The International Indigenous Policy Journal

Mental Health Interventions for First Nations, Inuit, and Métis Peoples in Canada: A Systematic Review

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Volume 12, numéro 2, 2021

URI : https://id.erudit.org/iderudit/1078813ar
DOI : https://doi.org/10.18584/iipj.2021.12.2.10820

Aller au sommaire du numéro

Éditeur(s)

Scholarship@Western (Western University)

ISSN

1916-5781 (numérique)

Découvrir la revue

Citer cet article

Graham, S., Stelkia, K., Wieman, C. & Adams, E. (2021). Mental Health Interventions for First Nations, Inuit, and Métis Peoples in Canada: A Systematic Review. *The International Indigenous Policy Journal*, *12*(2), 1–31. https://doi.org/10.18584/iipj.2021.12.2.10820

Résumé de l'article

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The International Indigenous Policy Journal

Volume 12 | Issue 2

May 2021

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Recommended Citation

Graham, S., Stelkia, K., Wieman, C., & Adams, E. (2021). Mental health interventions for First Nations, Inuit, and Métis peoples in Canada: A systematic review. *The International Indigenous Policy Journal, 12*(2). https://doi.org/10.18584/iipj.2021.12.2.10820

Mental Health Interventions for First Nations, Inuit, and Métis Peoples in Canada: A Systematic Review

Abstract
Higher rates of anxiety, depression, and attempted suicide are reported among First Nations, Inuit, and Métis people compared with non-Indigenous people in Canada. This systematic review summarises the key components of mental health interventions among Indigenous Peoples in Canada. We searched MEDLINE, PubMed, PsycINFO, and Web of Science between January 1,1970, and August 30, 2019. Studies needed to be an intervention addressing suicide, depression, or anxiety. There were 14 studies included in the analysis: 8 quantitative, 2 qualitative, and 4 mixed methods. By geographical location, 5 were urban, 5 non-urban, and 4 included multiple areas. Beneficial interventions included ceremony, being on the land, engaging in traditional food gathering, culturally grounded indoor and outdoor activities, and the sharing of Indigenous Knowledge by Elders.

Keywords
Indigenous, Aboriginal, First Nations, Métis, Inuit, anxiety, depression, suicide, Elders, culture as treatment

Acknowledgments
All of the authors are Indigenous people.

Simon Graham's salary was supported by the Australian Government Department of Education and Training through an Endeavour Research Leadership fellowship and an Australian National Health & Medical Research Council fellowship.

Disclaimer
The content of this article is solely the responsibility of the authors and does not reflect the views of the First Nations Health Authority, the Australian Department of Education and Training, or the University of Melbourne.

Mental Health Interventions for First Nations, Inuit, and Métis Peoples in Canada: A Systematic Review

Mental health is a major health priority for First Nations, Inuit, and Métis peoples in Canada, collectively called Indigenous Peoples (Alianait Inuit-Specific Mental Wellness Task Group, 2007; Anderson, 2015; First Nations Health Authority, 2019; Wieman, 2006). Indigenous Peoples in Canada are estimated to comprise 4.9% of the total population (Statistics Canada, 2017). Indigenous people have a strong connection to community and land and have a holistic view of health that includes the physical, emotional, and spiritual well-being of a person and their community. Although the health and well-being of Indigenous people in Canada has improved significantly, Indigenous people continue to have higher rates of poor mental health, suicide, infant mortality, diabetes, obesity, food insecurity, and lower life expectancy (Gionet & Roshanafshar, 2016; Public Health Agency of Canada, 2018; Ring & Brown, 2003). The Government of Canada has released strategies to reduce these disparities and acknowledged that culture may play a role in improving well-being, including mental health.

From 2019 to 2020, the Government of Canada invested $425 million to address mental health and well-being among First Nations and Inuit populations through culturally grounded prevention services, supports, and treatment programming (Indigenous Services Canada, 2019). Considering the increased demand and investment in Indigenous-specific mental health interventions and programming, it is imperative to understand what components of mental health interventions are effective at improving mental health and well-being of Indigenous Peoples. Therefore, this review aims to summarize mental health interventions that were specifically designed by or for Indigenous Peoples in Canada.

Literature Review

First Nations, Inuit, and Métis Peoples in Canada

In Canada, there are three distinct Indigenous groups: First Nations, Inuit, and Métis (Government of Canada, 1982). While recognized as comprising the Indigenous population in Canada, each nation is culturally distinct with unique histories, cultural practices, and beliefs (Assembly of First Nations, 2020; Métis Nation, 2020; Tungasuvvingat Inuit, 2020). First Nations have for millennia lived across the land that is now Canada and are the only Indigenous group in Canada subject to the Indian Act (Government of Canada, 2020). First Nation people who are formally recognized under the Indian Act are designated as a "Status Indian" and are subject to its race-based legislation and eligible to access services provided by the federal government (Government of Canada, 2020). However, while 697,510 people (49.8% of the total Indigenous population) are Status First Nations, approximately 214,000 (15.3%) are "non-Status" First Nations: People who self-identify as First Nations but are not formally recognized by the Government of Canada under the Indian Act (Government of Canada, 2011). Inuit are the Indigenous inhabitants of Northern Canada, but they are not formally recognized as "Indians" under Canadian law (Tungasuvvingat Inuit, 2020). The intermarriage of European men and First Nation women during the 17th century led the founding of a distinct group called the Métis (Métis Nation, 2020; Smylie, 2009). As each Indigenous Nation in Canada is unique, it is important to consider each group's diverse experiences when examining programs and services to better meet the needs of each Indigenous population.

Indigenous Peoples have poorer mental health outcomes, including anxiety, depression, and suicide, compared to non-Indigenous peoples in Canada (Kumar & Tjepkema, 2019; Statistics Canada, 2017). While Indigenous Peoples overall experience poorer mental health outcomes, there are differences in mental health outcomes among First Nations, Inuit, and Métis peoples (Statistics Canada, 2020). For example, compared to non-Indigenous people in Canada, suicide rates were 3 times higher among First Nations, 9 times higher among Inuit, and 2 times higher among Métis people (Statistics Canada, 2020). Suicide rates were highest among 15- to 24-year-old Inuit males and females and First Nations males (Kumar & Tjepkema, 2019). Geographical location also seems to play a role, with First Nation people living on reserve having twice the suicide rate of those living off reserve (Kumar & Tjepkema, 2019). On reserve, approximately 1 in 4 First Nations youth and 1 in 5 First Nations adults report psychological distress that have been linked to moderate to severe mental health disorders (First Nations Information Governance Centre, 2018).

