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REVIEW ARTICLE

A complex psychosocial portrait of substance use disorders among Indigenous people in the United States: A scoping review

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Abstract

Background and Objectives: There has been a prevailing but erroneous belief in the medical community that there is a biological vulnerability in the American Indian/Alaskan Native (AI/AN) community to substance use disorders (SUDs), with alcohol use disorder (AUD) being the most prevalent. This scoping review aimed to examine what possible psychosocial issues could lead to the development of the perpetuation of SUDs in the AI/AN population.

Methods: The protocol for this scoping review followed Arksey and O'Malley's methodological framework. There were 405 articles included for full-text review. Further inclusion criteria were applied which included: Directly looking at participants who had a SUD, including either in the discussion or conclusion a statement linking their data to psychosocial issues as a possible explanation for their data, and having measured the psychosocial issue with a research device. The final review included 15 studies.

Results: Four psychosocial themes were uncovered using an inductive process, where recurring words related to identity, prejudice, isolation, discrimination, and self-concept in the literature. These themes were trauma/historical loss, mood, and discrimination/self-esteem. All of these themes are interrelated, and all influence the development or sustainment of a SUD.

Discussion and Conclusions: Complex psychosocial factors in the AI/AN community are associated with SUDs. This trauma and historical loss should be addressed with culturally tailored treatments.

Scientific Significance: There are not many manuscripts that specifically look at the interplay of mood, trauma, self-worth, and discrimination with SUD in the AI/AN community. This scoping review aims to highlight these issues as well as discuss how culture should play a part in treatment.

INTRODUCTION

A prevailing—but erroneous—belief in the medical community is that there is a biological vulnerability (BV) in American Indian/Alaskan Native (AI/AN) populations to substance use disorders (SUDs), with alcohol use disorder (AUD) being the most commonly noted.[1,2] The "firewater myth" or the belief of BV to AUD and the belief that AI/AN people have more alcohol problems has been shown to lead to heavier drinking and more alcohol-related consequences.[3] However, even those who have other racial identities with a strong family history may also have a BV to unhealthy alcohol use. With this in mind, there must be something else that accounts for the high rates of SUD in AI/AN populations.

Since BV may not be the explanation of the increased incidence of SUDs in the AI/AN populations, this review aimed to look at other factors that could be at play. Just as with a dual diagnosis of a psychiatric disorder and a SUD, both should be addressed at the same time to be able to address the entire picture.[4] Contact with European settlers in the Americas deeply impacted AI/AN experience by the disruption of language, ways of life, land, and homes. Rates of Posttraumatic Stress Disorder (PTSD) are high in the AI/AN community[5] and have been linked to these historical losses on a community level. On an individual level, these include rates of out-of-home placement, family substance use, prohibition of cultural practices, and negative past boarding school experiences, which are also high among A/AN communities.[6–8]

In AI/AN communities, these psychosocial issues may be a part of either the development of SUDs or lead to the sustaining of SUDs. Other psychosocial issues can be defined as poverty, trauma, stereotypes, or discrimination. This review is part of a more extensive, overarching scoping review aimed at looking at diagnoses found in the Diagnostic and Statistical Manual of Mental Disorders (DSM) in the AI/AN population. This smaller scoping review examines possible psychosocial findings in relation to the development or the perpetuation of SUDs literature about AI/AN populations in the United States, specifically.

METHOD

Protocol

The protocol for this scoping review followed Arksey and O'Malley's[9] methodological framework. The scoping review process was appropriate given that the purpose of the review was to examine, summarize, and disseminate the scope of the existing literature on SUDs among Indigenous people in North America, and to focus and inform future research and practice on the subject matter. The overarching research question in the original review that informed the first stage of the 5-stage framework by Arksey and O'Malley was to understand and characterize the academic literature concerning DSM diagnosable mental health disorders in AI/AN populations.[10] A separate, more tailored question was posed in this smaller portion of the larger review: *What psychosocial issues faced by the AI/AN population could be affected by or contribute to the development of SUDs?* Subsequent stages for the review are described next.

Identifying the relevant studies

In collaboration with a Johns Hopkins informationist, a comprehensive literature review was conducted with guidance from the senior author (J.P.G.).[10] Sample search strategies are included in the Supplemental Tables and Figures. Searches were limited to peer-reviewed published literature. These searches were conducted in four databases: PsycINFO, PubMed, Embase, and Web of Science. This search yielded a total of 2,664 unique articles. After de-duplication, 2,597 articles remained for title and abstract screening. No limitation was placed on the year of publication; however, this search was conducted in the spring of 2022, limiting the results to late 2021. Per PRISMA guidelines, Figure 1 demonstrates the selection process for article inclusion.

Study selection

Using a double-blind review process, two team members assessed each title and abstract according to the inclusion and exclusion criteria using the systematic review management software Covidence. The inclusion criteria included the following: publication in a peer-reviewed journal, mentioning of the inclusion of AI/AN individual research participants or a specific Tribe or Tribal nation from the USA in the title or abstract, referring to a DSM disorder or obvious synonym for a DSM disorder (such as "alcoholism," "alcohol use disorder" or "depression") in the title or abstract, reported findings from an empirical study, and the inclusion of at least 5 AI/AN participants. Articles primarily addressing treatments, interventions, research processes, programs, services, or caregiving were excluded, as the aim of the larger review was to characterize the experience and expression of DSM disorders in the AI/AN population. Articles were included for full-text review if they needed clarification for either inclusion or exclusion from the article's title and abstract. It is important to note from this stage forth that even though an agreement statistic was not calculated, the review process involved trainees and received more scrutiny than is typical. At this stage, 2,190 records were excluded from the review, leaving 405 articles for full-text review by the team.

