocial support was needed. Most participants said that "family comes

together." Almost all participants said that "family talks to each other," in at least one interview. Participants also said that their cousins "are really more like sisters" or brothers, because they were often raised together in the same home. These close relationships provided important support for participants. As one participant described,

> My relationship with her [cousin] is better than any friend that I have ever had. She's always there to talk, she doesn't like it when I try and do that stuff [attempt suicide]. She doesn't like it when I drink. She talks to me and guides me though life, and helps me with any problems that I have. She helps me money-wise, with family matters, and relationships . . . and if anything happens, she says don't do anything crazy.

Community Factors

Community-level themes included significant grief burden and stigma about suicide and help seeking.

Grief burden. Participants described frequent and recent exposure to deaths from suicide and other causes (accidents, trauma, severe illness) occurring among family members and close peers. One participant described a series of deaths affecting the participant's life. "I just thought I'm losing everybody. I lost my cousin, I lost my grandma, and now I lost my boyfriend, what am I going to do now?" Several youths described these losses happening close in time, which afforded them little time to grieve and created a challenging context in which to enlist coping strategies.

Stigma. Several participants described being stigmatized for their attempts. One participant talked about experiencing extreme stigma prior to returning to school:

> I wanted to go back to school after I came back from the hospital, but I started hearing stories around, saying that I was a crazy person and a psycho . . . so I knew if I went back to school there was going to be trouble, so I'm just going to wait for a while.

Other participants described stigma associated with needing help and treatment seeking. One participant said, "Everybody used to laugh about me like you're just turning into a psycho. You have to have all the help now. So I thought to myself, I think it is too much help, I am turning into a psycho."

Societal Factors

Adolescents described two main societal factors that affected their suicide attempts, including the process of imitation and pressure to minimize the seriousness of the event and its related implications.

Imitation. Some participants described imitation as a factor influencing their suicide attempts, specifically mimicking the suicidal behavior of a peer. "I kind of think it just rubbed off on me, because I always hung out with him." Another participant articulated the role of copying when discussing the participant's suicide attempt with a friend: "It was awkward . . . it was weird to tell her I tried suicide because she might just be thinking I'm copying her." Yet another participant referenced the process of contagion when talking about suicide. "Maybe if I said I ran away it would be a whole different story, but its suicide it's just like oh you are trying to be like me."

Minimizing. To illustrate the complete experience of a suicide attempt, several participants described trying to downplay or diminish the significance of the attempt after it happened. This was described when seeing their friends after the attempt: "It was just like seeing them every day, normal like any other day." It was also described in how their friends reacted to the news of their suicide attempts: "They didn't really have like a big shock or anything." Some participants described minimizing their attempts as a way to avoid talking about them in detail and the problems that led to the attempts, and in an effort to get their lives back to normal. One participant said, "I told her and it was just a normal day again. She asked me a couple of questions, like why, but she was laughing the whole time so I don't really think it's serious."

Discussion

Key themes situated within four primary categories emerged from this in-depth study of Apache youths who attempted suicide. Individual-level factors, including negative emotion and an inability to express emotion, contributed to reactivity and dysregulation. Impulsivity might build on heightened feelings, leading to an acute combination that could accelerate the pathway toward suicide. Family-level factors, including multigenerational overburdened households challenged by lack of privacy, sharing of limited resources, and confusion around the division of labor, caused confrontations to elevate quickly and be further intensified by substance use. A tumultuous shared environment, modeling, and intergenerational substance use indicated that some families might be considered high risk.

Community-level factors, such as name calling and inciting shame by peers and classmates, as well as stigma around needing help, complicated treatment seeking. Participants recalled social pressure to minimize the

seriousness of their attempts and to describe the attempts as isolated events. Also, imitation of suicidal behavior between peers, family members, and the community at large is symptomatic of the social process of contagion.

Study results led to changes in the original Apache model (see Figure 1, in which themes for potential removal are in brackets and those to add are in boldface). We included all original themes in the model, based on local data and input from key tribal stakeholders, and explored them throughout the qualitative interviews. Themes to potentially be removed, including negative media messages and access to lethal means, were deemed no longer relevant by study partners because participants did not endorse them as affecting or contributing to their attempts in a significant way. Themes to be added to the model, including emotional dysregulation, substance use, and imitation, were warranted based on the frequency and depth in which they were described by participants as central to influencing their suicidal behavior.

Some key themes are worthy of discussion because they relate to other models of suicide risk and the extant research literature. First, Apache participants had been exposed often and recently to suicide attempts, and deaths from suicide and other causes. For these adolescents, grieving was not rare, and little time was afforded for recovery. A family history of suicide and suicide attempts is described extensively in the literature as contributing to suicidal behavior among both Native and non-Native adolescents and is central to Schaffer's model (Grossman, Milligan, & Deyo, 1991; Hazell & Lewin, 1993; Manson, Beals, Dick, & Duclos, 1989; Pettingell et al., 2008; Shaffer et al., 1996). Second, descriptions of participants' suicidal behavior as a form of copying or imitation showed that suicide might be learned through social modeling; this is also highlighted in Schaffer's model (Shaffer et al., 1996) and in the dynamic of acquired capability in Joiner's (2005) interpersonal theory of suicide.

Third, family life can be characterized by turmoil and aggression, in some cases the primary precipitant for the attempt, and several quotations about family relationships aligned with thwarted belongingness (Joiner, 2005; Van Orden, Witte, Holm-Denoma, Gordon, & Joiner, 2011). Fourth, participants described significant sadness, hopelessness, and anger, and feelings that their deaths were worth more than their lives, which resonated with the self-hate and liability components of perceived burdensomeness (Joiner, 2005; Van Orden et al., 2011). Fifth, the state of emotional confusion and inability to articulate the emotions some participants described is consistent with the concept of emotion dysregulation that Linehan (1993) posited.

There are limitations to this study. First, although a small qualitative sample was appropriate at this stage of research, results should be balanced with those from the

larger quantitative study to better generalize findings (Cwik et al., in press). Second, the experiences of participants might differ from those who declined participation, and our sampling method might have precluded selection of participants who were more willing to share and go into depth about their experiences. Third, adolescents provided retrospective accounts of their suicide attempts, which could have been affected by their current mental health status and/or other factors occurring since the time of interview and index attempt. Fourth, this analysis did not examine differences in themes between genders, which necessitate further investigation.

Finally, the interview guide asked about the role of traditional values and practices in affecting the youths preattempt and as a source of prevention or postattempt intervention. However, none of the participants answered these questions in depth, leaving this an additional area for further exploration. Limitations aside, in this study, we provide firsthand experience directly from an exclusive sample of Native adolescents who had attempted suicide.

The richness of these qualitative data and refinement of the Apache conceptual model enable the tailoring of prevention and intervention approaches that respond to this profile of suicide risk and might be relevant for other Native communities experiencing similar risks. At the individual level, the combination of failing to recognize and regulate emotional distress and the sense of impulsivity or suddenness indicates a narrow window of opportunity for crisis intervention. This short and rapid pathway to suicide would benefit from programs that teach identification of negative emotions and situations that put the adolescent at risk to help naturally link to coping strategies, including managing impulsivity.

At the family level, detailed descriptions of family-based psychosocial support suggest family is important to strengthen as a primary platform from which to intervene (Joiner, 2005; Shaffer et al., 1996; Van Orden et al., 2011). Family-based approaches can capitalize on the importance of family in Native communities and existing trust and comfort among family members to teach communication skills, anger management, and conflict negotiation (MacPhee, Fritz, & Miller-Heyl, 1996; West, Williams, Suzukovich, Strangeman, & Novins, 2012). Innovative methodologies, such as screening for violence or abuse, might be utilized to better address at-risk families.

At the community level, stigma surrounding suicide and help seeking presents an opportunity to focus on positive protective factors, such as Apache beliefs about the sacredness of life and traditional pathways to healing, a significant source of strength and resilience in this and other Native communities. Interventions for youths who make suicide attempts, survivor support groups, and

enhanced connection to care are also necessary. Finally, at the societal level, a multidisciplinary universal awareness campaign might help suicidal behavior to be taken more seriously. Proactive identification of and interventions with high-risk networks within a comprehensive plan for handling the spread of contagion would also be important in this and other Native, reservation-based and rural communities, with suicidal behavior and deaths occurring close in time and space.

With this study, we move current research in the direction of honing a culturally and contextually based explanatory model of suicide among American Indian youth because it came directly out of their own life experiences, and a collaborative analysis process that includes non-Native and Native researchers and the Apache community. Findings support the critical role qualitative data collection plays in suicide prevention research. Direct quotes illuminate how variables of risk existing at different levels create a pathway to suicidal behavior, enhance the Apache conceptual model, and deepen understanding for the field. The emergent nature of qualitative research allowed for generation of themes from participants themselves, an inductive approach to developing suicide prevention theory and intervention approaches.

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