Heart Health and Mental Wellbeing

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Indigenous peoples have thrived since time immemorial across North America; however, over the past three to four generations there has been a marked increase in health disparities amongst Indigenous peoples versus the general population. Heart disease and mental health issues have been well documented and appear to be interrelated within Indigenous peoples across Canada.

Indigenous mental health heart health cardiac

1. Introduction

Since time immemorial, Indigenous peoples have learned to thrive across North America, attending to wellness through interconnected wholistic practices. Unfortunately, colonization has disrupted these ways, leading to drastic health disparities between Indigenous peoples and non-Indigenous Canadians. Heart disease and mental health illnesses have been well documented as comorbidities, both of which are experienced by Indigenous peoples at higher rates of morbidity and mortality. Western research has yet to fully elucidate the reasons for the increased rates of heart disease and mental health issues and their relationship.

2. Prevalence of Heart Disease in Canada

Among the top ten chronic conditions experienced by Canadian adults are those relating to poor heart health, including hypertension (25%) and ischemic heart disease (8%) [1]. Across Canada, diseases of the heart are the second leading cause of death, with essential hypertension and hypertensive renal disease, and atherosclerosis among the top 20 [2]. While comprehensive data is not available for Indigenous peoples in Canada, existing data does point toward higher prevalence and growing rates of heart diseases, with data suggesting rates from two to ten times that of other Canadians [3][4][5]. Indigenous peoples also have higher rates of risk factors for heart disease including obesity, diabetes, smoking, physical inactivity, and other cardiovascular disease risk factors [3][5][6]. This increase in prevalence is due to the lasting effects of colonization (and its institutions, such as the Indian residential school system). In recognition of these health disparities, one of the six recommendations in the Canadian Heart Health Strategy and Action Plan (2009), was to address this “crisis” and to ensure that Indigenous peoples have access to the same quality of health services as the rest of Canada [7].

3. Prevalence of Mental Health Issues in Canada

Furthermore, in the top ten chronic conditions experienced by Canadian adults, are those relating to poor mental health, including mood and/or anxiety disorders (13%) and dementia (8%) [1]. Mental health issues and/or illnesses are characterized by a range of behaviours, thoughts, and emotions leading to distress or impaired functioning in daily life [8]. Approximately 20% of the Canadian population are living with a mental health problem or illness at any given time [8].

The rates of mental health stability for Indigenous peoples vary from community to community; however, on average the rates of depression within Indigenous peoples are twice that of the Canadian average, and suicide rates are two to 11 times higher than non-Indigenous Canadians [9]. In addition, Indigenous peoples are also subject to higher rates of poverty, unemployment, housing and food insecurity, and social exclusion and discrimination, all of which have impacts to mental health [10][11][12].

4. Heart Disease and Mental Illness as Comorbidities

The prevalence of cardiac disease and mental health issues or illnesses as comorbidities has been well documented; however, researchers have yet to fully understand their connection [13]. Many correlational studies have demonstrated this connection; for example, studies have found increased incidences of either heart disease or depression following the diagnosis of either condition [14]. A meta-analysis looking at patients with heart failure found that approximately 20% also had depression [13].

Numerous studies have shown a relationship between anxiety and cardiovascular disease [15]. Anxiety has been shown to increase risk of coronary heart disease independent of demographic variables, biological risk factors, and health behaviours [16]. In a study aimed at understanding Indigenous women's perspectives on heart health, participants shared that they worried about their heart health, and symptoms like a racing heart exacerbated this fear—not knowing if it was because of anxiety, an acute cardiac episode, or both [17].

Other studies have looked at biomarkers, such as allostatic load and hypothalamic-pituitary-adrenal (HPA) axis activity in relation to heart disease [18][19]. Low socioeconomic status, racism, and adverse childhood experiences, which are common experiences in Indigenous populations [12], are all linked to higher allostatic loads [19]; and higher allostatic load has been linked to various cardiovascular diseases, including ischemic heart disease and hypertension as well as poorer mental health, including depression and anxiety [19]. Numerous Indigenous peoples have cited systemic discrimination and colonization (which are also associated with the above factors) as attributing to their heart disease [20][21].

HPA axis activity has also been linked to heart health [18]. In a longitudinal study with healthy adolescents, psychological health was shown to be an important factor in endothelial function [18]. Anger, depression, and anxiety negatively affected HPA axis activity, while high self-concept had a positive effect [18]. In a large adult population study, positive affect has also been associated with a reduced risk of 10-year incident of cardiovascular disease [22]. While allostatic load and HPA axis activity are characterized by biomarkers, they have yet to become clear distinguishing factors in disease causation [16].

Moreover, little research has been conducted in Canada with First Nations, Métis, and Inuit peoples regarding the connection between cardiac disease and mental health. The high rate of co-occurrence, overlapping risk factors, and the prevalence of these two medical conditions in Indigenous populations warrants a further consideration into how and why these two health issues are interconnected, particularly from the perspectives of Indigenous peoples. Efforts in the prevention and treatment of cardiac disease should consider mental health factors, more wholistic health perspectives (such as emotional and spiritual health), and social, political, and environmental factors [23][24]. Importantly, wholistic perspectives of health have long been held by Indigenous peoples and researchers have much to learn from their knowledge.