Full-Text review

Full texts of articles were located and uploaded to Covidence. Full text for one article could not be located. Each of the 405 articles were screened by two team members for eligibility using the inclusion criteria, augmented as follows: the results or findings section of the article must have included at least one multi-sentence

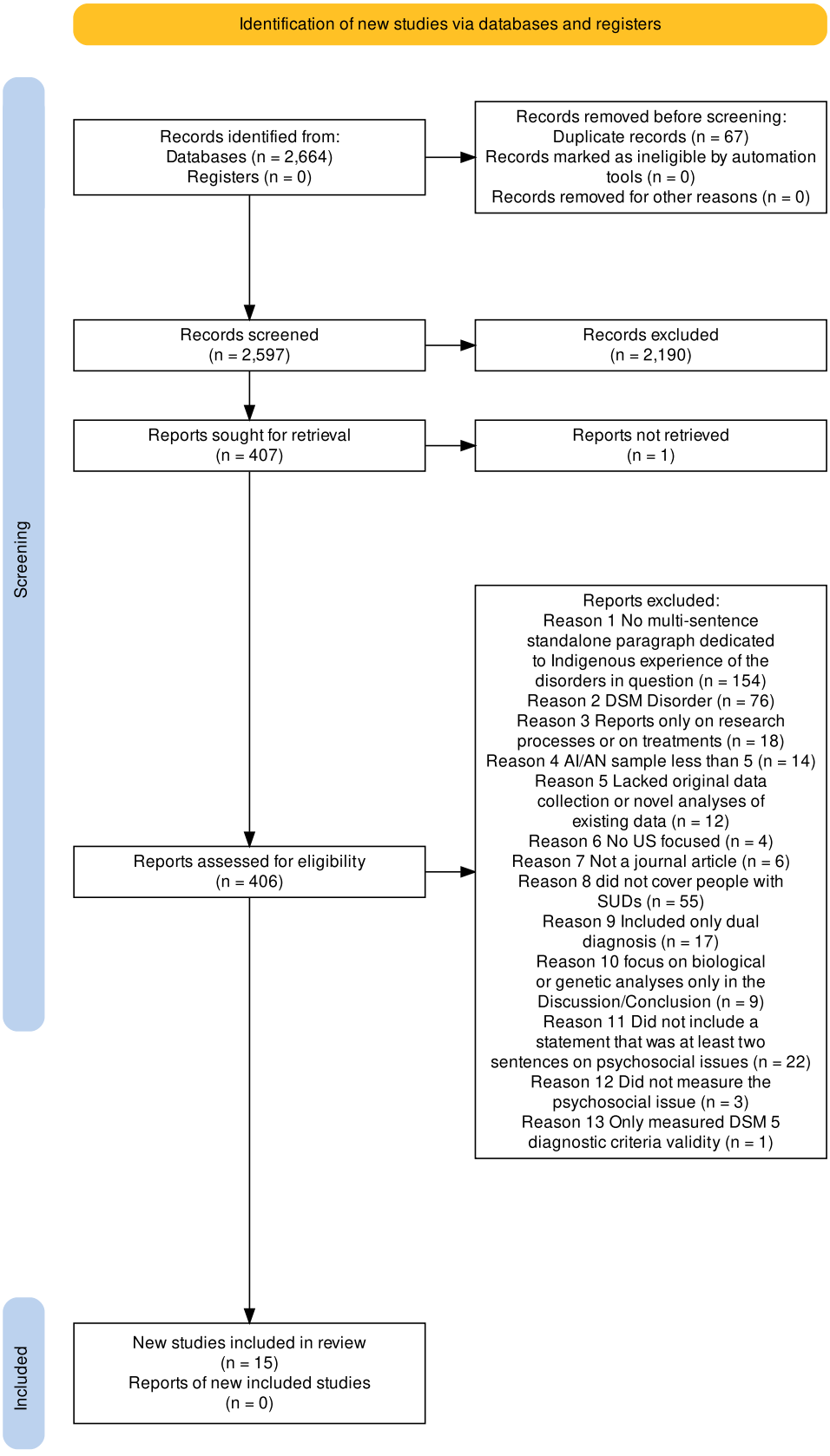

FIGURE 1 Prisma diagram outlining the review process.

standalone paragraph dedicated to the Indigenous experience of the disorder(s) in question. Reviewer conflicts were resolved through discussion meetings. During this stage, 284 articles were excluded (complete reasons for exclusion are available from the corresponding author), yielding 122 articles for the final corpus.