To address mental health disparities that exist within Indigenous populations, effective components of mental health interventions for Indigenous Peoples need to be identified. Given the historical and intergenerational trauma brought on by settler colonialism, mental health interventions designed and led by Indigenous people and communities in Canada hold greater promise at improving overall mental health and well-being compared to Western-based approaches (Aguiar & Halseth, 2015; Bartram & Chodos, 2013). As culture and identity are central to one's mental health and well-being, interventions which focus on "culture as treatment" may reduce trauma and advance overall mental health and well-being (Gone, 2013). There has been an increased demand for decolonizing mental health programming to focus on culturally specific interventions that are holistic, grounded in Indigenous Knowledges and ways of being, trauma-informed, and center around culture (Ansloos et al., 2019; Thunderbird Partnership Foundation, 2011).

The Impact of Colonization on the Mental Health of Indigenous Peoples in Canada

The ongoing impacts of colonization continue to have detrimental effects on the mental, emotional, physical, and spiritual health and well-being of Indigenous Peoples (Allan & Smylie, 2015; Gracey & King, 2009). The impact of Canada's colonial history plays a central role in understanding the disproportionate rates of mental health outcomes within Indigenous communities (Wilk et al., 2017). The Truth and Reconciliation Commission of Canada (2015a) declared, "For over a century, the central goals of Canada's Aboriginal policy were to eliminate Aboriginal governments; ignore Aboriginal rights; terminate the Treaties; and, through a process of assimilation, cause Aboriginal peoples to cease to exist" (p. 3). The harmful impacts of colonial policies continue to have long-term and intergenerational effects on health (McKenzie et al., 2014; Truth and Reconciliation Commission of Canada, 2015b). Survivors of the Canadian residential school system have poorer physical, mental, and emotional health, including higher rates of depression, mental distress, substance misuse, stress, and suicidal behaviours (First Nations Information Governance Centre, 2018; Hackett et al., 2016; Wilk et al., 2017). A study in British Columbia examined the mental health profiles of 127 Survivors of the residential school system and found that only two were not diagnosed with a mental disorder (Corrado & Cohen, 2003). The most prevalent disorders included post-traumatic stress disorder, substance abuse disorder, and depression (Corrado & Cohen, 2003). Residential school Survivors have reported isolation from family; verbal, emotional, and physical abuse; loss of cultural identity; and harsh discipline as the most common factors that contributed to their negative health and well-being (First Nations Information Governance

DOI:10.18584/iipj.2021.12.2.10820

Centre, 2018; Truth and Reconciliation Commission of Canada, 2015b). The harm and trauma perpetrated on Survivors has also been found to have intergenerational mental health impacts on their children and grandchildren, such as an increased risk of depression and higher rates of suicidal thoughts or attempts (Bombay et al., 2011; Elias et al., 2012). Therefore, the harmful impacts of these colonial policies and practices continue to play a role in undermining Indigenous mental health and well-being today (King et al., 2009; Nelson & Wilson, 2017).

Mental Health Interventions Among First Nations, Inuit, and Métis Peoples in Canada

There is a critical need to address the mental health and well-being of Indigenous Peoples in Canada. Mental health continues to be identified as a key priority area by First Nations, Inuit, and Métis organizations and communities across Canada (Alianait Inuit-Specific Mental Wellness Task Group, 2007; First Nations Health Authority, 2019; Métis Nation, 2018). The need to address the growing mental health disparities in Indigenous Peoples compared with non-Indigenous peoples in Canada was emphasized in the findings of the Truth and Reconciliation Commission of Canada. The Truth and Reconciliation Commission of Canada Call to Action #19 called upon the federal government to "close the gap in health outcomes between Aboriginal and non-Aboriginal communities," including mental health, suicide, and addiction (Truth and Reconciliation Commission of Canada, 2015c, pp. 2-3). This was further highlighted by the National Inquiry into Missing and Murdered Indigenous Women and Girls (2019), which focused on increasing funding and support for holistic services and programming in areas including trauma, addictions treatment, and mental health services.

This review will summarise Indigenous interventions that have improved the mental health of First Nations, Inuit, and Métis peoples in Canada.

Methods

This review was conducted according to the *Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement* (Moher et al., 2009).

Rationale

The rationale for this study was to highlight the work Indigenous communities were doing to improve the mental health of their communities through designing local culturally based interventions that could provide additional benefits for Indigenous people in Canada.

Primary and Secondary Outcomes

The primary outcome was:

- To summarize the interventions that improved mental health (anxiety, depression, and suicide or attempted suicide) outcomes among Indigenous Peoples in Canada.

The secondary outcome was:

- To identify what components within these interventions improved the mental health of Indigenous Peoples in Canada.

Eligibility Criteria

Study Design

We included qualitative, quantitative, and mixed method studies that evaluated an intervention and was published in the peer review literature. Grey literature, letters, books, reviews, editorials, conference abstracts, and theses and dissertations were excluded.

Inclusion and exclusion criteria. Studies were included if they reported anxiety, depression, or suicidal thoughts or attempts among Indigenous people in Canada and included an intervention. We included studies that focused on Status First Nations, non-Status First Nations, Inuit, and/or Métis peoples. Only publications in English were included. We excluded studies of Indigenous people outside of Canada, studies of non-Indigenous people, or studies that reported results by combining Indigenous and non-Indigenous people, unless Indigenous people from Canada made up more than 50% of the sample. Studies were excluded if they were reviews, guidelines, or commentaries, or were not in English (Figure 1). If only the abstract or presentation was available, we contacted the corresponding author of the study to assess the published paper or presentation. The reference lists of included studies were examined for additional studies.

Search strategy

On August 26, 2019, the first and second authors discussed which electronic databases would be used. They also developed the Medical Subject Headings (MeSH) and truncation of the MeSH words. On August 27, 2019, the first author searched the electronic database PubMed and then adapted the search terms for MEDLINE, Web of Science, and PsycINFO. The time period for the search was from January 1, 1960, to August 25, 2019. The below MeSH words were used, and Appendix A provides a breakdown of the MeSH words, truncation, and combinations used in each electronic database.

1. Mental health OR mental wellness OR addiction OR anxiety OR depression OR suicide OR resilience OR trauma; AND

2. Intervention OR community-based OR client centered OR patient centered OR wrap around; AND

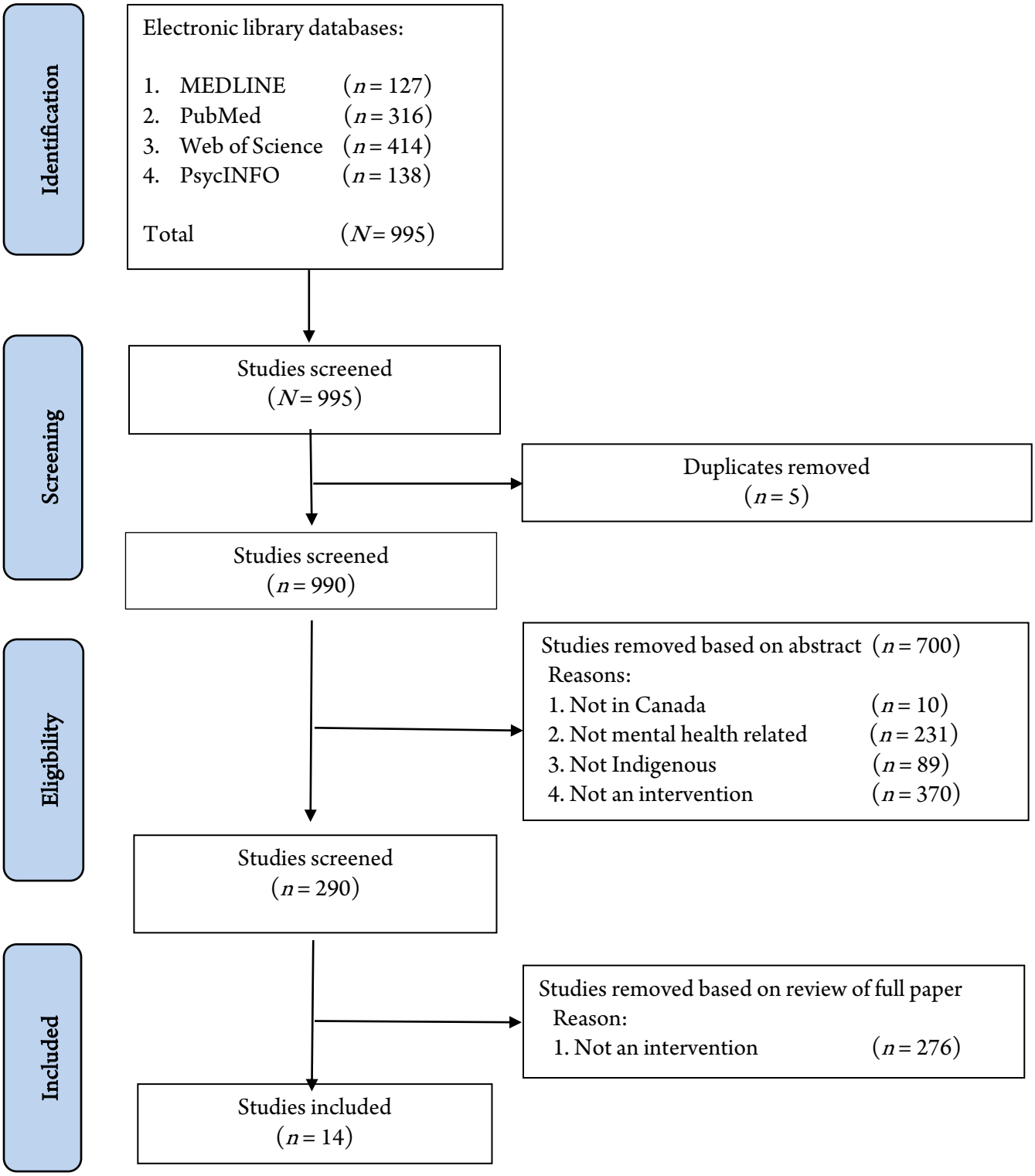
3. Aboriginal OR Indigenous OR First Nations OR Inuit OR Métis OR Native; AND

4. Canada

The studies that met the inclusion criteria were imported into EndNote. The first author then reviewed the full text against the inclusion criteria and the second author reviewed these studies for inclusion. The first and second authors met and discussed the studies until a consensus was reached.

DOI:10.18584/iipj.2021.12.2.10820

Figure 1. Flow Diagram of Included Studies



Data Extraction

Data from each study were extracted by the first author and placed in a Microsoft Excel 2016 table to ensure consistency of the extraction and that all data were entered in the same format. For each study, information was extracted on author, year the study was published, year(s) the study was conducted, the location of the study, the Indigenous group (First Nations, Inuit, and/or Métis), population group (youth, adults, women), sex, age, sample size, study design, incentives provided, the goal of the study, assessment tools used to measure the participants' mental health status (Appendix C), information about the intervention, and the outcomes or benefits of the intervention. If a study did not report the specific Indigenous group (First Nations, Inuit, or Métis) or provide enough information, the authors used the label "Indigenous." While we acknowledge and respect the cultural differences between First Nations, Inuit, and Métis peoples, we wanted to include all three Indigenous groups due to the small numbers of studies published within each identity group, to learn the strengths of interventions used by each group, to improve the breadth and depth of understanding, and to highlight any unique approaches used by one group that could be adapted by another. Young people were defined as being 18 years or younger and adults as 19 years or older. A mental health intervention was defined as a process or activity introduced that aimed to reduce anxiety, depression, or suicidal thoughts or attempts. This study did not search grey literature. We used already published studies and as a result did not require ethical approval.

Results

Included Studies

Overall, 14 studies were included (Table 1). Eight were quantitative (DeWit et al., 2017; Fox et al., 1984; Hardt, 2012; Miller et al., 2011; Ritchie et al., 2014; Thomas et al., 2013; Tu et al., 2019; Varcoe et al., 2017), two were qualitative (Cooper & Driedger, 2019; Hadjipavlou et al., 2018), and four were mixed method studies (Crooks et al., 2017; Gross et al., 2016; Harder et al., 2015; Varcoe et al., 2019). In total, 11 were cross-sectional studies that compared before versus after an intervention (Crooks et al., 2017; DeWit et al., 2017; Fox et al., 1984; Gross et al., 2016; Harder et al., 2015; Hardt, 2012; Miller et al., 2011; Ritchie et al., 2014; Thomas et al., 2013; Varcoe et al., 2017, 2019), one was a prospective cohort study (Tu et al., 2019), four conducted one-on-one interviews (Crooks et al., 2017; Hadjipavlou et al., 2018; Harder et al., 2015; Varcoe et al., 2019), one conducted focus groups (Gross et al., 2016), and one used snowball sampling methods to recruit the participants (Hadjipavlou et al., 2018).

DOI:10.18584/iipj.2021.12.2.10820

Table 1. Summary of Mental Health Intervention Studies Among First Nations, Inuit, and Métis Peoples in Canada

Author, year published	When the study occurred	Location	Indigenous group[a]	Population group	Sample size	Study design, methods	Incentives provided	Study goals / aims / objectives
Cooper, 2019	September 2015-March 2016	Winnipeg, Manitoba	First Nations, Métis	Adult women and young girls (8-12 years old)	60	Qualitative: Weekly workshops for 7 weeks 877 photographs, 3 hours of video recordings, 19 hours of audio recordings, 60 hours of notes	Not reported	What does it mean to be happy, healthy and safe? What is needed to actualise these goals?
Crooks, 2017	2011, 2012, 2013	Southwestern, Ontario	First Nations, Métis, Inuit	Young people (Grades 7 & 8)	105	Mixed methods: Semi-structured interviews Surveys each year	$10 gift card	What are the effects of a culturally relevant school-based mentoring program for Indigenous youth?
DeWit, 2017	Not reported	All provinces	First Nations, Métis, Inuit	Young people (6-17 years old)	125	Quantitative: 2 cross-sectional surveys (before vs. after)	$5 gift card 2 movie passes	The mentoring relationship experiences of Aboriginal youth The impact of being mentored on behavioural, psychological, and social functioning

Table 1. Summary of Mental Health Intervention Studies Among First Nations, Inuit, and Métis Peoples in Canada (continued)

Author, year published	When the study occurred	Location	Indigenous group[a]	Population, ages	Sample size	Study design, methods	Incentives provided	Goals / aims / objectives
Fox, 1984	1971-1974 vs. 1976-1980	Manitoulin Island, Ontario	First Nations	Young people	200	Quantitative: Data from the Coroner's office Reports from the Ontario Provincial Police Clinical contacts of the Native Health Team and psychiatric facility	None given	To decrease the suicide rate among First Nations youth
Gross, 2016	August 2014-May 2015	Vancouver, Prince George, Smithers, & Moricetown, British Columbia	First Nations	Vulnerable Indigenous men	95	Mixed methods: Two cross-sectional surveys (before vs. after) Focus-groups	Cooking and cleaning services	To build brotherhood between members To promote men's health through education, dialogue, health screening To build pride and fulfilment in their lives
Hadjipavlou, 2018	December 2015-March 2016	Vancouver, British Columbia	First Nations, Métis, Inuit	Patients (25-61 years old) with mental health & substance abuse history	37	Qualitative: Semi-structured interviews at 1, 3, & 6 months	None given	To examine the impact of Indigenous Elders program on the mental health of Indigenous patients

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Table 1. Summary of Mental Health Intervention Studies Among First Nations, Inuit, and Métis Peoples in Canada (continued)

Author, year published	When the study occurred	Location	Indigenous group[a]	Population, ages	Sample size	Study design, methods	Incentives provided	Goals / aims / objectives
Harder, 2015	2007	Northern British Columbia	First Nations	Individuals aged 13-25 years	130	Mixed methods: Two cross-sectional surveys (before vs. after) One-on-one interviews	Not reported	To determine if youth participation would reduce levels of depression, hopelessness, and suicide
Hardt, 2012	Not reported	Victoria, British Columbia	First Nations, Inuit, Métis	Adults (25-60 years)	40	Quantitative: Two cross-sectional (before vs. after)	None given	To determine if alpha brainwave neurofeedback training can have positive psychological results
Miller, 2011	Not reported	Western Canada	Indigenous	School students in Grades 2-7	192	Quantitative: Three cross-sectional surveys	Not reported	To enrich culturally the Friends for Life Program To prevent and reduce anxiety symptoms by offering the enriched program in public schools
Ritchie, 2014	Not reported	Northern Ontario	First Nations	Individuals aged 12-18 years	73	Quantitative: Two cross-sectional surveys (before vs. after)	Not reported	To evaluate the impact of an outdoor adventure leadership experience over 2 years on the resilience of adolescents on reserve

Table 1. Summary of Mental Health Intervention Studies Among First Nations, Inuit, and Métis Peoples in Canada (continued)

Author, year published	When the study occurred	Location	Indigenous group[a]	Population	Sample size	Study design	Incentives provided	Goals / aims / objectives
Thomas, 2013	June 2011	Rural areas of British Columbia	First Nations	Adults	12	Quantitative: Two cross-sectional surveys (before vs. after)	Not reported	To assess the impact of ayahuasca-assisted group therapy on mental and behavioural health
Tu, 2019	2014-2016	Western Canada	First Nations	Adults attending a primary health care clinic	45	Quantitative: Prospective cohort	None given	To determine whether including Indigenous Elders into routine primary care improved depressive symptoms and suicidal ideation
Varcoe, 2017	Not reported	Urban area of Canada	First Nations	Adult women	21	Quantitative: Two cross-sectional time-periods	Not reported	To determine whether a health promotion intervention for Indigenous women who have experienced intimate partner violence (Intervention for Health Enhancement after leaving) improves women's mental and physical health
Varcoe, 2019	Not reported	Urban area in Western Canada	First Nations	Adult women	89	Mixed methods: Quantitative: pre vs. post vs. six-months after the intervention Qualitative: one-on-one interviews	$25 for each interview Childcare	Can an intimate partner violence health promotion intervention (Intervention for Health Enhancement after leaving) improve women's mental and physical health?

Note. [a] Indigenous group: the Indigenous group name reported by each study is used; however, if the study did not report an Indigenous group, it was labelled as Indigenous.

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Mental Health Assessment Tools Used by the Different Studies

A total of 29 different tools were used by the studies to measure the mental health status of participants (Table 2 and Appendix C). There were a range of tools used to measure anxiety (e.g., Revised Social Anxiety Scale for Children), depression (e.g., Beck Depression Inventory-II) and suicidal thoughts (e.g., Beck Scale for Suicidal Ideation). There were assessment tools that were broader in scope, such as the 11-item Cultural Connectedness Scale, the McGill Quality of Life Survey, and Sullivan's Quality of Life Scale. None of the studies used the same assessment tool to measure anxiety or depression or attempted suicide and, as a result, we were not able to group the assessment tools or compare scores of anxiety or depression in one study to another study.

Summary of Interventions Used

Each study used a range of similar components that have been summarised into three categories: culturally grounded indoor and outdoor activities; Elder or peer-to-peer mentorship; and group activities with other Indigenous people and an Elder (Appendix B).

Culturally Grounded Indoor and Outdoor Activities

Culturally grounded indoor and outdoor activities included retreats, camps, ceremonies, and Indigenous language study. As highlighted by the outcomes in Table 2, cultural activities that had a strong Indigenous component seemed to provide some benefits in reducing anxiety, depression, or suicidal thoughts. One study conducted culture camps that included traditional food gathering techniques, language, survival techniques, and clan affiliation (Harder et al., 2015). These camps produced positive quantitative outcomes, including a decrease in average depression scores from 10 before compared to 7 after, a decrease in average hopelessness scores from 4 to 3.1, and increases in language skills, connectedness of culture, and connection to community Elders. Qualitative results also support the benefits of an intervention that involves engaging in culturally grounded activities together, with one participant saying, "After the camp I felt very good, like I learned more about what culture is and who I actually am" (Harder et al., 2015, p. 27). Another participant said, "I used to be ashamed of being Native and now I'm not… so yeah, it made me happy for who I am and where I come from" (Harder et al., 2015, p. 27).

Elder or Peer-to-Peer Mentorship

Some studies paired an Indigenous Elder with a young person. For example, a study by Crooks et al. (2017) compared one group of young people who were mentored by an Indigenous Elder compared to another group who were not. Over a two-year period, the group who were mentored had better mental health scores (on average 61.6 compared to 52.0 for those without a mentor). This study also examined the impact mentorship had on cultural identity; two years of mentoring resulted in an increased cultural identity score of 36.7 in the mentored group compared to 33.2 for those without a mentor (Crooks et al., 2017). Qualitative results support this with one young participant saying, "We can talk about more open things and they are our cultural background too so it seems like we can open up to them more than we can to our teachers" (Crooks et al., 2017, p. 98).