5. Why Are Indigenous Peoples More Likely to Have These Conditions?

While the incidence of Indigenous peoples having heart disease and mental health problems is higher than other Canadians, it is important to consider why this is the case. The biomedical model has typically focused on genetics and “lifestyle” choices, resulting in blaming Indigenous peoples for their own poor health [24]. However, social determinants of health, including racism and colonization, can further explain why Indigenous peoples have a higher prevalence of these health conditions as well as the risk factors for their development [23][24].

Colonization has disrupted Indigenous ways of being, including ceremonies, relational systems, and connections to land that supported the wellbeing of individuals and Nations for generations. Activities such as hunting, and gathering food and medicines were interrupted, changing Indigenous peoples’ nutrition, healing, and the traditional physical activities they had access to and participated in daily [20]. Indigenous peoples were segregated and had to become dependent on Government rations, and groceries available in stores that were full of processed and sugary foods [20]. Poor nutritional diets and physical inactivity are major contributing factors to heart disease and mental health [25][26].

Anand et al. found that First Nations communities with reported greater socioeconomic advantage (such as greater employment, income, and long-term marital partnerships), higher proportions of individuals with completed high school education, trust amongst community members, and high social support had a lower burden of cardiovascular risk factors [27]. They also found that those with difficulty accessing primary care and prescription medications increased the burden of risk factors and carotid atherosclerosis [27]. When comparing their results to a parallel study among non-Indigenous Canadians, they found that non-Indigenous people scored lower for risk factors, and fewer people were classified as high risk demonstrating the considerably higher burden of risk factors in First Nations communities [27]. The lack of access to health care and socioeconomic discrimination are some of the legacies of colonization [28].

Other legacies include oppressive systems and institutions which have excluded Indigenous voices and greatly impacted Indigenous peoples’ health and wellness [20][23][24][29][30]. Numerous Indigenous peoples across Canada have attributed their heart disease to stress, grief and inter-generational trauma due to oppressive systems [20][21][31]. The trauma stemming from colonial policies, such as the Indian residential school system that removed

children from their families and placed them into far away institutions, has resulted in generations of Indigenous people who suffered severe emotional, mental, physical, and sexual abuse and traumas [24][29][32]. Despite the violence children experienced in residential schools and the grief over the severance of relationships with family members and home communities, most children were forced to suppress emotions, leaving them to tend to their broken hearts in isolation [20][21].

Psychological distress has a strong dose-dependent association with heart attack and stroke even when confounding variables, including sociodemographic factors, lifestyle factors, physiological facts and family history, are controlled for [33]. The First Nations Information Governance Committee, which collects data from First Nation community members across Canada, found that individuals who attended the Indian residential schools have much higher rates of diagnosis for heart disease (8.3%) and hypertension (23.0%) compared to those who had not attended these schools (4.0% and 13.0% respectively) [34]. These statistics demonstrate the detrimental impacts of what these First Nation survivors experienced and the damaging impacts of these colonial institutions.

Needless to say, it is important to understand the historical and cultural context in which illnesses such as heart disease and mental health problems arise. Detrimental social determinants, including racism and discrimination increase the risk burden for such health conditions for Indigenous peoples [12][24][29][30]. Dr. Moneca Sinclaire has "shared that any health study concerning Indigenous people today will likely say less about Indigenous people and more about what happens when you colonize a group of people for centuries" [23] (p. S151). Her quote speaks to the significant impact colonization has had on Indigenous peoples, as well as the fact that Western research is typically focused on health disparities and burden of illness, rather than Indigenous knowledge of health and wellbeing.

6. Wholistic Health Models Are Needed to Understand Intersecting Health Conditions

The consideration of the context in which health conditions arise, should include an examination of models of health in use and whether Indigenous voices are being included. How researchers treat illnesses such as heart disease and mental health problems is dictated by the models of health used, with the biomedical model dominating Western health systems used across Canada for the last century [35]. This model assumes that disease is the single underlying cause of all illness, and that health is the absence of disease. However, due to the inability to explain many relational causes of poor health, including somatic conditions, many health professionals are looking to other progressive models of health. One popular example is the biopsychosocial model, which was proposed in 1977 by George Engel [36]. This model acknowledges the influence of psychological and social factors on a patient's perception and experience of health [35][36]. The Mental Health Commission of Canada for one, recognizes that mental health problems and illnesses stem from complex interactions between social, economic, psychological, and biological factors [8]; these factors intersect to play a role in other aspects of the overall health and wellbeing.

Indigenous peoples since time immemorial have believed that health centers around balance and that different aspects of wellness are completely interconnected. Again, while each Nation has its own unique cultural teachings, typically this wholistic perspective incorporates four dimensions of wellness, including physical, spiritual, emotional, and mental, and extends beyond the individual to include family, community, and relationships with the land [12][37]. Indigenous perspectives and teachings also focus on strength-based or proactive approaches, which encourages healing and wellness from which ever state a person is in and based on their inherent wholistic gifts [37].

Although more comprehensive health models have been gaining popularity within Western health systems, aspects of Indigenous health models continue to be excluded [30]. