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**The Critical Need for a Culturally Sensitive Suicide Risk Assessment Instrument for
American Indian and Alaska Native Youth**

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April 26, 2021

Abstract

Objective: This systematic literature review was conducted to better understand why there has been a significant increase in American Indian/Alaska Native (AI/AN) youth suicides in tribes across the United States today. The intent of this review is to understand key issues surrounding the increasing numbers of AI/AN youth with suicide ideation, plans, and attempt in order to be able to answer the following clinical question: Is there a valid and reliable culturally sensitive assessment tool designed to recognize at-risk AI/AN youth presenting for primary care? If not, what are key aspects to consider for developing an instrument that could better evaluate suicide risk in AI/AN youth?

Method: A rigorous literature search was conducted from November 4, 2020 to January 27, 2021. This review sought to develop a further understanding of key risk and protective factors for suicide risk in native youth, the characteristics of youth at risk, and suicide prevention efforts along with efforts to develop a culturally appropriate suicide risk assessment survey to potentially decrease the incidence of suicide in AI/AN youth.

Key findings: Barriers to mental health resources related to stigma, location, and AI/AN culture contribute to increased suicide risk. Factors and characteristics found to increase suicide risk include: altered family structure, substance use, violence, racism/discrimination, historical trauma, and suicide exposure. Features that buffer against suicide include: cultural practices and identity, and healthy relationships with family and community. Existing scales have been utilized to study ways to influence risk and protective factors that could prove beneficial to developing a culturally sensitive risk assessment instrument.

Key words: Native American, American Indian, suicide, suicide attempt, risk factor, characteristics, prevention, protective factors, theory, culture, youth, assessment, and risk reduction

The Critical Need for a Culturally Sensitive Suicide Risk Assessment

Instrument for American Indian and Alaska Native Youth

“Put the Gun Down, Cousin: / Because we don’t have Indians to spare. / Because suicide and whiskey are gifts from the colonizers. / Because someone has cared, cares, will care.”

(Livingston, 2019, pg. 505).

There are 574 federally recognized American Indian/Alaska Native (AI/AN) tribes in the United States today (Noris & Hoeffel, 2012). There are 5.2 million Americans (1.7% of the population) who identify as AI/AN (Noris & Hoeffel, 2012). Suicide is the second leading cause of death in the AI/AN community (Allen et al., 2019). These statistics are remarkable for several reasons. A startling reality is the number of suicides in AI/AN communities outnumber the *total* number of youth deaths by suicide in United States. Death by suicide is on the rise in the United States (US); notably in the youth population, ages 10-24 years (David-Ferdon et al., 2016). A recent statistic finds a 21.9 % suicide rate in 2015-2019, compared to a 20.5 % suicide rate for 2010-2014. The rates of suicide in AI/AN have increased even more with a documented suicide rate of 31.6% (2015-2019) for youth ages 10-24, up from 29.8 % in data collected for the years 2010-2014 (Cwik et al., 2015). The percentage of youth *attempting* suicide in the US during the years 2015-2020 was 14.3%. (CDC, n.d.). Yet, a 2015 study found that twice as many AI youth compared to non-Indian youth residing in the state of Montana reported attempting suicide with injury one or more times during the last 12 months (Probst et al., 2019). Statistics related to attempted suicide are higher for AI female youth, however male youth have a greater prevalence of death by suicide (Cwik et al., 2015). A majority (54%) of AI/AN reside in small towns and rural areas with 68% residing on or near tribal lands (Dewees & Marrks, 2017). According to

Cwik et al. (2015), suicide is more common in rural areas than urban areas. This systematic review attempts to explore barriers to mental health services including residing in a rural location, health disparities, self-stigmatization, cultural stigma, and cultural values and beliefs impacting suicide risk in AI/AN youth.

Much focus in the literature is placed on assessing protective factors for suicide prevention. These include family strength (Rasmus et al., 2020), traditional cultural practices (Rasmus et al., 2020), and community and social relationship strengths (Philip et al., 2016). There was much more focus on protective factors over prevention and very few articles included prevention or risk reduction.

The development of a culturally appropriate mental health survey to be utilized in the family practice setting is critically needed to help recognize youth at risk for suicide in order to be able intervene in a more timely fashion and decrease risks of suicide in AI/AN youth. Often, existing ‘mainstream’ surveys are utilized to address youth mental health in some tribal health care settings, yet a survey should allow for personalization, and cultural values and practices should be integrated within the instrument in order to recognize and give value to the unique strengths of the tapestry that makes up the AI/AN culture.

Methods

A comprehensive literature review was conducted to answer the following question: What are the risk factors associated with suicide attempts in American Indian/Alaska Native youth that could lead to the development of a more culturally competent risk assessment tool in order to decrease the prevalence of suicide in this population?

Inclusion and Exclusion Criteria

The inclusion criteria used for this systematic review based on the clinical question posed above encompassed full text articles that were peer reviewed and available in the English language. Only articles published between the years 2015 and 2020 were included in the review (see Table 1 in the Appendix). Key words included Native American, American Indian, suicide, risk factor, prevention, youth, assessment, and risk reduction. The exclusion criteria for the selection of articles included focus on a population other than American Indians, focus on death unrelated to suicide, no inclusion of youth specific risk-factors or characteristic (Table 3 in the Appendix).

Definitions of Terms

Native American/American Indian: A Native American of North America and especially the U.S. (Merriam-Webster, n.d.)

Suicidal ideation: “Thoughts to take one’s own life with or without preparatory action”. (Schaefer et al., 2020, p. 2)

Suicide attempt: When someone harms themselves with any intent to end their life, but they do not die as a result of their actions. (CDC, n.d.)

Suicide: Death caused by injuring oneself with the intent to die. (CDC, n.d.)

Suicide cluster: (suicide contagion) Defined as a group of suicides or suicide attempts, or both that occur closer together in time and space than would be normally expected” (Lee et al., 2020, p. 536)

Protective factors: Those internal assets that include how one copes with adversity, how one problem solves, how one creates a positive cultural identity and connects to traditional values and activities (Cwik et al., 2015; Gloppen et al., 2018)

Culture: The customary beliefs, social forms, and material traits of a racial, religious, or social group. (Merriam-Webster, n.d.)

Stigma: “The belief that most people hold negative views towards persons experiencing a mental health condition” (Goodwill et al., 2020, p.1)

Research Synthesis

Initially, 49 articles were identified using the key terms from the following select databases: CINAHL Plus, APA PsycArticles, Medline, PubMed Health Source: Nursing/Academic Edition, and Google Scholar. After title and abstract review, 26 articles were deemed appropriate for this systematic review. The setting for articles included in the review were from tribes within the continental United States; many with a focus on Alaska Natives.

No studies specifically addressed any adverse effects related to conducting a youth suicide assessment but some implied ‘cultural discomfort’ with several of the suicide assessments, believing that the conversation of suicide prevention could place the idea in the youth’s head (Allen et al., 2019). This was predominantly in cultures where clustered suicides were prevalent (Schaefer et al., 2020). Each of the selected references addressed suicide risk factors. A number of references discussed suicide risk factors with a focus of prevention. Many resources addressed protective factors that could impact suicide and suicidal ideation in AI/AN youth. Barriers to mental health services were identified as a significant factor for increasing suicide risk (Allen et al., 2019). Standardized assessment tools that were not specific to AI/AN

culture were utilized throughout the studies under review (Schaefer et al., 2020).

Recommendations for developing a culturally appropriate survey were addressed by Kelley et al. (2018). Suggestions for this type of survey included the following key items: demographics, stressful life events, social support, suicide ideation, feelings of depression, feelings of anxiety, self-esteem, and antisocial behavior (Kelley et al., 2018).

Literature Synthesis

It was learned through this review that there are many risk factors and characteristics related to suicide ideation, planning for, attempting and/or death by suicide in AI/AN youth. A listing of factors and characteristics found to be significant with regards to increasing suicide risk in AI/AL youth include the following: previous attempts (Allen et al., 2019), feeling unsafe at school, race, minority status (Schaefer et al., 2020), dating violence (Allen et al., 2019), maintaining an unhealthy weight (Shaw et al., 2019), sexual assault (Schaefer et al., 2020), sexual abuse (Allen et al., 2019), alcohol misuse (Shaw et al., 2019), physical isolation (Schaefer et al., 2020), absence of mental health services (Allen et al., 2019), poor economic opportunities for youth (Shaw et al., 2019), depression and anxiety (Allen et al., 2019; Philip et al., 2016), physical and emotional abuse (Schaefer et al., 2020), family history of suicide (Allen et al., 2019), bullying (Shaw et al., 2019), adverse life events (Allen et al., 2019; Philip et al., 2016), lack of connectedness to family (Schaefer et al., 2020), recent suicide exposure (Allen et al., 2019), cluster suicides (Shaw et al., 2019), injection drug use (Allen et al., 2019; Philip et al., 2016), altered family structure (Cwik et al., 2015), and poverty (Schaefer et al., 2020), sadness and hopelessness (Allen et al., 2019), suicidal ideations and attempts (Shaw et al., 2019), risk taking behavior (Allen et al., 2019; Philip et al., 2016), fasting, diet pills, and purging to lose weight (Cwik et al., 2015), tobacco use and marijuana use, alcohol misuse, and substance use

(Schaefer et al., 2020), depression and anxiety (Allen et al., 2019), antisocial behavior (Shaw et al., 2019), anger, aggression, impulsivity, and bullying (Allen et al., 2019; Philip et al., 2016).

Factors Associated with Increased Suicide Risk

The following section takes an in-depth look at key findings from the literature associated with youth risk for suicide. Both factors increasing and decreasing risks are included in the review.

Barriers to Utilizing Mental Health Resources

Barriers to mental health services is an issue for most Americans yet it has been noted to be much more difficult to obtain services in rural areas where youth suicide is more prevalent (Cwik et al., 2015). Regardless of location, racial and ethnic minority youth receive less mental health treatment than their white counterparts in both inpatient and outpatient settings (Schaefer et al., 2020). Key commonalities of barriers to mental health services in this literature review include stigma of mental health services, rural location, and culture.

Stigma Associated with Mental Health. Mental health stigmatization is prevalent everywhere but there can be more stigma in the AI/AN communities. Some minority groups including AI/AN will sometimes not reach out to mental health services because of the stigma associated with services (Shaw et al., 2019). Others may not accept mental health services when they are identified as at-risk related to stigma (Allen et al., 2019; Philip et al., 2016). Cwik et al. (2015) explored how at risk or cluster suicide communities self-stigmatize related to providing suicide prevention interventions. Cwik et al. (2015) found that if the interventions are referred to by other names, such as ‘protective factors’ they would be more likely to accept such intervention. It has been shown that cultural stigma exists related to mental health services

because of a lack of validated, culturally tailored measures in indigenous communities (Schaefer et al., 2020). Community discomfort with “conventional approaches to suicide assessment that directly assess ideation, plan, and attempts can emerge in their application with American Indian and Alaska native communities.” (Allen et al., 2019, p. 2). The stigma surrounding mental health services can be improved by increasing communication about suicide, risk factors and services available to individuals and families. Stigma can impact how youth have respond to suicide questionnaires; including not being honest about questions related to suicide and risk for suicide (Shaw et al., 2019). In one study, nearly all participants identified they did not seek help at one point in time because of stigma (Allen et al., 2019).

Rural Location as a Mental Health Barrier. Geographic location has proven to be a challenge to receiving mental health services. If suicidal populations are given access to mental health services, perhaps suicide attempts might be preventable. Additionally, suicide attempts might be prevented and death by suicide could potentially decrease if emergency services are nearby. “It has been suggested that long-standing neglect and underfunding of the Indian Health Service also contribute to disparate health outcomes.” (Cwik et al., 2015, p. 2075). Some communities are only accessible by boat, snow machine, or dogsled. This creates a challenge to get mental health providers into these communities (Allen et al., 2019; Philip et al., 2016).

Cultural Barriers to Mental Health Services. Culture can be a barrier to mental health services, although this seems to be a trend that is improving since the drastic increase in suicide deaths and suicide cluster deaths (Cwik et al., 2015). In one study, culture was a barrier to assessment of suicidality because the elders felt that direct questioning regarding suicide could potentially create harm by re-traumatization (Cwik et al., 2015). Communities with cluster

suicides might not appropriately report suicidal ideation due to stigma and that ideation might be more prevalent because of the increased community talk about suicide.

Youth Factors and Characteristics

There are many factors related to AI/AN youth that contribute to suicide risk. Characteristics highlighted in the literature review regarding youth characteristics include the following: altered family structure (Rasmus et al., 2019), substance use (Nasir et al., 2016), violence (Manzo et al., 2015), racism and discrimination (Gloppen et al., 2018), alcohol and substance use (O’Keefe et al., 2019 & Shaw et al., 2019), historical trauma (Gloppen et al., 2018), and cluster suicide (Cwik et al., 2015).

Altered Family Structure. Altered family structure has been identified as a risk factor by many authors and studies, and strong family structure has been labeled protective against suicide. Altered family structure was a key factor in suicide deaths in the surveillance for violent deaths study (Cwik et al., 2015), with this being the largest precipitating factor in youth suicide by all means (Cwik et al., 2015). Family relationship problems such as a crisis during the two weeks prior to or anticipated crisis in the upcoming two weeks, an argument or conflict, school problem, and recent legal and/or criminal problems were all precipitating factors to suicide (Cwik et al., 2015). Many assessment tools incorporated family into their questionnaires since there is such a significant link between family structure and suicide (Cwik et al., 2015). Family structure in AI/AN culture has been interrupted by colonial practices. In the Yup’ik Alaska Natives, their way of multifamily housing was interrupted when missionaries deemed this type of living arrangement “immoral” (Rasmus et al., 2019, p. 48). They were forced to build single family homes, therefore breaking the strength of the extended family kinship (Rasmus et al,

2019). Colonial practices disrupted AI/AN family structure by restricting language and cultural identity and sending children to boarding schools (Cwik et al., 2015; O’Keefe et al., 2019).

Substance Use. Of the 71 Apache American Indians who were reported to the Apache surveillance system (a mandatory reporting system of any suicide ideation, attempts and deaths by any person on the reservation to a central suicide prevention task force) (Cwik et al., 2015) after a suicide attempt with injury, substance use/abuse was the leading common denominator in youth who had attempted suicide (Cwik et al., 2015). Of the youth attempting suicide, 91% reported they had used alcohol and 88% reported using marijuana--many starting to use before the age of 15 (Wei et al., 2020). About half of the youth reported illicit drug use, including cocaine (Cwik et al., 2015). Other drugs of choice were methamphetamines, glue, aerosol, paint, heroin, ecstasy, steroids, and injectable drugs (Cwik et al. 2015). Substance use and suicide are highly correlated (Ertl et al., 2019). Manzo et al., (2020) implies suicide includes substance overdose. Substances can be a way that youth cope with violence or stress in their lives (Manzo et al., 2020). Poor coping mechanisms to stressors such as substance abuse and unhealthy weight can trigger a suicide attempt (Lee & Wong, 2020).

Violence. In the Reservation-Urban Comparison of Suicidal Ideation/Planning and Attempts in American Indian Youth (Manzo et al., 2015), violent victimization (including but not limited to intimate partner violence, sexual assault, abuse, family violence, bullying, physical fight, carrying a weapon, fear of going to school because of getting injured, violent ideation, aggression) was a substantial risk factor for suicide ideation/planning and attempts in urban girls (Manzo et al., 2015). Remarkably, this study found that violent victimization was linked with suicidal ideation/planning and attempts in reservation boys versus urban boys (Manzo et al., 2015). Lee & Wong (2020) found no difference between the number of youth with suicidal

ideation/planning and attempts between reservation and urban schools. This is in contrast to previous studies indicating reservation youth are more likely to have suicidal ideation/planning and attempts than urban youth. Another aspect of violence that the Reservation-Urban Comparison of Suicidal Ideation/Planning and Attempts in American Indian Youth (Gloppen et al., 2018) study addressed was the incidence of how feeling unsafe at school was a major risk factor for suicidal ideation/planning and attempts.

Racism and Discrimination. Systemic oppression of racial/ethnic minority youth such as policy level racism that leads to lack of resources, inequalities in education, housing disparities, the juvenile system and healthcare in specific microsystems (neighborhoods, schools' families) puts racial/ethnic youth at increased risk of suicide (Lee et al., 2020). Some feel that substance abuse and criminal and legal issues stem from unhealthy coping related to racism and discrimination. "According to an integrative model of development, social mechanisms including racism, prejudice, oppression, and discrimination impact the development and well-being of young people of color through segregation (separateness in place of residence as well as psychological and social separateness)" (Gloppen et al., 2018, p. 414). These racism and discrimination experiences lead to poor interactions with school, community, and neighborhoods (Gloppen et al., 2018). Addressing racism and discrimination can lead to decreasing violent victimization therefore increasing suicide prevention initiatives and outcomes (Livingston et al., 2019).

Historical Trauma. Cultural trauma is a term used to describe trauma that has been passed down through generations through cultures or families (Gloppen et al., 2018). Many American Indian youth have experiences of parents or grandparents telling stories of historical trauma with a sense of urgency, making them feel like it just happened (Manzo et al., 2015). Not

only do direct experiences of racism, discrimination, and stigma relate to mental health problems but these experiences have been passed down through generations. Research suggests that the long history of trauma and assault experienced by AI/AN such as massacres, forced relocation, and removal of children from their homes to boarding schools, continues to impact young people's health today through higher rates of substance use, mental health problems, and sexual risk behaviors (Gloppin et al., 2018).

Other studies have shown that there have been a greater number of AI/AN youth with suicidal ideation and attempts when one or more of their parents or grandparents were sent to abusive federal boarding schools for American Indians (Allen et al., 2018). Parental histories that include historical trauma can alter relationships with children, leading to altered family structure that has been suggested to increase the prevalence of suicide. (Lee & Wong, 2020). The social, biological, and psychological development is likely altered because of historical trauma (Lee & Wong, 2020).

Cluster suicide. Studies in Alaska and the continental US find evidence of suicide clusters or suicide contagion in their communities (Lee & Wong, 2020; Philip et al., 2016). Suicide cluster is defined as “a group of suicides or suicide attempts, or death that occur closer together in time and space than would normally be expected” (Lee & Wong, 2020, p. 535). American Indian youth are almost exclusive with regards to this phenomenon. The exposure to death or suicide of a loved one increases the risk of suicide (Lee & Wong, 2020). Suicides in AI/AN youth are more likely to be preceded by a suicide of a community or family member. These youth are less likely to reach out to mental health services because of the mistrust related to the preceding suicide (Allen et al., 2019). Some evidence suggests that certain cultures are reluctant to develop suicide prevention programs for fear of retraumatization of youth who have

lost family or friends to suicide (Allen et al., 2019). Communities that experience suicide clustering might have an altered take on ideation because thinking about suicide and talking about suicide occurs much more in these communities (Fullerton et al., 2019).

Protective Factors Associated with Decreasing Suicide Risk

Key protective factors (or internal assets) can further decrease suicide prevalence in AI/AN youth (Allen et al., 2019). Protective factors include: cultural identity (Kelley et al., 2018), traditional lifestyle (Cwik et al., 2015), community (encompassing positive adult relationships both at school and in the community) Fullerton et al., 2019). Additional protective factors found by Allen et al. (2018) include social connectedness, family connectedness, and positive relationships.

It is important to emphasize protection is not necessarily the inverse of risk. Protective factors may be better understood not as on a continuum with risk, but instead as orthogonal process to risk factors. In this way, an individual with a high-risk demographic and social history can also display high levels of protection. (Allen et al., 2019, p. 11)

Culture as a Protected Factor

A culturally based intervention for preventing youth suicide, the Qungasvik (toolbox), is a culturally based intervention to prevent youth suicide and is designed to enhance protective factors through unique cultural practices and values (Philip et al., 2016). “The intervention is strengths based, and instead of adopting a risk reduction approach, seeks to increase protective factors believed to mediate suicide and alcohol use disorder risk” (Philip et al., 2016, pg. 46).

The localized Yup’ik AN community can choose specific unique modules from the Qungasvik to

address their own distinctive circumstances related to protection from suicide and alcohol misuse (Philip et al., 2016). This study has shown that having at least three protective factors reduces the risk of suicide 85% (Philip et al., 2016).

Community as a Protective Factor

The Qungasvik, a community based participatory research intervention developed by Philip et al. (2016) includes opportunities, support, and community role models. Philip et al. (2016) suggest that opportunities include such items as “there were things to do for fun other than drinking” (Philip et al., 2016, p. 48). Support was measured by this statement: “People supported and helped me if I needed it.” For community role models, the following statement was included: “I have someone in the community who I can look up to” (Philip et al., 2016, p. 48). The family protective factors evaluated in this study included cohesion, expressiveness, transmission of values, affection, and praise (Philip et al., 2016). An example of cohesion: “my family members really support each other (Philip et al., 2016, p. 48). Expressiveness included the following statement: “In my family I can talk about my problems” (Philip et al., 2016, p. 48). An example of transmission of values was “my family teaches good values” (Philip et al., 2016, p. 48). Measurement of affection and praise included “people let me know when I do something good” (Philip et al., 2016, p. 48). The individual protective factors were listed as communal mastery-family, communal mastery-friends, and wanting to become a role model (Philip et al., 2016). Assessment of Mastery-Family factors included the following statement: “with the help of my family I can change many of the important things in my life” (Philip et al., 2016, p. 48). The assessment of the Mastery-Friends category included the following statement: “working together with friends I can solve many if my problems” (Philip et al., 2016, p. 48).

Another model, the Qasgiq model was developed to represent the protective factors as they align with the cultural strengths of the Yup'ik AN people. The Qasgiq model is defined as a “term used to refer to a Yup'ik theory and intervention process to bring about community-level change and protection as part of the Qungasvik (“tools for life”) intervention” (Rasmus et al., 2019, p. 46). This model was meant to be adapted for each individual community to choose tools for implementation (Philip et al., 2016).

Family as a Protective Factor

Family has consistently been shown to act as a buffer to suicide. Youth discussing problems with family reduces the risk of suicide (Cwik et al., 2015). Conversely, siblings exposed to the same problems in the home are at additional risk for suicide (Cwik et al., 2015). Family home-based interventions such as parenting communication skills can be beneficial for all members of family. One study suggests:

Family-centered interventions have the potential to make the most difference, particularly for AI/AN children. The “Homework Diner” program, designed to help children and their families achieve school success while also addressing food insecurity, is a promising example of how a community program can bring together adults and children from home, school, and community settings. (Fullerton et al., 2019, p. 176)

Reasons for Life and Reflective Processes is a strengths-based instrument identifying outcome variables for the Qungasvik intervention (Philip et al., 2016). Protective factors measured in the individual, family, and community levels demonstrated intermediate protection from alcohol misuse and its consequences such as suicide (Philip et al., 2016).

Certain protective factors such as social support, positive cultural identity, and connections to traditional values and activities are unique to specific AI/AN populations and differ from those of white Americans (Manzo et al., 2015). Utilizing protective factors as an intervention has demonstrated to be more beneficial for the AI/AN people than those who do not identify as AI/AN (Kelley et al., 2018).

Discussion

Developing a Culturally Appropriate Survey

A strong emphasis has been made on cultural practices and unique cultural challenges related to youth suicide in the AI/AN population. Many articles have suicide prevention or protective factors as interventions. Yet, there is not one standardized assessment scale to monitor for potential suicide risk in AI/AN youth. Recommendations for developing a culturally appropriate survey were included throughout many articles in this literature review. Kelley et al. (2018) advised collaborating with cultural groups engaged with youth to adjust items or wording within surveys to be more culturally appropriate and locally relevant (Manzo et al., 2020). In one Montana AI community, a meeting was held with diverse community members to talk about how to document risk and protective factors related to suicide (Kelley et al., 2018). The research team was accompanied by elders, behavioral health specialists, and cultural knowledge keepers, community health workers, health educators, among others (Kelley et al., 2018). Tribal histories, stories, and teachings helped inform those responsible for developing the survey so it appropriately addressed suicide prevention and approaches to prevention in this AI community. The values of generosity, helping and respect were consistently incorporated into the survey (Kelley et al., 2018). Questions regarding substance use were removed because elders were concerned it might take the emphasis away from suicide (Lee & Wong, 2020). The survey

consisted of questions regarding stressful life events, social support, suicide ideation, feelings of depression, feelings of anxiety, self-esteem, and antisocial behaviors (Lee & Wong, 2020). The value of helping was included and encouraged by the survey administrators and by resident adults and youth helping each other for the common good. The survey was deemed too long and was condensed in order to honor the cultural value of respect for another person's time the time and contribution (Kelley et al., 2018). The values of generosity and helping were honored by including the statement "If you want to talk with someone about problems you are dealing with, we want to help. By calling 1-800-273-TALK (8255) you'll be connected to a skilled, trained counselor at a crisis center, anytime 24/7" (Kelley et al., 2018, p. 327).

Current Scales/Surveys Addressing Protective Factors

An assessment tool should emphasize protective factors unique to individual communities (Jack et al., 2018; Shaw et al., 2019). Many researchers have developed suicide prevention plans utilizing a community-based participatory research approach (Wexler et al., 2020). The research studies utilized different scales for planning interventions. Scales that are currently available and used or adapted from in the literature review include:

- Columbia Suicide Screen (Cwik et al., 2015).
- Suicide Intent Scale (Cwik et al., 2015).
- Voices of Indian Teens Survey (Cwik et al., 2015).
- Center for Epidemiological Studies-Depression Scale (O'Keefe et al., 2019).
- Child and Adolescent Social and Adaptive Functioning Scale (Cwik et al., 2015).
- Social Problem-Solving Inventory-Revised Short Form (Cwik et al., 2015).
- Children's Negative Cognitive Errors Questionnaire (Cwik et al., 2015).

- Youth Risk Behavior Survey (Manzo et al., 2015).
- Reasons for Life Scale (Allen et al., 2019).
- Canadian First Nations Longitudinal Health Survey (Manzo et al., 2015) .
- Minnesota Student Survey (Gloppen et al., 2018).
- America Drug and Alcohol Survey (Allen et al., 2018).
- California Healthy Kids Survey (Gloppen et al., 2018; Komro, 2018).
- National Comorbidity Survey (Kelley et al., 2018).

Theoretical Framework/Models

Joiners' Interpersonal Theory of Suicide

Theories played a large role in the development of studies and interventions addressing youth suicide in AI/AN youth population. Joiners' Interpersonal Theory of Suicide (ITS) (Van Orden et al., 2010) was the most commonly used mainstream theory. Other theories developed specifically regarding AI/AN suicide incorporated the ITS. The ITS's collective argument that "not all those who have suicidal thoughts go on to attempt suicide and die by suicide because the fear of death and pain act as a barrier to suicide" (Lee & Wong, 2020, p. 539) explains the slow progression that links suicidal ideation/planning to death by suicide. Allen et al. (2019) has explored the ITS, addressing why some youth, after multiple suicide attempts, change their mind and want to live. Allen et al., (2019) work with these participants helped to inform assessment and intervention tools for suicide prevention. Shaw et al. (2019) studied the lived experience of AN who had experienced suicide risk and related the ITS component of thwarted belongingness to the opposite: It was the experiences of acceptance and belonging that helped them keep living (Allen et al., 2019). Another component of the ITS is perceived burdensome compared to the

opposite in participants because they felt the burden of their suicide would be greater to the living than living with them. Allen et al. (2019) used the ITS and its constructs of social support, self-esteem, depression, anxiety, stress, and suicide ideation to develop the Indigenous Theory of Change.

Ecological Model

The Ecological Model referred to by Allen et al. (2019) is an integrative risk and resilience model. This model correlates aspects of historical trauma to the multiple levels of influence on health behaviors and health disparities as it relates to minorities resilience to discrimination (Allen et al., 2019). Gloppen et al. (2018) used the Ecological Model as a way to collaborate with the Minnesota Anishinaabe and Canadian First Nations tribes in an attempt to break down barriers to support family relationships precipitated by historical trauma and racial discrimination.

Yup'ik Protective Factors Model

Models developed specifically for the Yup'ik AN are the Yup'ik protective factors model, the Qasgiq model and the Qasgiq implementation model (Rasmus et al, 2019). The Yup'ik AN have had many instances of cluster suicides within their communities and there has been much focus on prevention, protective factors, planning, and implementation (Allen et al., 2019). Within Yup'ik AN communities in southwest Alaska, Qungasvik focuses on promotion of protective factors over reduction of risk. This focus on protection from suicide is consistent with their cultural values and practices. The focus on protection also provides protection from stigma and self-stigmatization. The need for culturally tailored personalized interventions has been obvious for years (Allen et al., 2019). The models and theory were developed by a unique group

of developers that included the strength of their culture. The authors imply the need for an alternate suicide prevention assessment. The Reasons for Life (RFL) scale was developed under the Yup'ik Factors Model to emphasize the factors that inhibit suicide (Allen et al., 2019). The RFL survey has six factor survival and coping beliefs, responsibility to family, child-related concerns, fear of suicide, fear of social disapproval, and moral objections to suicide (Allen et al., 2019). Representative items include “Life is all we have and is better than nothing,” “I am afraid of the unknown,” “My religious beliefs forbid it,” “It would not be fair to leave the children for others to take care of,” and “I believe I have control over my life and destiny.” (Allen et al., 2019). These items suggest cultural influences, including spiritual, moral, and sociopolitical attitudes. The scale has stimulated significant research and contributed to development of a widely disseminated tertiary suicide preventive practice (Allen et al., 2019).

The approaches the Yup'ik community developed are not formed to end suicide but to prevent suicidal thought all together (Rasmus et al., 2019). The RFL is different than other surveys since it has such a strong emphasis on cultural beliefs, experiences, and other elements that are protective against suicide (Allen et al., 2019). RFL is comprised of three subscales: cultural and spiritual beliefs, efficacy over life problems and others assessment. The higher the score, the more positive the participant is about their life (Rasmus et al., 2019).

The protective factors model as discussed above is the framework for the Qasgiq Model (Rasmus et al., 2019). Qasgiq means “men's--communal house”. “The Qasgiq model mobilizes aspects of traditional Yup'ik cultural logic within its local contexts to deliver strengths- based interventions for Yup'ik youth from within an Indigenous theory driven intervention implementation schema” (Rasmus et al., 2019, p. 45). The Qasgiq is the driver in the implementation of the Qungasvik. The Qungasvik (toolbox) is a multilevel intervention which

has demonstrated a promising reduction in suicide risk. Qungasvik is a preventative, adaptive intervention grounded in the Yup'ik traditional knowledge and culture used for the treatment of alcohol misuse factors that lead to youth suicide (Allen et al., 2018). It is adaptable because each community can pick “tools” from the Qungasvik to tailor a specific intervention for their specific needs within their distinctive community. “In its deeper cultural meaning, Qasgiq in the Yup'ik language can be used as both a noun and verb. Qasgiq is a place, but it is also an action and a collective process” (Rasmus et al., 2019, p. 48). The Qasgiq model builds protection against suicide and alcohol misuse with community, cultural and historical strengths.

Conclusion

“We are made up of both body, spirit and our destiny, but our body is intelligent and has a spirit that understands. –Joe Eagle Elk” (Rasmus et al., 2020, p. 2).

In conclusion, there are many risk factors and characteristics of suicidal actions that are unique to the AI/AN community. These risk factors and characteristics are related to the health disparities felt by the AN/AN community. The history of cultural trauma as a result of colonization of the United States contributes to the risk factors of altered family structure that leads to anxiety, depression and poor coping strategies such as alcohol and substance abuse, unhealthy weight control, violence and unhealthy sexual behaviors. Barriers to mental health services can be attributed to stigma, culture and health disparities and put AI/AN youth at an increased risk for suicidal actions and suicide. The use of AI/AN theories along with suicide theories and models to develop a standard assessment tool to assess for the risk of suicide in AI/AN youth that is culturally grounded, appropriate and competent is necessary to reduce the risk of suicide in this population. Perhaps a tool that assesses the strength of protective factors and not specifically factors or characteristics related to suicide risk might be more appropriate for

reasons of the stigma and cultural concerns of some tribes regarding the use of suicide in such assessments.

Limitations

This study is not without limitations. Limitations to consider include the following: There were not as many American Indian studies conducted as there were AN studies, although the prevalence of suicide clusters appear to be more prevalent in AN. This is likely related to the extremely rural localities of some communities. Of the articles surveyed for this review, there were no studies conducted to analyze the validity of the interventions created. Most studies about risk factors and characteristics were not controlled studies due to ethical constraints and the sensitivity of suicide and related mental health issues.

Areas for further research

The increasing risk of suicide in the AI/AN youth population indicates an urgent need for additional tools and interventions related to suicidality and suicide prevention and intervention. This review has identified numerous risk factors, characteristics, and protective factors associated with AI/AN youth suicide. Areas for further study include research regarding the development of a standardized, culturally appropriate, suicide assessment tool. Another avenue to explore is the development of a survey to assess the strength of protective factors in AI/AN youth lives. An added area for further analysis is the promotion of culture and traditional practices. Recommendations for a culturally sensitive suicide risk assessment instrument for AI/AN youth would be a screening or survey instrument that assesses barriers to mental health services such as geographic location, cultural bias, family problems, family strength, substance

use, violence, racism and discrimination, stories of family historical trauma, suicide exposure, traditional cultural practices, and community and social relationship strengths.

Further Policy Work

Policy reform to decrease the health disparities associated with socioeconomic status and lack of services to rural communities and reservations such as an increase in funds and resources allocated to the Indian Health Services and Tribal healthcare systems is needed. More focused campaigns are needed to destigmatize mental health problems, services, programs, and treatment focused on AI/AN communities. Improving funding sources for AI/AN health initiatives and health promotion within AI/AN communities is needed. Therefore, further research on the topic of the impact of a chronic lack of funding for needed health care services to AI/AN communities is suggested.

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Appendix

Table 1*Database Search Description*

Database (Search Engine)	Restrictions Added to Search	Dates Included in Database	General Subjects Covered by Database
1. CINAHL Plus	Full text Peer reviewed English language	2015-2020	Full text about nursing as well as biomedicine, health science, alternative/complementary medicine, and consumer health.
2. APA PsycArticles	Full text Peer reviewed English language	2015-2020	Provides peer reviewed scholarly articles in psychology.
3. Medline	Full text Peer reviewed English language	2015-2020	An EBSCO host database that provides citations, abstracts, and selected full text to articles about "medicine, nursing, dentistry, veterinary medicine, the health care system, and the preclinical sciences."
4. PubMed	Full Text Peer reviewed English language	2015-2020	Collection of articles on medicine, nursing, dentistry, veterinarian medicine, the health care system, and the preclinical sciences.
5. Health Source: Nursing/Academic Edition	Full text Peer reviewed	2015-2020	Provides articles from 550 scholarly journals on many medical disciplines.
6. Google scholar	Sort by date	2015-2020	Google Scholar provides a simple way to broadly search for scholarly literature. From all journals available online.

Table 2*Data Abstraction Process: Hit Results by Database*

DATE of Search	Key Words	Results CINAHL Plus	Results in Medline	Results in PsycArticles	Results in PubMed	Results in Health Source: Nursing/Academic Edition	Results in Google Scholar
11/4/2020	“Native American” AND “Suicide attempts” AND “Risk factors”	2	0	99	1		
12/6/2020	“Native American” AND “Suicide attempts” AND (“Risk factors” OR characteristics)	3	135	140	6		
12/6/2020	(“Native American” OR “American Indian”) AND “Suicide attempts” AND (“Risk factors” OR characteristics)	3	253	260	17		
12/8/2020	(“Native American” OR “American Indian”) AND (“Suicide attempts” OR Suicide) AND (“Risk factors” OR characteristics)	21	667	676	88		
12/8/2020	(“Native American” OR “American Indian”) AND (“Suicide attempts” OR Suicide) (“Native American” OR “American Indian”) AND (“Suicide attempts” OR Suicide) AND (“Risk factors” OR Characteristics) AND Assessment	4	588	595	17		
12/8/2020	(“Native American” OR “American Indian”) AND (“Suicide attempts” OR Suicide) AND (“Risk factors” OR characteristics) AND “Assessment Tool”	0	21	21	0		

DATE of Search	Key Words	Results CINAHL Plus	Results in Medline	Results in PsycArticles	Results in PubMed	Results in Health Source: Nursing/Academic Edition	Results in Google Scholar
1/4/2021	("Native American" OR "American Indian") AND ("Suicide attempts" OR Suicide) AND ("Risk factors" OR characteristics) AND "Assessment Tool" AND (youth OR adolescents)	0	18	18	0		
1/20/2021	("Native American" OR "American Indian") AND suicide AND (risk OR "risk factors") AND prevention AND youth	*4	*2	310	*26	2	7
1/20/2021	("Native American" OR "American Indian") AND suicide AND (risk OR "risk factors") AND prevention AND youth AND assessment	2	1	269	10	*1	0
1/22/2021	("Native American" OR "American Indian") AND suicide AND risk reduction AND prevention AND youth AND assessment	0	0	*15	2	0	0
1/27/2021	Bibliographic review	*1					

***BOLD** = articles reviewed for match with systematic review inclusion criteria

Table 3

Characteristics of Literature Included and Excluded

Reference	Include d/Exclu ded	Rationale
Allen, J., Rasmus, S. M., Fok, C., Charles, B., Henry, D., & Qungasvik Team (2018). Multi-level cultural intervention for the prevention of suicide and alcohol use risk with Alaska Native youth: A Nonrandomized comparison of treatment intensity. <i>Prevention science: The official journal of the Society for Prevention Research</i> , 19(2), 174–185. https://doi-org.ezproxy.mnsu.edu/10.1007/s11121-017-0798-9	Include	Prevention of suicide using “culture as intervention” to promote alcohol abuse and suicide of Alaska Native youth.
Allen, J., Rasmus, S. M., Fok, C., Charles, B., Trimble, J., Lee, K., & and the Qungasvik Team (2019). Strengths-based assessment for suicide prevention: Reasons for life as a protective factor from Yup'ik Alaska native youth suicide. <i>Assessment</i> , 1073191119875789. Advance online publication. https://doi-org.ezproxy.mnsu.edu/10.1177/1073191119875789	Include	Suicide prevention based on promotion of culturally grounded protective factors over risk reduction in the Alaskan Native youth community
Ballard, E. D., Cwik, M., Van Eck, K., Goldstein, M., Alfes, C., Wilson, M. E., Virden, J. M., Horowitz, L. M., & Wilcox, H. C. (2017). Identification of at-risk youth by suicide screening in a pediatric emergency Department. <i>Prevention science : The Official Journal of the Society for Prevention Research</i> , 18(2), 174–182. https://doi-org.ezproxy.mnsu.edu/10.1007/s11121-016-0717-5	Exclude	Focusing on mortality of Montana pediatrics, does not focus on suicide in the Native American community.
Batchelder, A. W., Choi, K., Dale, S. K., Pierre-Louis, C., Sweek, E. W., Ironson, G., . . . O'Cleirigh, C. (2019). Effects of syndemic psychiatric diagnoses on health indicators in men who have sex with men. <i>Health Psychology</i> , 38(6), 509-517. doi: http://dx.doi.org.ezproxy.mnsu.edu/10.1037/hea000724	Exclude	Discusses mental health of men who have sex with men. There is not a Native American specific focus.
Chambers, R., Tingey, L., Beach, A., Barlow, A., & Rompalo, A. (2016). Testing the efficacy of a brief sexual risk reduction intervention among high-risk American Indian adults: study protocol for a randomized controlled trial. <i>BMC public health</i> , 16, 366. https://doi-org.ezproxy.mnsu.edu/10.1186/s12889-016-3040-y	Exclude	This article is focused on increasing the use of condoms in the American Indian community to prevent sexually transmitted infections.
Collazos, F., Markle, S. L., Chavez, L., Brugal, M. T., Aroca, P., Wang, Y., . . . Alegria, M. (2019). HIV testing in clinical and community settings for an international sample of latino immigrants and nonimmigrants. <i>Journal of Latinx Psychology</i> , 7(1),	Exclude	Latino’s with HIV focus.

Reference	Include d/Exclu ded	Rationale
59-75. doi:http://dx.doi.org.ezproxy.mnsu.edu/10.1037/lat0000101		
Cwik, M., Barlow, A., Tingey, L., Goklish, N., Larzelere-Hinton, F., Craig, M., & Walkup, J. T. (2015). Exploring risk and protective factors with a community sample of American Indian adolescents who attempted suicide. <i>Archives of suicide research : official journal of the International Academy for Suicide Research</i> , 19(2), 172–189. https://doi-org.ezproxy.mnsu.edu/10.1080/13811118.2015.1004472	Include	Study of American Indian adolescents who attempted suicide.
David-Ferdon, C., Crosby, A. E., Caine, E. D., Hindman, J., Reed, J., & Iskander, J. (2016). CDC Grand Rounds: Preventing Suicide Through a Comprehensive Public Health Approach. <i>MMWR. Morbidity and mortality weekly report</i> , 65(34), 894–897. https://doi-org.ezproxy.mnsu.edu/10.15585/mmwr.mm6534a2	Include	Focuses on the racial and ethnic disparities related to suicide
Ertl, A., Sheats, K. J., Petrosky, E., Betz, C. J., Yuan, K., & Fowler, K. A. (2019). Surveillance for Violent Deaths - National Violent Death Reporting System, 32 States, 2016. <i>Morbidity and mortality weekly report. Surveillance summaries (Washington, D.C. : 2002)</i> , 68(9), 1–36. https://doi-org.ezproxy.mnsu.edu/10.15585/mmwr.ss.6809a1	Include	Study focused on violent deaths which suicide makes up most of those deaths
Fullerton, L., FitzGerald, C. A., Hall, M. E., Green, D., DeBruyn, L. M., & Peñaloza, L. J. (2019). Suicide Attempt Resiliency in American Indian, Hispanic, and Anglo Youth in New Mexico: The Influence of Positive Adult Relationships. <i>Family & community health</i> , 42(3), 171–179. https://doi-org.ezproxy.mnsu.edu/10.1097/FCH.000000000000223	Include	Discusses whether positive relationships with adults at home, school, and in the community can prevent youth suicide in American Indian/Alaska Native, Hispanic, and Anglo communities in New Mexico
Garthe, R. C., Hidalgo, M. A., Goffnett, J., Hereth, J., Garofalo, R., Reisner, S. L., . . . Kuhns, L. M. (2020). Young transgender women survivors of intimate partner violence: A latent class analysis of protective processes. <i>Psychology of Sexual Orientation and Gender Diversity</i> , 7(4), 386-395. doi:http://dx.doi.org.ezproxy.mnsu.edu/10.1037/sgd0000379	Exclude	Transgender and intimate partner violence focus

Reference	Include d/Exclu ded	Rationale
<p>Gloppen, K., McMorris, B., Gower, A., & Eisenberg, M. (2018). Associations between bullying involvement, protective factors, and mental health among American Indian youth. <i>American Journal of Orthopsychiatry</i>, 88(4), 413-421. doi:http://dx.doi.org.ezproxy.mnsu.edu/10.1037/ort0000284</p>	Include	Bullying and its relation to youth suicide in the American Indian population
<p>Goodwill, J. R., & Zhou, S. (2020). Association between perceived public stigma and suicidal behaviors among college students of color in the U.S. <i>Journal of affective disorders</i>, 262, 1–7. https://doi-org.ezproxy.mnsu.edu/10.1016/j.jad.2019.10.019</p>	Include	Relation of stigma and suicidal ideation.
<p>Helm, S., Hishinuma, E., Okamoto, S., Chin, S. K., & Silva, A. (2019). The relationship between ethnocultural identity measures and youth substance use among a school-based sample: A focus on native Hawaiian youth. <i>Asian American Journal of Psychology</i>, 10(3), 206-217. doi:http://dx.doi.org.ezproxy.mnsu.edu/10.1037/aap0000157</p>	Exclude	Only native Hawaiian emphasis.
<p>Jack, S., Petrosky, E., Lyons, B. H., Blair, J. M., Ertl, A. M., Sheats, K. J., & Betz, C. J. (2018). Surveillance for Violent Deaths - National Violent Death Reporting System, 27 States, 2015. <i>Morbidity and mortality weekly report. Surveillance summaries (Washington, D.C. : 2002)</i>, 67(11), 1–32. https://doi-org.ezproxy.mnsu.edu/10.15585/mmwr.ss6711a1</p>	Include	Data is related to violent deaths, most of which are suicides.
<p>Kassem, A. M., Carter, K. K., Johnson, C. J., & Hahn, C. G. (2019). Spatial Clustering of Suicide and Associated Community Characteristics, Idaho, 2010-2014. <i>Preventing chronic disease</i>, 16, E37. https://doi-org.ezproxy.mnsu.edu/10.5888/pcd16.180429</p>	Exclude	Idaho suicide rates, not focused on NA/AI populations
<p>Kelly, J. F. (2016). Proceedings of the American Psychological Association, incorporated, for the legislative year 2015: Minutes of the annual meeting of the council of representatives February 20–22, 2015, Washington, DC, and August 5 and August 7, 2015, Washington, DC, and minutes of the February, June, August, and December 2015 meetings of the board of directors. <i>American Psychologist</i>, 71(5), 369-414.</p>	Exclude	Meeting minutes from Proceedings of the American Psychological Association (APA) for the legislative year 2015

Reference	Include d/Exclu ded	Rationale
doi: http://dx.doi.org.ezproxy.mnsu.edu/10.1037/amp0000022		
Kelley, A., Restad, D., & KILLSBACK, J. (2018). A public health approach: Documenting the risk and protective factors of suicide ideation in one American Indian community. <i>Psychological Services, 15</i> (3), 325–331. https://doi-org.ezproxy.mnsu.edu/10.1037/ser0000211	Include	American Indian focus prevention suicide with a public health approach
Kiang, L., Cheah, C. S. L., Huynh, V. W., Wang, Y., & Yoshikawa, H. (2016). Annual review of Asian American psychology, 2015. <i>Asian American Journal of Psychology, 7</i> (4), 219-255. doi: http://dx.doi.org.ezproxy.mnsu.edu/10.1037/aap0000055	Exclude	Focused on Asian Americans
Klee, A., Chinman, M., & Kearney, L. (2019). Peer specialist services: New frontiers and new roles. <i>Psychological Services, 16</i> (3), 353-359. doi: http://dx.doi.org.ezproxy.mnsu.edu/10.1037/ser0000332	Include	Discusses the use of peer support in suicide prevention
Komro, K. A. (2018). Preventing risk for “deaths of despair” among American Indian youths: Unanswered questions for future research. <i>American Journal of Public Health, 108</i> (8), 973–974. https://doi-org.ezproxy.mnsu.edu/10.2105/AJPH.2018.304522	Include	Discusses risk control of deaths among Native American youth
Lee, C. S., & Wong, Y. J. (2020). Racial/ethnic and gender differences in the antecedents of youth suicide. <i>Cultural Diversity & Ethnic Minority Psychology, 26</i> (4), 532-543. doi: http://dx.doi.org.ezproxy.mnsu.edu/10.1037/cdp0000326	Include	Racial data related to suicide.
Livingston, R., Daily, R. S., Guerrero, A., Walkup, J. T., & Novins, D. K. (2019). No Indians to spare: Depression and suicide in indigenous American children and youth. <i>Child and Adolescent Psychiatric Clinics of North America, 28</i> (3), 497–507. https://doi-org.ezproxy.mnsu.edu/10.1016/j.chc.2019.02.015	Include	Depression and suicide of American Indian youth
López, C. M., Qanungo, S., Jenkins, C. M., & Acierno, R. (2018). Technology as a means to address disparities in mental health research: A guide to “tele-tailoring” your research methods. <i>Professional Psychology: Research and</i>	Exclude	Discusses consent for telehealth services in rural areas

Reference	Include d/Exclu ded	Rationale
<i>Practice</i> , 49(1), 57-64. doi: http://dx.doi.org.ezproxy.mnsu.edu/10.1037/pro000176		
Mackesy-Amiti, M., Boodram, B., & Donenberg, G. (2020). Negative affect, affect-related impulsivity, and receptive syringe sharing among people who inject drugs. <i>Psychology of Addictive Behaviors</i> , 34(7), 734-744. doi: http://dx.doi.org.ezproxy.mnsu.edu/10.1037/adb000590	Exclude	Focus on needle sharing from injectable drugs
Manzo, K., Hobbs, G. R., Gachupin, F. C., Stewart, J., & Knox, S. S. (2020). Reservation-Urban Comparison of Suicidal Ideation/Planning and Attempts in American Indian Youth. <i>Journal of School Health</i> , 90(6), 439–446. https://doi.org.ezproxy.mnsu.edu/10.1111/josh.12891	Include	Aimed to identify sex- and location specific risk factors for suicide among American Indian youth
Manzo, K., Tiesman, H., Stewart, J., Hobbs, G. R., & Knox, S. S. (2015). A comparison of risk factors associated with suicide ideation/attempts in American Indian and White youth in Montana. <i>Archives of Suicide Research</i> , 19(1), 89–102. https://doi.org.ezproxy.mnsu.edu/10.1080/13811118.2013.840254	Include	Comparison of Montana American Indian and White youth suicide
Nasir, B. F., Hides, L., Kisely, S., Ranmuthugala, G., Nicholson, G. C., Black, E., Gill, N., Kondalsamy-Chennakesavan, S., & Toombs, M. (2016). The need for a culturally-tailored gatekeeper training intervention program in preventing suicide among Indigenous peoples: a systematic review. <i>BMC psychiatry</i> , 16(1), 357. https://doi.org.ezproxy.mnsu.edu/10.1186/s12888-016-1059-3	Include	Literature review regarding suicide prevention of indigenous youth worldwide
O’Keefe, V. M., Haroz, E. E., Goklish, N., Ivanich, J., Cwik, M. F., & Barlow, A. (2019). Employing a sequential multiple assignment randomized trial (SMART) to evaluate the impact of brief risk and protective factor prevention interventions for American Indian Youth Suicide. <i>BMC Public Health</i> , 19(1), 1–12. https://doi.org.ezproxy.mnsu.edu/10.1186/s12889-019-7996-2	Include	Study to identify the effectiveness of interventions to prevent suicide and promote resilience of native American youth
Philip, J., Ford, T., Henry, D., Rasmus, S., & Allen, J. (2016). Relationship of social network to protective factors in suicide and alcohol use disorder intervention for rural yup'ik alaska native	Include	Alaska Native prevention of suicide and alcohol use disorder in youth.

Reference	Include d/Exclu ded	Rationale
youth. <i>Intervention Psychosocial</i> , 25(1), 45-54. Retrieved from http://ezproxy.mnsu.edu/login?url=https://www-proquest-com.ezproxy.mnsu.edu/scholarly-journals/relationship-social-network-protective-factors/docview/1826668841/se-2?accountid=12259		
Probst, J., Zahnd, W., & Breneman, C. (2019). Declines in pediatric mortality fall short for rural US children. <i>Health Affairs (Project Hope)</i> , 38(12), 2069–2076. https://doi-org.ezproxy.mnsu.edu/10.1377/hlthaff.2019.00892	Include	Rural American youth mortality reduction compared to all U.S. youth.
Rasmus, S. M., Charles, B., John, S., & Allen, J. (2019). With a spirit that understands: Reflections on a long-term community science initiative to end suicide in Alaska. <i>American journal of community psychology</i> , 64(1-2), 34–45. https://doi-org.ezproxy.mnsu.edu/10.1002/ajcp.12356	Include	Alaska native youth strategies to prevent suicide
Rasmus, S. M., Trickett, E., Charles, B., John, S., & Allen, J. (2019). The qasgiq model as an indigenous intervention: Using the cultural logic of contexts to build protective factors for Alaska Native suicide and alcohol misuse prevention. <i>Cultural diversity & ethnic minority psychology</i> , 25(1), 44–54. https://doi-org.ezproxy.mnsu.edu/10.1037/cdp0000243	Include	Defines community or complex interventions to decrease Alaska Native suicide and alcohol misuse.
Romanelli, M., & Hudson, K. D. (2017). Individual and systemic barriers to health care: Perspectives of lesbian, gay, bisexual, and transgender adults. <i>American Journal of Orthopsychiatry</i> , 87(6), 714-728. doi: http://dx.doi.org.ezproxy.mnsu.edu/10.1037/ort0000306	Exclude	Focus on LGBTQ community
Schaefer, K. R., Muller, C. J., Smith, J. J., Avey, J. P., & Shaw, J. L. (2020). Using the electronic health record to identify suicide risk factors in an Alaska native health system. <i>Psychological Services</i> , doi: http://dx.doi.org.ezproxy.mnsu.edu/10.1037/ser0000492	Include	Identifies electronic health record data to identify suicide risk
Shaw, J. L., Beans, J. A., Comtois, K. A., & Hiratsuka, V. Y. (2019). Lived experiences of suicide risk and resilience among Alaska native and American Indian people. <i>International journal of environmental research and public health</i> , 16(20),	Include	Explores the experiences of American Indian/Alaska Native youth suicide survivors

Reference	Include d/Exclu ded	Rationale
3953. https://doi-org.ezproxy.mnsu.edu/10.3390/ijerph16203953		
Smalley, K. B., Warren, J. C., & Barefoot, K. N. (2016). Differences in health risk behaviors across understudied LGBT subgroups. <i>Health Psychology, 35</i> (2), 103-114. doi:http://dx.doi.org.ezproxy.mnsu.edu/10.1037/hea0000231	Exclude	LGBTQ focus
Stanley, I. H., & Anestis, M. D. (2020). The intersection of PTSD symptoms and firearm storage practices within a suicide prevention framework: Findings from a U.S. army national guard sample. <i>Psychological Services</i> , doi:http://dx.doi.org.ezproxy.mnsu.edu/10.1037/ser0000410	Exclude	Military focused
Stanley, I. H., Day, T. N., Gallyer, A. J., Shelef, L., Kalla, C., Gutierrez, P. M., & Joiner, T. E. (2020). Autism-related traits and suicide risk among active duty U.S. military service members. <i>Psychological Services</i> , doi:http://dx.doi.org.ezproxy.mnsu.edu/10.1037/ser0000418	Exclude	Military focused
Swogger, M. T., Conner, K. R., Caine, E. D., Trabold, N., Parkhurst, M. N., Prothero, L. M., & Maisto, S. A. (2016). A test of core psychopathic traits as a moderator of the efficacy of a brief motivational intervention for substance-using offenders. <i>Journal of Consulting and Clinical Psychology, 84</i> (3), 248-258. doi:http://dx.doi.org.ezproxy.mnsu.edu/10.1037/ccp0000065	Exclude	Substance abuse focus
Xu, Q. (2017). How resilient a refugee community could be: The vietnamese of new orleans. <i>Traumatology: An International Journal, 23</i> (1), 56-67. doi:http://dx.doi.org.ezproxy.mnsu.edu/10.1037/trm0000091	Exclude	Focuses on refugees
Wei, Z., & Mukherjee, S. (2020). Health-Behaviors Associated With the Growing Risk of Adolescent Suicide Attempts: A Data-Driven Cross-Sectional Study. <i>American Journal of Health Promotion, 890117120977378</i> . Advance online publication. https://doi-org.ezproxy.mnsu.edu/10.1177/0890117120977378	Include	Identify and examine the associations of increased risk of youth suicide and suicide attempts

Reference	Include d/Exclu ded	Rationale
<p>Wexler, L., Rasmus, S., Ullrich, J., Flaherty, A. A., Apok, C., Amarok, B. Q., Black, J., McEachern, D., Murphrey, C., Johnson, R., & Allen, J. (2020). The development of a measure of Alaska Native community resilience factors through knowledge co-production. <i>Progress in Community Health Partnerships: Research, Education, and Action</i>, 14(4), 443–459. https://doi-org.ezproxy.mnsu.edu/10.1353/cpr.2020.0050</p>	Include	Use of structured interview to identify and measure reduce suicide risk.

Table 4

Literature Review Table of All Studies Included

Citation	Study Purpose	Pop (p)/ Size (n)/ Setting(s)	Level of Evidence/ Design	Variables/ Instruments	Implications	Findings
Allen, J., Rasmus, S. M., Fok, C., Charles, B., Henry, D., & Qungasvik Team (2018). Multi-Level Cultural Intervention for the Prevention of Suicide and Alcohol Use Risk with Alaska Native Youth: A Nonrandomized Comparison of Treatment Intensity. <i>Prevention science: the official journal of the Society for Prevention Research</i> , 19(2), 174–185. https://doi-org.ezproxy.mnsu.edu/10.1007/s11121-017-0798-9	Will culture as intervention prove risk protective for suicide and alcohol misuse.	Yup'ik youth N= 128	Non-randomized comparison trial Level 5	Qungasvik-Culture as intervention	Culture as intervention to promote reasons for life and sobriety.	The intervention shows protective factors against suicide and alcohol misuse in youth of 2 Yup'ik communities.
Allen, J., Rasmus, S. M., Fok, C., Charles, B., Trimble, J., Lee, K., & and the Qungasvik Team (2019). Strengths-Based Assessment for Suicide Prevention: Reasons for Life as a Protective Factor from Yup'ik Alaska Native Youth Suicide. <i>Assessment</i> , 1073191119875789. Advance	The objectives of the study are to (a) test the structure of the reasons for life scale, (b) investigate item characteristic of the RFL item pool for	Alaska native youth, Yup'ik tribe, aged 12-18 years. N= 302	RCT Level 1	Reasons for life scale	Reasons for life as a means for protective factors for suicide instead of risk reduction.	Reasons for life scale is best customized into 3 subcategories: efficacy over life problems, cultural and spiritual beliefs, and others assessment of me.

Citation	Study Purpose	Pop (p)/ Size (n)/ Setting(s)	Level of Evidence/ Design	Variables/ Instruments	Implications	Findings
online publication. https://doi-org.ezproxy.mnsu.edu/10.1177/1073191119875789	functioning and optimal response levels, and (c) assess the convergent validity of the RFL with general protective factors variables associated with protection from suicide.					
Cwik, M., Barlow, A., Tingey, L., Goklish, N., Larzelere-Hinton, F., Craig, M., & Walkup, J. T. (2015). Exploring risk and protective factors with a community sample of American Indian adolescents who attempted suicide. <i>Archives of suicide research: official journal of the International Academy for Suicide Research</i> , 19(2), 172–189. https://doi-org.ezproxy.mnsu.edu/10.1080/13811118.2015.1004472	Determine risk factors and characteristic of AI suicide.	N=71 Apache adolescents	Cross sectional study Level II	Structured interview with multiple assessment self-reported assessment questionnaires.	Studies test - retest of socio-demographic assessment. Suicide history and current attempt culturally adapted from the Columbia suicide screen and the suicide intent scale. A 20-item assessment of life events. A 20 Item depression	Characteristics were consistent with other U.S. and AI characteristics. First suicide attempts were averaged at age 15, participants average age was 16. Attempts were sudden/impulsive with no prior preparations. Specific interventions

Citation	Study Purpose	Pop (p)/ Size (n)/ Setting(s)	Level of Evidence/ Design	Variables/ Instruments	Implications	Findings
					<p>scale assessment. 20 item social and adaptive functioning scale. 25 Item Assessment problem solving skills. A 17item cognitive evaluation the children's Negative Cognitive Errors Questionnaire. An 87-item risk behavior survey.</p>	<p>should be used for multiple attempters. Stressful life events made up most risk factors. AI risk is greater than other races when there is a recent exposure to suicide. Especially attempted suicide of significant other, friend or family member. This makes AI 2x higher (15%) than other races of suicide. Social modeling, suicide attempts close in time with social networks. Positive peer support should be included in further should be explored in future research.</p>

Citation	Study Purpose	Pop (p)/ Size (n)/ Setting(s)	Level of Evidence/ Design	Variables/ Instruments	Implications	Findings
						Substance use is a risk factor and AI are exposed more than others in the U.S.
David-Ferdon, C., Crosby, A. E., Caine, E. D., Hindman, J., Reed, J., & Iskander, J. (2016). CDC Grand Rounds: Preventing Suicide Through a Comprehensive Public Health Approach. <i>MMWR. Morbidity and mortality weekly report</i> , 65(34), 894–897. https://doi-org.ezproxy.mnsu.edu/10.15585/mmwr.mm6534a2	N/A	N/A	Expert Opinion Level IV	N/A	CDC Grand Round Presentation	An approach to suicide prevention is needed.
Ertl, A., Sheats, K. J., Petrosky, E., Betz, C. J., Yuan, K., & Fowler, K. A. (2019). Surveillance for Violent Deaths - National Violent Death Reporting System, 32 States, 2016. <i>Morbidity and mortality weekly report. Surveillance summaries (Washington, D.C. : 2002)</i> , 68(9), 1–36. https://doi-org.ezproxy.mnsu.edu/10.15585/mmwr.ss.6809a1	Obtain data related to violent deaths of 2016.	N/A	Case Report Level V	National Violent Death Reporting System	Report the number and characteristic pertaining to violent deaths in the US in the year of 2016	Most violent deaths were suicide.

Citation	Study Purpose	Pop (p)/ Size (n)/ Setting(s)	Level of Evidence/ Design	Variables/ Instruments	Implications	Findings
Fullerton, L., FitzGerald, C. A., Hall, M. E., Green, D., DeBruyn, L. M., & Peñaloza, L. J. (2019). Suicide Attempt Resiliency in American Indian, Hispanic, and Anglo Youth in New Mexico: The Influence of Positive Adult Relationships. <i>Family & community health</i> , 42(3), 171–179. https://doi-org.ezproxy.mnsu.edu/10.1097/FCH.0000000000000223	To better understand racial and ethnic differences related to suicide protective factors.	New Mexico high school students N= 15,930	Randomized sample cross-sectional survey Level 1	The New Mexico Youth and Risk and Resiliency survey	To determine the number if randomized selected students answered yes to the question “in the past year have you attempted suicide” and their race related to their relationships with adults in the home, school, or community.	13% of AI/AN youth answered yes to attempting suicide in the last year. The students that answered that they had positive relationships with adults at home were less likely to have attempted suicide
Gloppen, K., McMorris, B., Gower, A., & Eisenberg, M. (2018). Associations between bullying involvement, protective factors, and mental health among american indian youth. <i>American Journal of Orthopsychiatry</i> , 88(4), 413-421. doi:http://dx.doi.org.ezproxy.mnsu.edu/10.1037/ort0000284	Assessed whether youth involved in bullying were more likely to negative mental health problems that AI youth that were not involved in bullying.	8, 9, and 11 th grade AI student in MN N=1409	Qualitative study Level III	Minnesota student survey	Estimated associations between bullying involvement and internalizing symptoms and suicidality Protective factors (internal assets, empowerment, positive student-teacher relationships and	All forma of bullying, perpetrating or victimization were associated with increased risk for mental health problems. Higher levels of protective factors decreased youth internalizing and suicidality.

Citation	Study Purpose	Pop (p)/ Size (n)/ Setting(s)	Level of Evidence/ Design	Variables/ Instruments	Implications	Findings
					feeling safe at school)	When bullied AI youth were more likely to experience mental health problems.
Goodwill, J. R., & Zhou, S. (2020). Association between perceived public stigma and suicidal behaviors among college students of color in the U.S. <i>Journal of affective disorders, 262</i> , 1–7. https://doi-org.ezproxy.mnsu.edu/10.1016/j.jad.2019.10.019	Explore the association between perceived public stigma of receiving mental health treatment and suicidality of minorities.	N+ 153,635 college students	Cross sectional study analysis Level III	Healthy minds study	Examine associations between public stigma and suicide ideation, suicide planning, and suicide attempt.	Perceived stigma was significantly associated with greater odds of suicide ideation, suicide planning, and attempts.
Jack, S., Petrosky, E., Lyons, B. H., Blair, J. M., Ertl, A. M., Sheats, K. J., & Betz, C. J. (2018). Surveillance for Violent Deaths - National Violent Death Reporting System, 27 States, 2015. <i>Morbidity and mortality weekly report. Surveillance summaries (Washington, D.C. : 2002), 67</i> (11), 1–32. https://doi-org.ezproxy.mnsu.edu/10.15585/mmwr.ss6711a1	Violent death surveillance of 2015.	N/A	Case Report Level V	National Violent Death Reporting System	Summarize the CDCs data regarding violent deaths.	Most of the deaths were suicide.
Kelley, A., Restad, D., & KILLSBACK, J. (2018). A public health approach: Documenting	“What are the risk and protective	N=100 Tribal members	Cross sectional study	Survey	Support a public health approach to suicide	this study showed that females were more likely to

Citation	Study Purpose	Pop (p)/ Size (n)/ Setting(s)	Level of Evidence/ Design	Variables/ Instruments	Implications	Findings
<p>the risk and protective factors of suicide ideation in one American Indian community. <i>Psychological services</i>, 15(3), 325–331. https://doi-org.ezproxy.mnsu.edu/10.1037/ser0000211</p>	<p>factors of American Indian youth living in one reservation community?"</p>	<p>Aged 12-25</p>	<p>Level III</p>		<p>prevention by collecting community data and developing prevention approaches based on needs</p>	<p>report significantly higher mean scores for all psychosocial risk factors except for one protective factor, self-esteem. The combination of higher risk scores for all risk variables and lower self-esteem among females is one of the more important findings</p>
<p>Klee, A., Chinman, M., & Kearney, L. (2019). Peer specialist services: New frontiers and new roles. <i>Psychological Services</i>, 16(3), 353-359. doi:http://dx.doi.org.ezproxy.mnsu.edu/10.1037/ser0000332</p>	<p>Explores the impact peer specialists are having on the delivery of mental health and health services outcomes in organized care services.</p>	<p>N/A</p>	<p>Expert opinion Level IV</p>		<p>Evaluated the effectiveness and impact that peer specialist has on clinical care services.</p>	<p>Peer specialist are valuable clinical partners who have much to offer patients, teams, and systems of care.</p>

Citation	Study Purpose	Pop (p)/ Size (n)/ Setting(s)	Level of Evidence/ Design	Variables/ Instruments	Implications	Findings
<p>Komro, K. A. (2018). Preventing Risk for “Deaths of Despair” Among American Indian Youths: Unanswered Questions for Future Research. <i>American Journal of Public Health</i>, 108(8), 973–974. https://doi-org.ezproxy.mnsu.edu/10.2105/AJPH.2018.304522</p>	<p>To prevent and reduce alcohol use among underage youth.</p>	<p>N= 109 Ages 13-19 They compared three groups of students: (1) AI youths in the schools serving the nine reservations participating in the intervention, (2) non-AI youths in those same schools but reportedly not exposed to the individual- or community-level interventions, and (3) AI youths in schools serving nine comparison reservations.</p>	<p>Quasi Experimental study embedded randomized trial. Level I</p>	<p>California healthy kids survey</p>	<p>Assess alcohol use in 9th and 11th grade students between the years of 2002 and 2015. After community interventions. The community intervention involved nearly 300 community awareness activities and three “reward and reminder” visits to 13 off-premises alcohol outlets within 10 miles of the nine reservations. The intervention rewarded those who do not sell alcohol without checking age identification and reminded those that do that</p>	<p>Lifetime prevalence of alcohol use was down 20% to 30% from 2002-2015</p>

Citation	Study Purpose	Pop (p)/ Size (n)/ Setting(s)	Level of Evidence/ Design	Variables/ Instruments	Implications	Findings
					it is against the law	
Lee, C. S., & Wong, Y. J. (2020). Racial/ethnic and gender differences in the antecedents of youth suicide. <i>Cultural Diversity & Ethnic Minority Psychology, 26</i> (4), 532-543. doi:http://dx.doi.org.ezproxy.mnsu.edu/10.1037/cdp0000326	Examine racial/ethnic and gender differences in the antecedents of adolescent suicide deaths in the United States	Postmortem data. N= 3,996	Nonexperimental study with meta-analysis Level III	National violent death reporting system	More research on suicidal behaviors among racial/ethnic minority youth.	There are considerable gender and racial/ethnic differences in youth suicide.
Livingston, R., Daily, R. S., Guerrero, A., Walkup, J. T., & Novins, D. K. (2019). No Indians to Spare: Depression and Suicide in Indigenous American Children and Youth. <i>Child and adolescent psychiatric clinics of North America, 28</i> (3), 497–507. https://doi-org.ezproxy.mnsu.edu/10.1016/j.chc.2019.02.015	N/A	AI/AN youth	Literature review Level V	N/A	Summarizes current knowledge and consensus about depression and suicide of AI/AN youth. Approaches to treatment are discussed for risk factors of suicide.	AI/AN youth experience significant health disparities. AI/AN youth have a higher risk of death by suicide, PTSD, substance use disorders and learning difficulties.
Manzo, K., Hobbs, G. R., Gachupin, F. C., Stewart, J., & Knox, S. S. (2020). Reservation-Urban Comparison of Suicidal Ideation/Planning and Attempts in American Indian Youth. <i>Journal of School</i>	Identify sex and location specific risk factors for suicide ideation/planning and attempts among	N= 6,417 American Indian high school students attending reservation and	Cross sectional survey Level II	Youth Risk Behavior Survey	Ideation and planning did not significantly differ between urban and reservation school suicide	Screening potentially at-risk students for depression, violent victimization,

Citation	Study Purpose	Pop (p)/ Size (n)/ Setting(s)	Level of Evidence/ Design	Variables/ Instruments	Implications	Findings
<p><i>Health</i>, 90(6), 439–446. https://doi-org.ezproxy.mnsu.edu/10.1111/josh.12891</p>	<p>American Indian youth.</p>	<p>urban schools in Montana.</p>				<p>substance use, and school safety.</p>
<p>Manzo, K., Tiesman, H., Stewart, J., Hobbs, G. R., & Knox, S. S. (2015). A comparison of risk factors associated with suicide ideation/attempts in American Indian and White youth in Montana. <i>Archives of Suicide Research</i>, 19(1), 89–102. https://doi-org.ezproxy.mnsu.edu/10.1080/13811118.2013.840254</p>	<p>Examine racial/ethnic and gender-specific associations between suicide ideation/attempts and risky behaviors, sadness/hopelessness, and victimization in Montana AI and white youth</p>	<p>N=21,610</p>	<p>Cross sectional survey Level II</p>	<p>Youth Risk Behavior Survey</p>	<p>Further research is needed for targeting prevention and intervention of AI youth</p>	<p>AI youth had higher suicidal thoughts and attempts they had fewer predictors.</p>
<p>Nasir, B. F., Hides, L., Kisely, S., Ranmuthugala, G., Nicholson, G. C., Black, E., Gill, N., Kondalsamy-Chennakesavan, S., & Toombs, M. (2016). The need for a culturally tailored gatekeeper training intervention program in preventing suicide among Indigenous peoples: a systematic review. <i>BMC psychiatry</i>, 16(1), 357.</p>	<p>Determine the cultural appropriateness and identify evidence for the effectiveness of current gatekeeper suicide prevention training programs within</p>	<p>N=6 Articles pertaining to gate keeper training.</p>	<p>Systematic literature review Level I</p>	<p>N/A</p>	<p>Gatekeeper training needs to be tailored to individual populations. Further RCT should be done to determine the effectiveness of gatekeeper training.</p>	<p>Gatekeeper training might be a promising suicide preventer</p>

Citation	Study Purpose	Pop (p)/ Size (n)/ Setting(s)	Level of Evidence/ Design	Variables/ Instruments	Implications	Findings
https://doi-org.ezproxy.mnsu.edu/10.1186/s12888-016-1059-3	the AI/AN community					
O’Keefe, V. M., Haroz, E. E., Goklish, N., Ivanich, J., Cwik, M. F., & Barlow, A. (2019). Employing a sequential multiple assignment randomized trial (SMART) to evaluate the impact of brief risk and protective factor prevention interventions for American Indian Youth Suicide. <i>BMC Public Health</i> , 19(1), 1–12. https://doi-org.ezproxy.mnsu.edu/10.1186/s12889-019-7996-2	Identify effective interventions to prevent suicide and promote resilience of AI youth	N= 304 AI youth	Sequential multiple assignment randomized trial Level I	New Hope/Elder’s resistance Optimized care management	A call for empirical research to evaluate protective factor and culturally based interventions to address AI/AN youth suicide	N/A trial registration
Philip, J., Ford, T., Henry, D., Rasmus, S., & Allen, J. (2016). Relationship of social network to protective factors in suicide and alcohol use disorder intervention for rural yup’ik alaska native youth. <i>Intervencion Psicosocial</i> , 25(1), 45-54. Retrieved from http://ezproxy.mnsu.edu/login?url=https://www-proquest-com.ezproxy.mnsu.edu/scholarl	Identify protective social factors related to youth suicide	N=50 Yup’ik adolescents	Non-experimental study Level III	Qungasvik intervention	Additional research focusing on the role of social networks in improving AI/AN health and wellbeing is needed.	Connections to adults, elders not peer connections, emerged as predictors of family and community level protection

Citation	Study Purpose	Pop (p)/ Size (n)/ Setting(s)	Level of Evidence/ Design	Variables/ Instruments	Implications	Findings
y-journals/relationship-social-network-protective-factors/docview/1826668841/se-2?accountid=12259						
Probst, J., Zahnd, W., & Breneman, C. (2019). Declines in Pediatric Mortality Fall Short for Rural US Children. <i>Health affairs (Project Hope)</i> , 38(12), 2069–2076. https://doi-org.ezproxy.mnsu.edu/10.1377/hlthaff.2019.00892	Discussed pediatric mortality as it relates to gender, race, geographic location and suicide.	NA	Longitudinal, ecologic experimental study Level I		Research and advocacy are needed to bring the health of rural children to the forefront of national goals and objectives.	Rural children experience higher rates of death. Withing rural children, those who are AI/AN were at highest risk. In this population cause of death was most consistent with unintentional injury or suicide.
Rasmus, S. M., Charles, B., John, S., & Allen, J. (2019). With a Spirit that Understands: Reflections on a Long-term Community Science Initiative to End Suicide in Alaska. <i>American journal of community psychology</i> , 64(1-2), 34–45. https://doi-org.ezproxy.mnsu.edu/10.1002/ajcp.12356	The role of culture and indigenous knowledge combined with community intervention in the AI/AN community that affect health interventions.	N/A	Systematic review Level I	Qasgiq model and Qungasvik intervention	Advancing indigenous knowledge in community health interventions and allowing it to take lead while focusing on community level cultural mechanisms that	When communities come together to build strength of protective factors against suicide and alcohol misuse.

Citation	Study Purpose	Pop (p)/ Size (n)/ Setting(s)	Level of Evidence/ Design	Variables/ Instruments	Implications	Findings
					may generalize across local contexts to reduce the risk of suicide in these communities.	
Rasmus, S. M., Trickett, E., Charles, B., John, S., & Allen, J. (2019). The qasgiq model as an indigenous intervention: Using the cultural logic of contexts to build protective factors for Alaska Native suicide and alcohol misuse prevention. <i>Cultural diversity & ethnic minority psychology</i> , 25(1), 44–54. https://doi-org.ezproxy.mnsu.edu/10.1037/cdp0000243	Retrospective analysis of a long-term community based participatory research process that calls communities to create strategies to prevent youth suicide and alcohol misuse.	N/A	Systematic Review Level I	NA	How to fund and sustain a sacred science in an intersectional world.	There are points in a long term CBPR where transition can occur from its emergence, into coalescing and transformation.
Schaefer, K. R., Muller, C. J., Smith, J. J., Avey, J. P., & Shaw, J. L. (2020). Using the electronic health record to identify suicide risk factors in an alaska native health system. <i>Psychological Services</i> , doi:http://dx.doi.org.ezproxy.mnsu.edu/10.1037/ser000492	Identifies routinely collected electronic health record data to identify demographic, clinical and utilization factors	N=314 cases 1159 controls	Case control study Level III	EHR	Improve suicide risk detection and help improve suicide related health disparities in AI/AN populations.	Electronic health records can be used to identify factors that are significantly associated with suicide risk among those who may not be

Citation	Study Purpose	Pop (p)/ Size (n)/ Setting(s)	Level of Evidence/ Design	Variables/ Instruments	Implications	Findings
	associated with suicide related visits in a tribal healthcare system.					flagged by screening.
Shaw, J. L., Beans, J. A., Comtois, K. A., & Hiratsuka, V. Y. (2019). Lived Experiences of Suicide Risk and Resilience among Alaska Native and American Indian People. <i>International journal of environmental research and public health</i> , 16(20), 3953. https://doi-org.ezproxy.mnsu.edu/10.3390/ijerph16203953	To explore the lived experiences of suicidality and help-seeking for suicide prevention among AI/AN in a tribal health system.	N = 15 Individuals with self-reported suicide ideation or attempts.	Case series Level IV	Structured interview	The role of social stigma as a barrier to seeking help for suicidality cannot be overstated and must be prioritized by health systems and communities to reduce suicide risk.	Mutable nature of suicide risk and resilience, as well as the importance of interpersonal factors in suicidality.
Wei, Z., & Mukherjee, S. (2020). Health-Behaviors Associated with the Growing Risk of Adolescent Suicide Attempts: A Data-Driven Cross-Sectional Study. <i>American journal of health promotion: AJHP</i> , 890117120977378. Advance online publication. https://doi-org.ezproxy.mnsu.edu/10.1177/0890117120977378	Identify and examine the associations between health behaviors and increased risk of adolescent suicide attempts while controlling for socio-economic and	N=22,447 adolescents in Montana, 1631 attempted suicide at least once.	Cross sectional study Level II	Youth Behavior Risk Survey	Findings provide insights on key health-behaviors that can be viewed as early warning signs/precursors of suicide attempts among adolescents.	Key health-behaviors identified include being sad/hopeless, followed by safety concerns at school, physical fighting, inhalant usage, illegal drugs consumption at school, current

Citation	Study Purpose	Pop (p)/ Size (n)/ Setting(s)	Level of Evidence/ Design	Variables/ Instruments	Implications	Findings
	demographic differences.					cigarette usage, and having first sex at an early age. Additionally, the minority groups (American Indian/Alaska Natives, Hispanics/Latinos) and females are also found to be highly vulnerable to attempting suicides.
Wexler, L., Rasmus, S., Ullrich, J., Flaherty, A. A., Apok, C., Amarok, B. Q., Black, J., McEachern, D., Murphrey, C., Johnson, R., & Allen, J. (2020). The Development of a Measure of Alaska Native Community Resilience Factors through Knowledge Co-production. <i>Progress in community health partnerships: research, education, and action</i> , 14(4), 443–459. https://doi-org.ezproxy.mnsu.edu/10.1353/cpr.2020.0050	Describes the development of a structured interview to identify and measure community-level protective factors that may reduce suicide risk among youth in rural Alaska Native communities	N/A	Non-experimental study Level III	N/A	N/A	Moving beyond engagement to knowledge co-production in Alaska Native research requires flexibility, shared decision-making and commitment to diverse knowledge systems; this can result in culturally attuned methods, greater tool validity, new

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						ways to understand complex issues and innovations that support community health.