Table 2. Mental Health Interventions Used by Studies and Outcomes Among First Nations, Métis, and Inuit Peoples in Canada

Author, year published	Study goals / aims / objectives	Tools used to measure mental health status	Intervention / activities	Quantitative outcomes	Qualitative outcomes
Cooper, 2019	To what does it mean to be happy, healthy and safe? What is needed to actualise these goals?	None used Self-reported mental health status	Métis specific arts-based workshops Non-competitive games, walks, crafts, shared meals Jewellery making, sports, drawing, Discussion circles, storytelling, scavenger hunts, Medicine Wheel	Qualitative only	After 7 weeks, "the women began to characterise themselves as strong, capable caregivers who guide their girls as they made decisions."
Crooks, 2017	What are the effects of a culturally relevant school-based mentoring program for Indigenous youth?	14-item Mental Health Continuum—Short Form (MHC) 11-item Cultural Connectedness Scale using a 4-point Likert scale	Youth received mentoring for 1 year vs. 2 years	Average mental health scores: 2 years of mentoring = 61.6 vs. 1 year of no mentoring = 52.0 Average positive cultural identity scores: 2 years of mentoring = 36.7 vs. 1 year of no mentoring = 33.2	"We can open up to them more than we can to our teacher." "It feels like they understand what I am trying to say." "When you don't feel comfortable it's okay . . . you can tell them."
DeWit, 2017	The mentoring relationship experiences of Aboriginal youth The impact of being mentored on behavioural, psychological, and social functioning	Strengths and Difficulties Questionnaire (SDQ) Revised Social Anxiety Scale for Children (SASC-R)	Big Brother, Big Sister program Mentoring of Aboriginal youth 2-4 hours per week with mentor for 1 year	Mentored youth had significantly less emotional problems 18-months after meeting their mentor Mentored youth had significantly fewer symptoms of social anxiety and distress in new situations with unfamiliar peers	Quantitative only

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Table 2. Mental Health Interventions Used by Studies and Outcomes Among First Nations, Métis, and Inuit Peoples in Canada (continued)

Author, year published	Study goals / aims / objectives	Tools used to measure mental health status	Intervention / activities	Quantitative outcomes	Qualitative outcomes
Fox, 1984	To decrease the suicide rate among youth	Confirmed death from Coroner's office Confirmed patient record at the psychiatric facility	Suicide response team: 2 Indigenous mental health workers A travelling mental health clinic Rainbow Lodge Recovery Centre	Suicide rate decreased from 27.7 to 23.4 per 100,000	Quantitative only
Gross, 2016	To build brotherhood between members To promote men's health through education, dialogue, health screening clinics To build pride and fulfilment in their lives	None used Survey asked about improvements in their quality of life, mental, emotional, physical, and spiritual health	Weekly men's group Shared meal Health programs with doctors and nurses Linking First Nation Elders with vulnerable men	90% of the men's scores improved in quality of life, and mental, emotional, physical, and spiritual health	Higher attendance increased feelings of connectedness Increased feelings of trust, trusting others with their health, and connectedness to culture
Hadjipavlou, 2018	To examine the impact of Indigenous Elders program on the mental health of Indigenous patients	None reported	Regular meetings with an Indigenous Elder Elders provided a safe "place for healing," they could "laugh" with, receive "gentle guidance," and they were "respected" compared to previous health care experiences	Qualitative only	Decreased depression Decreased suicidal thoughts

Table 2. Mental Health Interventions Used by Studies and Outcomes Among First Nations, Métis, and Inuit Peoples in Canada (continued)

Author, year published	Study goals / aims / objectives	Tools used to measure mental health status	Intervention / activities	Quantitative outcomes	Qualitative outcomes
Harder, 2015	To determine if youth participation would reduce levels of depression, hopelessness, and suicide	Beck Depression Inventory-II Beck Scale for Suicide Ideation Beck Hopelessness Scale	Culture camps Traditional food gathering techniques Language, survival techniques Clan affiliation, Bah'Iats system	Change in average score: Depression score before 10.0 vs. 7.4 after Suicide score before 2.3 vs. 1.2 after Hopelessness score before 4.0 vs 3.1 after 90% reported an increase in their opinion of themselves 87% reported an increase in their Carrier language skills 96% reported an increase in traditional culture 92% reported an increase in their connection to community Elders	"I used to ashamed of being Native and now I'm not." "After the camp I felt very good, like I learned more about what culture is and who I actually am." "Friends are complimenting me on stuff, and it's making me feel better about myself." "If I hadn't done any camps, I would probably have ended up going down the wrong path."
Hardt, 2012	To determine if alpha brainwave neurofeedback training can have positive psychological results	Multiple Affect Adjective Check list Clyde Mood Scale Profile of Mood States	For 7 days, each participant spent 10 hours at the training centre doing activities plus neurofeedback training	Improvements when comparing before and after	Quantitative only

DOI:10.18584/iipj.2021.12.2.10820

Table 2. Mental Health Interventions Used by Studies and Outcomes Among First Nations, Métis, and Inuit Peoples in Canada (continued)

Author, year published	Study goals / aims / objectives	Tools used to measure mental health status	Intervention / activities	Quantitative outcomes	Qualitative outcomes
Miller, 2011	To culturally enrich the Friends for Life Program To prevent and reduce anxiety symptoms by offering the enriched program in public schools	39-item self-reported Multidimensional Anxiety Scale for Children (MASC)	Friends for Life program classroom-based intervention Individual and group activities that teach children to identify anxiety signals, physical bodily symptoms, worried thoughts, and maladaptive behaviours	Mean anxiety score reduced from 45.4 at Time 1 to 43.3 at Time 2 to 41.1 at Time 3	Quantitative only
Ritchie, 2014	To evaluate the impact of an outdoor adventure leadership experience over 2 years on the resilience of adolescents on reserve	Health and Well-Being Questionnaire Outward Bound Process Model Mental Component Score (MCS) Scale of Positive and Negative Emotion—Balance (SPANE) Self-Esteem Scale (SES)	Outdoor adventure leadership experience Wilderness canoe expedition Medicine Wheel Outward Bound Process Model Small group activities 8 experiences with 3 each summer	Increase in resilience scores (73.6 to 77.0) Increase in mental component scores (1.2 to 3.5) Positive change from the beginning to the end for mental health, balance of emotion, and satisfaction with life	Quantitative only

Table 2. Mental Health Interventions Used by Studies and Outcomes Among First Nations, Métis, and Inuit Peoples in Canada (continued)

Author, year published	Study goals / aims / objectives	Tools used to measure mental health status	Intervention / activities	Quantitative outcomes	Qualitative outcomes
Thomas, 2013	To assess the impact of ayahuasca-assisted group therapy may have on mental health and behavioural health	The Difficulty in Emotion Regulation Scale The Philadelphia Mindfulness Scale The Empowerment Scale The Hope Scale The McGill Quality of Life Survey The 4-Week Substance Abuse Scale	Ayahuasca ceremonies Retreats focussed on addressing issues of addiction	Improvements in mindfulness, empowerment, hopefulness, quality of life-meaning, and quality of life-outlook Interviews indicated that the retreats had a positive influence on their lives (average score of 7.9 out of 10) "I wish I was introduced to this retreat 20 years ago as it would have saved me a lot of time and trouble."	Quantitative only
Tu, 2019	To determine whether including Indigenous Elders in routine primary care improved depressive symptoms and suicidal ideation	Patient Health Questionnaire Suicidal Behaviors Questionnaire	Indigenous Elders meeting with individuals experiencing depression and suicidal thoughts in a primary health care clinic	A 5-point decrease in depressive symptoms A 2-point decrease in suicidal risk sustained over 6 months 56% decrease in mental health-related emergency department visits	Quantitative only

DOI:10.18584/iipj.2021.12.2.10820

Table 2. Mental Health Interventions Used by Studies and Outcomes Among First Nations, Métis, and Inuit Peoples in Canada (continued)

Author, year published	Study goals / aims / objectives	Tools used to measure mental health status	Intervention / activities	Quantitative outcomes	Qualitative outcomes
Varcoe, 2017	To develop and pilot test the Reclaiming Our Spirits health promotion intervention, which provides services to Indigenous women who have experienced intimate partner violence	Sullivan's Quality of Life Scale PTSD Checklist Civilian Version Centre for Epidemiologic Studies Depression Scale	The intervention for Health Enhancement After Leaving (iHEAL) Health promotion after leaving an abusive partner 14 face-to-face meetings with a nurse over 6-months	Average reduction in depressive symptoms (from 10 to 8) Average reduction in trauma symptoms (from 8 to 6) Increase in control of their lives	Quantitative only
Varcoe, 2019	Can an intimate partner violence health promotion intervention (Intervention for Health Enhancement After Leaving) improve women's mental and physical health?	Sullivan's Quality of Life Scale PTSD Checklist Civilian Version Centre for Epidemiologic Studies Depression Scale (CESD-R)	Weekly workshops led by an Indigenous Elder iHEAL program (10-18 sessions over 6 months)	Average decrease in depressive symptoms (28 to 22) Average decrease in trauma score (49 to 43) Average increase in quality-of-life score (38 to 42)	"I feel I'm more open now with like doctors, nurses." "I feel l have more confidence." "I feel like I am better able to start friendships now. That's always been a problem."

Group Activities with Other Indigenous People and an Elder

Group activities with other Indigenous people and an Elder included non-competitive games, sharing a meal, discussion circles, and the Medicine Wheel. One study provided Indigenous Elders as mentors, and this had positive results with participants saying, "It feels like they understand what I am trying to say" (Crooks et al., 2017, p. 98), and "When you don't feel comfortable it's okay . . . you can tell them [Elders]" (Crooks et al., 2017, p. 99). Mentorship with Indigenous Elders seemed to provide a safe space to talk, be heard, and feel like someone was listening. By having an Elder to connect with, participants seemed to not feel alone, and they valued the added cultural connection. This connection with Elders, other Indigenous people, and their shared culture seemed to interrupt the participants' negative mental health state and made them feel included and wanted.

Further Information Within Each Study

Only 1 of the 14 studies did not recruit participants and instead used a large dataset for the analysis (Fox et al., 1984). Overall, four studies provided incentives to participants (Crooks et al., 2017; DeWit et al., 2017; Gross et al., 2016; Varcoe et al., 2019), which included one or a combination of the following: cash (Varcoe et al., 2019), movie passes (DeWit et al., 2017), gift cards (Crooks et al., 2017; DeWit et al., 2017), cleaning services (Gross et al., 2016), and childcare (Varcoe et al., 2019). Providing incentives may have influenced participants' decision to participate. One study aimed to recruit people who identified as Métis so they could build a specific intervention for Métis peoples and avoid pan-Indigenous results in their study (Cooper & Driedger, 2019). However, the community wanted this study to expand the inclusion criteria to include Métis and First Nations peoples because some young people in the study highlighted that they had one parent who identified as Métis and the other parent who identified as First Nations (Cooper & Driedger, 2019).

Discussion

Despite the urgent need to address mental health and well-being in Indigenous communities, we only found 14 studies that assessed an intervention for Indigenous Peoples in Canada. Our findings support the concept of culture as treatment, with the three main interventions centered around culturally grounded indoor and outdoor activities, Elder and peer mentorship, or participating in collective activities with other Indigenous peers and an Elder. Although these are not new concepts for Indigenous Peoples, our study highlights that these interventions can play a role in reducing anxiety, depression, and suicidal thoughts. Although the authors acknowledge that Western approaches can help to reduce poor mental health outcomes, our review highlights that adding culture as treatment has additional benefits to reduce poor mental health outcomes especially with Indigenous Peoples in Canada.

Out of the 14 studies, 8 included First Nations peoples and 5 included a mix of First Nations, Inuit, and Métis people (Fox et al., 1984; Gross et al., 2016; Harder et al., 2015; Ritchie et al., 2014; Thomas et al., 2013; Tu et al., 2019; Varcoe et al., 2017, 2019). Studies found it challenging to recruit Inuit and Métis participants, so they often recruited First Nations people to reach their sample size targets or at the request of the community. This suggests that groundwork is needed early in the project to connect with communities in order to understand the community's needs and expectations, and to set up an effective recruitment approach with the community's involvement. Despite the large disparities that exist within Inuit and Métis communities, the findings demonstrate there is a lack of mental health interventions

DOI:10.18584/iipj.2021.12.2.10820

developed by and for Inuit and Métis peoples. Considering the demand for mental health interventions that respect and honour Indigenous Ways of Knowing, it is integral that mental health interventions do the groundwork to establish relationships with communities that they hope to work with to deliver an intervention, whether it be First Nations or Inuit or Métis or a combination thereof.

The findings from this review suggest that mental health interventions that include culturally grounded indoor and outdoor activities, Elder and peer mentorship, or participating in collective activities with other Indigenous peers and an Elder can provide mental health benefits among Indigenous Peoples in Canada. These activities include ceremony, being on the land, the Medicine Wheel, engaging in traditional food gathering, and being connected with an Elder for conversation and guidance; Elders sharing Indigenous Knowledge throughout the participants' treatment was also found to be beneficial in improving mental health among the studies reviewed. These findings align with other reviews that have found that culturally adapted mental health interventions resulted in a significant improvement in at least one symptom of mental illness (Leske et al., 2016). The specific activities and interventions are listed in Appendix B. Most of these interventions did not reject Western approaches to mental health but instead highlighted the benefits of also having an Indigenous-grounded approach. Perhaps combining both approaches could have increased benefits to improve mental health outcomes.