Substance use disorder sub-review

This review's primary author then set additional inclusion and exclusion criteria. The additional inclusion criteria were as follows: examined participants who had a SUD, included a statement either in the discussion or conclusion linking the study's data to psychosocial issues as a possible explanation for the data, and must have measured the relevant psychosocial issue using a research instrument. Of the 122 articles identified in the overall review, 67 were determined to involve SUDs. Of these, 52 were excluded from the final extraction for this review, yielding the final corpus of 15 studies. The reasons for exclusion were: focus on dual diagnosis only in the study conclusion/discussion (defined as SUD along with another primary psychiatry disorder) ($n = 10$); focus on biological or genetic analyses only in the discussion/conclusion ($n = 12$); lack of a statement that was at least two sentences in the discussion/conclusion about psychosocial issues as defined as identity, prejudice, and sense of self ($n = 21$); absence of focus on patients with SUDs ($n = 2$); focused only on diagnostic validity of the DSM 5 criteria ($n = 1$); and mentioned psychosocial issues without measuring these directly in the study ($n = 3$) (complete reasons for exclusion are available from the corresponding author).

Data extraction

The research team extracted the following information from each article for the original overall review: study design, research questions or hypotheses, study objectives or aims, study population demographics (age, racial breakdown, gender, and education, AI/AN sample size, study location, Indian Health Service Regions, outcome measures, and key AI/AN findings (related to the DSM disorder or disorders in question).

For the current review, additional information was extracted, which included psychosocial issues noted by the authors which was defined as including at least two sentences that discussed the implications of the study's findings on identity, prejudice, isolation, discrimination, and self-concept that were emergent in the discussion and/or conclusion section.

Collating, summarizing, and reporting the results

To collate and summarize the data, we identified recurring words in the psychosocial statements which helped to identify themes in the articles. This stage was an inductive process, where recurring words related to identity, prejudice, isolation, discrimination, and self-concept were identified in the discussion and/or conclusion sections. These words were used to identify three illuminating themes encompassing the psychosocial findings, and the data were then arranged into a table. The tables were then reorganized by these themes and by date of publication.

RESULTS

In the overall review regarding DSM disorders, 2,661 articles were retrieved and 2,597 remained for title and abstract review after de-duplication. 405 remained for full text review and 284 were excluded for not meeting screening criteria. 122 articles were left and of those 67 were covered SUDs. After further inclusion criteria was applied, 15 articles remained, which were included in this smaller review. After reviewing the extracted information, recurring words were seen in the descriptions of the psychosocial issues reported by Indigenous respondents. Some of those words were loss, poverty, discrimination, colonization, and self-worth, which emerged from the discussion or conclusion in the overall study. These words fell into themes from the literature in this scoping review. These themes were trauma, discrimination/self-worth, and mood. A few did not fall into one of these themes, so they were included in an "other" category for completeness. Table 1 summarizes the studies in this review.

Trauma ($n = 5$)

Trauma can take many forms in the AI/AN communities in the United States, resulting from historical loss as well as the disruption of culture and a way of life after interactions with European settlers. There could also be individual trauma that can play a role as well. In this review, five articles addressed trauma and its role in the development of SUDs.

Trinidad et al.[11] interviewed patients, providers, and leaders at a Tribal-owned and operated healthcare system in Anchorage, Alaska, using qualitative interviews. The authors identified nine main themes from these interviews and determined that AUD arises from a complex web of historical, cultural, social, psychological, and biological causes. Both clinical and Tribal leaders described the etiology of AUD as multifactorial, with the contributions of the different factors being interrelated and interdependent. Participants noted that colonization is linked to lasting harm to family and community structures through forced relocation, boarding school requirements, prohibition of cultural practices, and the use of Native languages, which led to the loss of purpose and identity for this AI/AN community. The transition to living in more urban areas threatens these values and activities, which makes AI/AN people more vulnerable to alcohol use due to isolation and alienation.

Yuan et al.[12] reported a relationship between childhood maltreatment and AUD in the AI/AN two-spirit population. Childhood trauma, defined in this study as physical abuse, physical neglect, sexual abuse, emotional abuse, and emotional neglect, was measured

TABLE 1 Summaries of studies in this review.

Articles	Demographics	Key findings	Methods	Psychosocial issue measured
Trauma (*n* = 5)				
Trinidad, S. B., et al. (2020)	Rural region *n* = 49	Alcohol use disorder (AUD) arises from a complex web of historical, cultural, social, psychological, and biological causes.	Qualitative Interviews	Identified social alienation as both a cause and an effect of alcohol misuse, with colonialization as a contributing factor.
Yuan, N. P. et al. (2014)	Both rural and urban regions A multi-site, cross-sectional investigation of the health of two-spirit AI/AN people *n* = 294	Indian boarding school attendance and foster care placement are significant predictors of past-year alcohol dependence.	Childhood Trauma Questionnaire	High % met the criteria for problems with alcohol use and reported high rates of home displacement during childhood and high rates of neglect and physical and emotional abuse.
Johnson, J. L. et al. (2007)	Urban area *n* = 138, where n is the total focus groups (*n* = 39) + survey participants (*n* = 99).	Participants viewed risks for substance use as related to the breakdown of vital sociocultural systems.	Qualitative Surveys Focus Groups	Development of substance use correlated with widespread poverty and the collapse of traditional culture and support systems.
Boyd-Ball, A. et al. (2006)	Rural region *n* = 432	More traumatic events increased the odds ratio for AUD Trauma showed a dose-related response to AUD.	Modified Composite International Diagnostic Interview	Trauma is strongly associated with/AUD in this population.
Whitbeck, L. B. et al. (2004)	Rural region *n* = 452 (mostly caretakers; 351 of interviewees werewomen)	AUD was positively associated with historical loss and negatively associated with enculturation. Direct effect of discrimination appeared to be nonsignificant	University of Michigan Composite International Diagnostic Interview	AUD is strongly associated with historical loss.
Mood (*n* = 4)				
Gonzalez, V. M., et al. (2021)	Urban region *n* = 156	Greater belief in biological vulnerability (BV) was associated with more significant depression, but the frequency of heavy episodic drinking moderated it.	Revised Firewater Myth Scale. Coping Motives subscale of the Drinking Motives Questionnaire-Revised Adult Alcohol Consequences Questionnaire	Belief in BV was associated with more significant alcohol consequences. More severe depression = drinking as a coping mechanism associated with ↑ consequences.
Howard, M. O., et al. (1999)	Urban area *n* = 224	Lifetime inhalant use is estimated at 12.3%. Aggressive behavior was considered the most critical predictor of inhalant use at time period 1.	Ethnic Self Identification Diagnostic Interview Children's Version of Semi-Structured Assessment for the Genetics of Alcoholism	Inhalant users had significant ↓ perceived self-worth. Significant ↑ anxiety/depression across all interviews compared to those with no inhalant use.

(Continues)

TABLE 1 (Continued)

Articles	Demographics	Key findings	Methods	Psychosocial issue measured
Uecker, A. E., et al (1980)	Both urban and rural regions *n* = 40	The Minnesota Multiphasic Personality Inventory (MMPI) revealed high neuroticism scores correlated with reporting strong identification with Native heritage.	MMPI Richardson Indian Culturalization Test.	Strongly identifying with Indigenous culture while navigating Western culture may create stress and conflict, leading to higher reports of neurotic symptoms.
Hoffmann, H., & Jackson, D. N. (1973)	Rural region *n* = 25	Differences in scale results suggest Natives tend to show a more neurotic, depressed nosology thought to stem from socioeconomic deprivation.	Personality Inventory Self-Report	Differential rates are related to poverty, ↑ rates of alcoholism, conditioned drinking behaviors, and differential treatment at the hands of police rather than personality.
Discrimination/self-esteem (*n* = 2)				
Armenta, B. E., et al. (2016)	Rural region *n* = 674	A steady increase in alcohol use onset and AUD from ages 11–12 to 17–18. 90.1% had tried alcohol, and 42.1% had met the criteria for AUD by 17–18 years old. Discrimination along with drinker stereotypes and peer drinking linked to AUD development.	Questionnaire for Positive Drinking Stereotypes. 11-item measure adapted from the Schedule of Racist Events for perceived discrimination.	Sustained heavy drinking behaviors likely linked to coping with perceived discrimination.
Myhra, L. L., & Wieling, E. (2014)	Urban area *n* = 20	Participants' relationships with substance use followed a familiar path, including early onset of use and minimizing use. Use as a form of escape from home. Negative feelings towards those who use historical trauma and cultural loss as an excuse to be a "stereotypical homeless alcoholic."	Qualitative Interviews	Negative stereotypes related to Indigenous peoples and substance use could be a motivating factor to maintain sobriety. However, negative stereotypes can impede identity development, as well.
Other (*n* = 4)				
Matamonasa-Bennet, A (2017)	Both rural and urban regions *n* = 9	Alcohol prevented people from maintaining their true cultural identities. Alcohol = symbol of destruction, colonization, and foreign invasion.	Qualitative Interviews and analysis utilizing principles and techniques from grounded theory and ethnographic content analysis	Traditional values and culturally appropriate healing opportunities may mediate and prevent destructive drinking patterns.
Mignon, S. I., & Holmes, W. M. (2013)	Urban area *n* = 49	32% of addiction was directly related to grandparents caring for their grandchildren. 36% of the families acknowledged addiction in the family.	Qualitative Surveys and Interviews.	Treatment is needed through culturally appropriate care. There is a significant concern over the lack of healthcare providers knowledgeable about Tribal culture.

TABLE 1 (Continued)

Articles	Demographics	Key findings	Methods	Psychosocial issue measured
		Nearly 40% reported stress attributed to substance use.		
Kunitz, S. J. (2008)	Rural region $n = 1086$	The younger the age of the first drink, the more substances are used. Correlation between severity of AUD and # of substances used ($r = .35$, $p < .0001$).	Focus groups Qualitative Surveys	Social changes (i.e., moves from isolated rural areas, improved roads, school enrollment of young people, and ↑ access to mass media) have improved access to alcohol and nonalcoholic substances.
Venner, K. L., & Miller, W. R. (2001)	Rural region $n = 99$	Convergence decreases as the studied sample culturally deviates from Jellinek's sample of white men from the United States	Acculturation questionnaire	Drinking patterns of heavy use and loss of control are likely related to cultural norms of prohibition and guilt from social censure. More traditional cultural identification accounts for some of the differences.

using the Childhood Trauma Questionnaire, and alcohol use was assessed using the Alcohol Use Disorder Identification Test. Differences were seen by gender in this study, which was where, for men, boarding school attendance was associated with a greater than threefold increase in the risk of past-year hazardous and harmful alcohol use and a sixfold increase in past-year binge drinking for 2 or more days. Furthermore, being placed in foster care and Indian boarding school attendance was associated with a greater than threefold increase in the risk of past-year alcohol dependence. For women, associations between single types of childhood trauma and either past-year alcohol dependence or hazardous and harmful alcohol use were not significant. However, experiencing childhood physical neglect and emotional abuse were significantly associated with an increased risk of binge drinking in the past year of 2 or more days (odds ratio of 0.79 and 0.97, respectively).

Johnson et al.[13] gathered information from focus groups and surveys collected on-site. The focus groups followed a semi-structured moderator's guide with questions in four domains: alcohol and drug misuse, HIV/AIDS, hepatitis, and community needs. The surveys were administered to adults in several locations in Baltimore and asked questions regarding the respondent's awareness of substance use, HIV/AIDS, and hepatitis services in their community with separate yes/no questions for prevention and treatment. The participants stated that the development of SUD was related to factors such as poverty and lack of access to traditional systems and cultural practices. This lack of access was linked to the loss of the traditional ways of life that were part of day-to-day life before contact with settlers. The fragmentation of AI/AN communities was also a recurring concern, and participants believe that having a strong community orientation and cultural frame of reference were key protective and resilience-building factors that were always in jeopardy for this population in Baltimore. The participants believed this loss led to the collapse of community support systems, a leadership vacuum, and a widespread estrangement from Native American cultural values, traditions, and history. Participants described the lack of culturally specific programs that addressed the needs of their population and expressed the view that they now have nowhere to go as a people.

Boyd-Ball et al.[14] examined how traumatic events were related to the development of AUD in the AI/AN adolescent population. A computerized version of the modified Composite International Diagnostic Interview was used to conduct interviews. Traumatic events that met Criteria A1 and A2 for PTSD diagnostic requirements in the DSM-4 were recorded. Twenty percent of their study participants had experienced at least one traumatic event. The odds of AUD were compared between those who had experienced one, two, three, or more traumatic events. The authors found that trauma significantly increased the odds of AUD for respondents with 3+ traumatic events compared to those who had not experienced a traumatic event. They concluded that the odds ratio increased as the number of traumatic events increased, which suggested a dose-dependent response.

Whitbeck et al.[15] highlighted that historical loss was strongly associated with the development of AUD, which was more notable in women. Historical loss was assessed by the Historical Loss scale consisting of 12 items, each listing a type of loss identified by focus groups of American Indian Elders, service providers, and advisory board members. Enculturation was measured as a latent construct comprising of three elements: participation in traditional activities, identification with American Indian culture, and traditional spirituality. Perceived discrimination was measured with an 11-item scale, where participants were asked how often they had been insulted, treated disrespectfully, ignored, received a racial slur, threatened with physical harm, and mistreated due to their American Indian minority status. They recognized that enculturation does have some protective effect against meeting the 12-month criteria for AUD; however, this effect was only significant in women. The protective effect of enculturation did not eliminate or even reduce the effects of perceived discrimination. There was a modest but statistically significant correlation between discrimination and AUD. Their theory is that alcohol may help numb the negative thoughts and feelings associated with this loss and discrimination.

Mood (*n* = 4)

Mood was another pattern that was identified in the literature. Gonzalez et al.[16] published a study that examined the effects of stereotype threat and internalized alcohol-related stereotypes on mood in an AI/AN college-aged population. The stereotype assessed was the belief of BV regarding AUD and depression. The Beck Depression Inventory-II was used to measure the severity of depressive symptoms. In contrast, the Coping Motives subscale of the Drinking Motives Questionnaire-Revised was used to measure drinking to cope with negative effects. The belief of a BV was assessed with a scale known as the Fire Water Myth Scale, which includes 14 items that refer to beliefs about AI/ANs embedded among 21 distractor items that refer to other ethnic and racial groups. A subscale measured the belief in an AI/AN-specific BV to alcohol problems. The authors established that the belief of BV was associated significantly with depression, where drinking was used to cope with these negative thoughts and feelings. This belief leads to more significant alcohol consequences and psychological and health ramifications. This study highlights the negative impact of stereotypes on the targeted population.

In a longitudinal study, Howard et al.[17] examined adolescent inhalant use disorder during different periods. The authors used diagnostic interviews and participant self-reporting to assess for inhalant use, ethnic identification, and other psychiatric comorbidities. Those who used inhalants were significantly more aggressive and had significantly higher levels of anxiety and depression across all interviews than non-users. Those who use inhalants also were found to have a lower sense of self-worth throughout the interview periods than those who did not use inhalants. There were no differences between the two groups regarding their lifetime rates of attention deficit hyperactivity disorder, current depression, and lifetime oppositional disorder. Those who used inhalants were also found to have a greater density of familial alcoholism and came from families with lower socioeconomic statuses. Those who used inhalants and those who did not both showed a significant decrease in their traditional cultural activities during high school than before high school. However, there was no significant difference between the two groups during high school.

A study by Uecker et al.[18] aimed to validate the Minnesota Multiphasic Personality Inventory (MMPI) for use in the AI/AN population. The study population consisted of participants diagnosed with AUD by a physician using DSM criteria and the Richardson Indian Culturalization Test measured ethnic identification. The study results showed that AI/AN participants had high neuroticism scores on the MMPI, which was positively correlated with a strong identification with AI/AN heritage, which the authors noted could be from trying to navigate the mainstream culture. Neuroticism is defined as a trait disposition that could lead to the individual experiencing negative affect, which includes depression.[19]

Hoffmann and Jackson[20] explored whether there were any differences in the personality of AI/AN people with AUD and non-AI/AN people with AUD. Using a Self-Reported Personality Inventory, the authors showed a connection between greater anxious and depressive symptoms in the AI/AN participants. The authors theorized that these differences could have resulted from socioeconomic deprivation related to the poverty experienced by this population, conditioned drinking behaviors, and differential treatment by the police.

Discrimination/self-worth (*n* = 2)

Discrimination and poor self-worth were another pattern that emerged across the literature in this scoping review. Armenta et al.[21] discussed this in their study that explored the onset of alcohol use and AUD in the AI/AN adolescent population. Alcohol use was assessed using diagnostic interviews, and perceptions of discrimination were measured by an 11-item measure adapted from the Schedule of Racist Events, and this was modified to reflect perceived personal cultural discrimination. Perceptions of discrimination were related to the risk of developing an AUD but not the onset of the disorder. The onset may be related to social norms surrounding the adolescent; however, sustained heavy drinking behaviors are a way of coping with perceived discrimination. The authors concluded that heavy drinking may be a way of processing discrimination and that interventions should be aimed at reducing prejudice and discrimination. However, they note that this would be difficult to achieve.

Myhra and Wieling[22] undertook a study using qualitative interviews to explore the relationship between their study participants and the development of SUDs. The interviews were conducted individually and used symbols to map out a chronological account of participants' most significant events and experiences with substance misuse and

sobriety maintenance throughout their lives. The symbols represented personal memories, values, beliefs, and family stories about substance use. Negative stereotypes against the participants' culture are seen to impede the healthy development of cultural identity; interestingly, they noted that frustration toward negative stereotypes was experienced across all generations in the study and could be a motivating factor in sobriety. This experience, however, is recognized as having individual variability. Effective treatment could encourage a more affirming view of oneself and culture. Spirituality is an essential part of treatment, as was learning about or actively engaging in cultural activities and investing time in others around them.

Other (*n* = 4)

The last section includes studies that did not fit into the other three themes. These studies found similar results to those discussed in the previous paragraphs but also included essential points that warrant attention. Matamonasa-Bennett[23] examined the relationship between alcohol and traditional values/identity, where the participants highlighted that alcohol symbolized destruction, colonization, and foreign invasion. Alcohol was highly symbolic and was seen as keeping people from being themselves and maintaining their true cultural identities.

Mignon and Holmes[24] employed qualitative interviews to find that substance use problems were related to family violence, financial stress, and other issues, and a significant concern was the lack of providers knowledgeable about Tribal culture. Kunitz et al.[25] explored the association between alcohol use and the use of other substances, where they found a correlation between the severity of AUD and the number of substances used. The authors postulated that moving from rural areas to towns near the reservation or more distant cities, along with improved roads, universal school enrollment of young people, and increased access to mass media, has improved access to alcohol and other substances.

Verner and Miller[26] investigated how Navajo people developed drinking problems and whether other factors can contribute to AUD or problematic drinking in general. One factor that was investigated was the role of acculturation. Their primary purpose, however, was to evaluate the cross-cultural generalizability of Jellinek's model of the progression of alcoholism. The authors hypothesized that the disinhibitory effect of alcohol in a culture that encourages prohibition and does not condone strong emotional expression could explain this earlier behavioral disinhibition. However, in the group that scored highly on the acculturation questionnaire, there was a statistically significant convergence between Jellinek's sequence and the acculturated group but not the traditional Navajo group, suggesting cultural influences on these observations.

DISCUSSION

In the reviewed studies, some notable themes were identified. Trauma is linked to the increased risk of SUDs in the AI/AN population. Historical loss and individual childhood trauma were seen as boarding school attendance, out-of-home placement, and interpersonal physical, emotional, and sexual abuse were associated with an increased risk of either AUD or high-risk drinking in general. Trauma also was found to have a dose-related response to AUD, where the more traumatic events an individual faced, the more likely they were to drink. Stereotypes and the effects of discrimination also play a role in the development of AUD—experiencing stereotypes and beliefs of having a BV to alcohol leads to depressive thoughts and feelings. Depression and low self-worth are generally linked to AUD and SUD. Depression, stereotypes, and discrimination were linked to more alcohol use to counter the distressing thoughts and feelings. This leads to four points for discussion in this section. That is, complex trauma leads to a complex form of substance use in Indigenous communities in the United States, where treatment needs to address more than just the substance use itself. The second is that contemporary society could further perpetuate these negative emotions, as we see with the idea of stereotypes and discrimination. The third is that culturally appropriate treatment can and should be tailored for SUDs. The final point is that the conceptualization of beneficial treatment outcomes needs to be expanded through Tribal partnerships.

Complex trauma leads to complex substance use

Trauma in the form of historical loss occasioned disruptions in AI/AN communities after contact with European settlers.[27] This trauma takes different forms in different AI/AN communities. Some Tribes were completely removed from ancestral lands, while others were moved to a smaller portion of their ancestral lands. New policies for mandatory boarding school attendance were enacted, where children were prohibited from speaking their languages or practicing spiritual beliefs outside of Christianity and were harshly punished if caught. These generations of children also faced emotional, physical, verbal, and sexual abuse from various caretakers.[28] The trauma enacted at these schools resulted in many survivors meeting the clinical definition of PTSD. This experience is also different for some Tribal communities, as some were not under these mandates. It is important to note that historical loss and the trauma that stems from it can be very different from community to community, and one should not assume that everything experienced by one community is the same for every single AI/AN community. This historical trauma is a potential stressor that could make psychiatric conditions more multifaceted.

In general, however, the fragmentation of identity that came with the goals of forced assimilation, which were the goals of Indian boarding schools, accompanied by the personal pain of trauma experienced on the individual level, makes for a more complex version of PTSD that includes the trauma experienced by the individual and the community at large. This type of trauma goes beyond the standardized definition of PTSD, which affects the person on an individual level and occurs after an event experienced by the person. This historical loss is the trauma experienced by the collective

community, which resonates down to the level of the individual and adds to any trauma experienced by the individual.[29] This compounded trauma leads to a complex version of PTSD in the Indigenous population through the historical traumas felt as a community and any personal trauma experienced on an individual level. Though not in the DSM, the idea of complex PTSD exists in the clinical community as it explains the more severe nature of symptoms experienced by the person through the additive nature of numerous experienced traumas.

Such complex PTSD leads to a level of distressing thoughts and feelings that a traditional diagnosis of PTSD does not entirely cover. Complex PTSD, with intergenerational and personal trauma, leads to a more complex version of SUDs. Drinking alcohol and using substances is a way to decrease these feelings of distress.[30] The use of substances also decreases the anger that the person feels and is a desperate escape from the pain that is felt.[31] It is not just the SUD itself that needs to be addressed but the pain, anxiety, and distorted thoughts that the complex PTSD brings as well. It should be pointed out that this historical loss does not always lead to depression, anxiety, and substance use. Recent community-based research has shown that teaching tribally-specific historical events was related to increased thoughts about historical loss, increased awareness of non-AI/AN people's lack of historical knowledge about Native people, and subsequent experiences of discrimination. However, it can also increase a sense of Tribal identity, resilience, and belonging.[32]

Contemporary society could further perpetuate negative emotions

Modern society perpetuates the negative thoughts and feelings experienced by people already living with complex PTSD and plays an intricate role in maintaining complex SUDs. These negative thoughts and feelings are associated with experienced discrimination and stereotypes. Increased perceived discrimination can increase hopelessness.[33] The stereotypes in place can feed the false belief held by clinicians that the AI/AN population is more prone to certain behaviors or traits, such as being BV to AUD. These stereotypes can cause AI/AN people to feel that they have no control over their use and that this is expected of them. Belief in BV has been found to increase drinking days and have greater alcohol-related consequences in those who use alcohol.[1]

Furthermore, it is an excuse placed on the Indigenous population by contemporary society that further increases the pain felt by people living with complex PTSD and may impede the treatment for the AI/AN population since excessive alcohol consumption has long been thought to be caused by a genetic disposition. This belief can lead someone already experiencing complex SUDs to feel that cessation is out of their control. The pain experienced as being viewed as someone with no control over substance use can lead to even more alcohol consumption to deal with these painful feelings.[1]

The discrimination that AI/AN people experience can take a toll as well. Discrimination can reinforce the pain felt due to historical trauma affecting the AI/AN population. It is being treated differently by members of mainstream society just because they are identified as being an Indigenous person.[34] AI/ANs can be subject to widespread cultural misrepresentations ranging from bothersome questions about their identity to Native sports team mascots.[35] O'Keefe and Greenfield, in the aforementioned study, found that microaggressions were highly prevalent among AI/AN students in New Mexico and Oklahoma but varied by demographic and cultural factors. The misrepresentations seen in Native-themed sports team mascots have negatively impacted Native health.[36] Sports teams in the past have had names that represent negative connotations, and others have culturally appropriated elements of AI/AN culture that are displayed to the public during their events. Important cultural aspects of Tribes are mocked publicly and are treated with disrespect and misunderstanding.

One study found that the use of Native American mascots resulted in the application of Native stereotypes towards AI/AN people and resulted in a harmful representation of Native American people.[37] An example of this can be seen in the use of feathered headdresses or “war dances.” Another cultural misappropriation is seen in the fashion worn by primarily wealthy white people at musical festivals such as Coachella. It can be seen in the revealing women's costumes styled as an “Indian princess,” which ignores that Indigenous women experience more sexual and gender-based violence than their white counterparts.[38] These misrepresentations of cultural elements can further perpetuate negative feelings that some AI/AN community members may feel and can lead to further attempts to escape with the use of substances to self-medicate while trying to navigate through a modern society that has already deemed the person to be “different.”

Culturally appropriate treatment can be tailored to SUDs

Historical trauma and contemporary society have continued to keep some members of the Indigenous community in a cycle of depression, anxiety, and substance use in some community members as well, which contributes to keeping the cycle of complex PTSD and complex SUDs in place. Even though treatment was not specifically examined in this review, all of the articles did cover treatment in the AI/AN population. Since more traditional means of treatment for SUDs have fallen short for the AI/AN community, a different approach should be taken by clinicians to help address SUDs in the AI/AN population. For example, one study showed that out of 45 AI/AN people hospitalized for treatment who underwent treatment for AUD, only seven improved 10 years posttreatment.[39] One of the main reasons behind the ineffectiveness of traditional mainstream “evidence-based treatment” is that it looks at the person individually. A theme seen throughout the articles in this review is that culture, or at least some cultural aspects, should be a part of the treatment for SUDs.

The assault on identity and self-regard will have to be addressed along with SUDs. Since part of the trauma is an experienced loss of

identity and continuous contemporary attacks on identity, it makes sense that restoring cultural identity to the individual should be an integral part of preventing and treating complex SUDs. Just like in complex PTSD, there is a loss of a sense of self in the person who has suffered the traumatic events. Culture is a way to impart this sense of self and build on the positive self-regard in the Indigenous population. Treatment in this area should consider culture as a part of the treatment of SUDs.[40] Traditional ways of healing should be available as part of the treatment plan by trained Traditional Healers, and all providers should be trained to provide culturally safe care.

An example can be found in prevention and treatment models that use cultural traditions and beliefs tailored to the specific Tribe being served.[41] Another example is a model of motivational interviewing that has been adapted for use in AI/AN communities.[42] Further research is needed based on a community-engaged participatory approach to understand better what clinicians can do to provide culturally safe care.[43] An important question is understanding how clinicians may address the person and the effects of historical trauma and contemporary attacks on identity experienced at the community level.[44,45]

Conceptualization of beneficial treatment outcomes needs to be expanded

Since our analysis now establishes that culture should be at least part of the treatment, how should this be implemented? It can be argued that integrating culture as just part of the treatment does not fully address the complexity of the trauma faced by the AI/AN community. The idea of culture as treatment (CaT) has been introduced, which presumes therapeutic benefits and longer-lasting outcomes through the post-colonial reclamation of culture.[40,46] As of this writing, there needs to be more empirical evidence to evaluate the CaT hypothesis. However, qualitative interviews with AI/AN people who have undergone treatment centered on cultural reclamation have shown that obtaining and maintaining sobriety could be highly efficacious under the CaT model.[47]

With this in mind, partnerships with tribes will be paramount. It is unacceptable to include blanket cultural aspects for all tribes, given that there is no such thing as a pan-AI/AN culture. Indigenous cultures in the US are incredibly diverse and rich. Partnering directly with the tribes and urban AI/AN-serving organizations will help researchers develop cultural aspects of treatment or cultural forms of treatment that are relevant to the particular Tribe with whom they work.[48–51] Partnering with tribal leadership will also be vital because researchers and treatment teams need to understand what is essential to each community regarding desired treatment outcomes.[52] After all, community perceptions of health and well-being differ.[53] Researchers should seek understanding as to what is important to each individual Tribal community. These things can only be learned when projects are developed with the community as partners. Community-based participatory research and Tribally-driven participatory research are two approaches with considerable literature and histories to serve as models for clinicians and researchers in psychology.[54–56]

Limitations

There are a few limitations to the current study that should be discussed. The first is that the team involved in the review included trainees who were students, most of whom were new to screening the mental health literature. Training was needed to bring the students up to speed with specific terms in the DSM, leading us to undertake a scoping review instead of a systematic review. Another limitation is that treatment and treatment outcomes should have been included in this scoping review, and future studies on the subject should include treatment as part of the review. It was only after the review was complete that the importance of treatment was uncovered. The last limitation is the bibliography, which may not have included some studies. This, however, could be expected when broad DSM diagnoses are used as search terms. In the future, more specific diagnoses can be used as search terms to include any missing articles for a review.

Future directions and research

Future directions and research should include the Tribes themselves. As stated in the previous sections, each Tribe will have different needs and place importance on different things that should be addressed by researchers to further explore the themes uncovered in this manuscript. Partnership is of the utmost importance to be able to understand these needs. Future research should be done in a community-driven frame to understand how certain additional treatment modifications would benefit that particular community.

CONCLUSION

In the AI/AN community, SUDs are a complex blend of historical and personal trauma and substance use. Trauma, mood, and discrimination/negative self-worth place members of this community in a negative loop that could lead to or further perpetuate SUDs. Just as with dual diagnosis cases, both the SUD in question and the factors that could be contributing to it should be addressed at the same time. SUD treatment should be culturally tailored and culturally appropriate for the specific AI/AN population receiving the treatment. Partnership with Tribal communities is essential to formulate these treatments and understand what is important to the community regarding outcomes. More research should be done in a community-based model as directed by Tribal leaders to address complex SUDs in the AI/AN population.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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