A promising finding of this study was that 6 out of the 14 studies were for young people (Cooper & Driedger, 2019; Crooks et al., 2017; DeWit et al., 2017; Fox et al., 1984; Harder et al., 2015; Miller et al., 2011). This is a positive result as recent household surveys of Indigenous people highlighted that young Indigenous people are at significantly higher risk of suicide compared to non-Indigenous young people (First Nations Information Governance Centre, 2018; Kumar & Tjepkema, 2019). This report also highlighted that other factors could play a role in the elevated risk of suicide, including living on reserve, having lower household income, living in poverty, having lower levels of education, and being divorced, separated, or widowed (Kumar & Tjepkema, 2019). Mentoring young people with Indigenous Elders and adapting the cultural activities to be more youth-focussed could be beneficial.

Our study also found that there is a limited number of gender-specific mental health interventions. Overall, two interventions recruited women (Varcoe et al., 2017, 2019), one recruited adult women and young girls (Cooper & Driedger, 2019), and one recruited men (Gross et al., 2016). Given the unique needs of addressing mental distress and trauma for each gender, there might be a need to create more gender-specific mental health interventions. One of the qualitative studies included in this review, included traditional hunting trips with men, which had some benefits as the men hunted and learned together, and these activities allowed a more open dialogue to occur when talking about their struggles (Gross et al., 2016).

Lessons for Future Research and Recommendations

Future research on effective Indigenous design and led mental health interventions are required. As increases in community-led and driven mental health initiatives occur across Canada, future reviews should examine grey literature to capture interventions and initiatives taking place in communities. This may increase the number of interventions, which can be reviewed to provide a richer analysis of mental health interventions that improve the mental health and well-being among Indigenous Peoples in

Canada. Given that many community-based initiatives often lack funding or interest in publishing in Western-based academic journals, the grey literature may provide a promising space to learn more about culture-based interventions. It is recommended that future studies on Indigenous mental health interventions be as specific as possible when discussing their study population. Future research should focus on examining the needs of subpopulations within Indigenous communities, including urban or off-reserve populations, young people, women and girls, men, and Inuit and Métis communities. This will result in more context-specific findings that will contribute towards a greater understanding of components of mental health interventions. It is also clear that more groundwork is needed in building relationships with communities before researchers build their recruitment strategies and interventions.

Implications for Indigenous Peoples in Other Countries

The interventions mentioned in this review could be useful for Indigenous people in other countries. In Australia, Aboriginal and Torres Strait Islander people were found to have incidence rates for anxiety and any mental disorder that are 3 times and 4 times higher, respectively, than the non-Indigenous population (Nasir et al., 2018). In 2020, a randomized controlled trial of a mental health intervention in four Aboriginal communities produced promising results that could inform future guidelines and treatment and care programs (Toombs et al., 2020). In New Zealand, Māori peoples also experience higher rates of poor mental health compared to non-Māori people in New Zealand (Baxter et al., 2006). A recent study in New Zealand highlighted that having a strong Māori cultural identity was associated with positive benefits for Māori youth in terms of improved well-being scores and fewer depressive symptoms (Williams et al., 2018). Designing Indigenous-led and implemented interventions and programs also support the principles of the United Nations Declaration on the Rights of Indigenous Peoples (United Nations, 2007). Our results from Canada could provide some useful information about the benefits of community-designed interventions that could be used by Indigenous people in other countries.

Policy Implications

Our review provides some policy implications for mental health practice. Our study shows that existing mental health policy and practice could incorporate an Indigenous lens to achieve better mental health outcomes. If the Indigenous-based approaches summarised in our study were combined with existing Western-based mental health approaches, perhaps this could have further benefits. Our review provides the Canadian government's *Advancing the Mental Health Strategy for Canada: A Framework for Action (2017-2022)* with information about specific Indigenous programs that have provided benefits (Mental Health Commission of Canada, 2016). It suggests that these Indigenous approaches, which fit under the broad term of *culture as treatment* can have benefits and should receive funding and policy support to strengthen the evidence base of possible interventions to improve the mental health of Indigenous and non-Indigenous people in Canada.

Limitations

There are some limitations to be considered when interpreting the results. Overall, 11 of the 14 studies were cross-sectional before and after study designs, limiting the ability to measure the impact of the interventions. Out of the 14 studies, 8 included First Nations peoples and 5 included a mix of First Nations, Inuit, and Métis peoples (Fox et al., 1984; Gross et al., 2016; Harder et al., 2015; Ritchie et al.,

DOI:10.18584/iipj.2021.12.2.10820

2014; Thomas et al., 2013; Tu et al., 2019; Varcoe et al., 2017, 2019). Therefore, studies were not able to provide results specific to Métis or Inuit peoples. Overall, five studies had a sample size less than 100 (Crooks et al., 2017; DeWit et al., 2017; Fox et al., 1984; Harder et al., 2015; Miller et al., 2011), reducing the statistical power of these studies to show a decrease in the three main outcomes (anxiety, depression, and suicidal thoughts and attempts). In total, 8 of the 14 studies were conducted in Western Canada, particularly British Columbia (Gross et al., 2016; Hadjipavlou et al., 2018; Harder et al., 2015; Hardt, 2012; Miller et al., 2011; Thomas et al., 2013; Tu et al., 2019; Varcoe et al., 2019), so our results may not be generalisable to Indigenous people living in other areas of Canada. Among the 10 studies that reported the geographical location where the study was conducted, 6 were conducted in remote areas (Crooks et al., 2017; Fox et al., 1984; Harder et al., 2015; Miller et al., 2011; Ritchie et al., 2014; Thomas et al., 2013). This suggests that our results may not be relatable to Indigenous people living in urban areas. This is unfortunate, as Statistics Canada has reported that the Indigenous population in Canada has slowly become more urbanised over the past two decades due to employment and economic reasons, with an estimated 52% of Indigenous people living in urban areas (Statistics Canada, 2011). Also, we did not include grey literature in our review, which may have resulted in the exclusion of local online project reports or government programs.

Conclusion

This review identified three key components that improved the mental health outcomes of First Nations, Inuit, and Métis peoples. These were culturally grounded indoor and outdoor activities, Elder and peer mentorship, and participating in collective activities with other Indigenous peers and an Elder. While culture as treatment remains a promising component to address mental health for Indigenous Peoples, there is a great need for mental health interventions designed specifically and distinctly for First Nations, Inuit, and Métis peoples. The list of different culturally based activities in Appendix B could help future interventions to advance the development and delivery of mental health interventions for First Nations, Inuit, and Métis peoples in Canada. Our study has policy implications particularly for the Canadian government's *Advancing the Mental Health Strategy for Canada: A Framework for Action (2017-2022*). Our summary of Indigenous interventions provides examples of how existing mental health programs could incorporate Indigenous ways of addressing poor mental health. Our results could have some useful information for Indigenous people in other countries in designing culturally based programs that reduce poor mental health in supporting national strategies and the United Nations Declaration on the Rights of Indigenous People.

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Appendices

Appendix A. Search Strategy

Database	Search strategy
PubMed	1. ((((((((((((Mental health) OR mental-health) OR mental wellness) OR mental-wellness) OR addict*) OR anciet*) OR depression) OR suicid*) OR resilien*) OR wrap-around) OR client-centered) OR patient-centered) OR trauma*[MeSH Terms])))) AND 2. ((((intervention) OR community-based) OR community based) OR patient-centered) OR patient centered) OR wrap-around) OR program[MeSH Terms]))))) AND 3. (((((((Aborigin*) OR First Nation*) OR Native) OR Indians) OR Métis) OR Inuit) AND 4. Canad*[MeSH Terms])) 5. 1 AND 2 6. 3 AND 4 7. 5 AND 6
MEDLINE	1. (((((((Aborigin*.mp) OR First Nation*.mp) OR Native.mp) OR Métis.mp) OR Inuit.mp) OR Indigenous.mp) [MeSH Terms])))) AND 2. Canad*.mp[MeSH Terms])) 3. ((((((((((((Mental health.mp) OR mental-health.mp) OR mental wellness.mp) OR mental-wellness.mp) OR addict*.mp) OR anciet*.mp) OR depress*.mp) OR suicid*.mp) OR resilien*.mp) OR wrap-around.mp) OR client-centered.mp) OR patient-centered.mp) OR trauma*.mp[MeSH Terms])))) AND 4. ((((intervention.mp) OR community-based.mp) OR community based.mp) OR client-centered.mp) OR client centered.mp) OR patient-centered.mp) OR patient centered.mp) OR program.mp[MeSH Terms]))))) 5. 1 AND 2 6. 3 AND 4 7. 5 AND 6

DOI:10.18584/iipj.2021.12.2.10820

Appendix A. Search Strategy (continued)

Web of Science	1. ts=(Aborigin*) OR ts=(First Nation*) OR ts=(Native) OR ts=(Métis) OR ts=(Inuit) OR ts=(Indigenous) Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=All years 2. TS=(mental-health) OR TS=(mental health) OR TS=(mental-wellness) OR TS=(mental wellness) OR TS=(addict*) OR TS=(anxi*) OR TS=(depress*) OR TS=(suicid*) OR TS=(resilien*) OR TS=(trauma) OR TS=(resilien*) OR TS=(trauma) Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=All years 3. ts=(intervent*) OR ts=(community-based) OR ts=(community based) OR ts=(client-centered) OR ts=(client centered) OR ts=(patient-centered) OR ts=(patient centered) OR ts=(wrap-around) OR ts=(wrap around) Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=All years 4. ts=(Canad*) Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=All years 5. #4 AND #1 6. #3 AND #2 7. #6 AND #5
PsycINFO	1. Aborigin$.tw OR First Nation$.tw OR Native.tw OR Métis.tw OR Inuit.tw OR Indigenous.tw 2. Canad$.tw 3. mental-health.tw OR mental health.tw OR mental-wellness.tw OR mental wellness.tw OR addict$.tw OR anxi$.tw OR depress$.tw OR suicid$.tw OR resilien$.tw OR trauma.tw OR resilien$.tw OR trauma.tw 4. Intervent$.tw OR community-based.tw OR community based.tw OR client-centered.tw OR client centered.tw OR patient-centered.tw OR patient centered.tw OR wrap-around.tw OR wrap around.tw 5. 1 and 2 6. 3 and 4 7. 5 and 6

Appendix B. List of Activities Used to Improve Indigenous People's Mental Health

1. Non-competitive games, walks, crafts, shared meals
2. Jewellery making, sports, drawing
3. Discussion circles, storytelling, scavenger hunts, Medicine Wheel
4. Youth received mentoring for 1 year vs. 2 years
5. Big Brother, Big Sister program
6. Mentoring of Aboriginal youth
7. 2-4 hours per week with mentor for 1 year
8. Suicide response team: 2 Indigenous mental health workers, and travelling mental health clinic
9. Rainbow Lodge Recovery Centre
10. Weekly men's group
11. Shared meal
12. Health programs with doctors and nurses
13. Linking First Nation Elders with vulnerable men
14. Regular meetings with an Indigenous Elder
15. Elders provided a safe "place for healing," they could "laugh," and receive "gentle guidance," and they were "respected" compared to previous health care experiences
16. Culture camps
17. Traditional food gathering techniques
18. Language, survival techniques
19. Clan affiliation, Bah'Iats system
20. Friends for Life program classroom-based intervention
21. Individual and group activities that teach children to identify anxiety signals, physical bodily symptoms, worried thoughts and maladaptive behaviours
22. Outdoor adventure leadership experience
23. Wilderness canoe expedition
24. Medicine Wheel
25. Outward Bound Process Model
26. Small group activities
27. 8 experiences with 3 each summer
28. Ayahuasca ceremonies
29. Retreats focussed on addressing issues of addiction
30. Indigenous Elders meeting with individuals with depression and suicidal thoughts in a primary health care clinic
31. Weekly workshops led by an Indigenous Elder
32. iHEAL program (10-18 sessions over 6 months)

DOI:10.18584/iipj.2021.12.2.10820

Appendix C. Tools Used to Measure Participants Mental Health Status

1. 11-item Cultural Connectedness Scale (CCS)
2. 14-item Mental Health Continuum—Short Form (MHC-SF)
3. 6-point Likert scale (1 = *Never*, 6 = *Everyday*)
4. Strengths and Difficulties Questionnaire (SDQ)
5. Revised Social Anxiety Scale for Children (SASC-R)
6. Confirmed patient record at the psychiatric facility
7. Beck Depression Inventory-II
8. Beck Scale for Suicide Ideation
9. Beck Hopelessness Scale
10. Multiple Affect Adjective Check list
11. Clyde Mood Scale
12. Profile of Mood States
13. 39-item self-reported Multidimensional Anxiety Scale for Children (MASC)
14. Health and Well-Being Questionnaire
15. Outward Bound Process Model
16. Mental Component Score (MCS)
17. Scale of Positive and Negative Emotion—Balance (SPANE)
18. Self-Esteem Scale (SES)
19. The Difficulty in Emotion Regulation Scale
20. The Philadelphia Mindfulness Scale
21. The Empowerment Scale
22. The Hope Scale
23. The McGill Quality of Life Survey
24. The 4 Week Substance Abuse Scale
25. Patient Health Questionnaire
26. Suicidal Behaviours Questionnaire
27. Sullivan's Quality of Life Scale
28. PTSD Checklist Civilian Version
29. Centre for Epidemiologic Studies Depression Scale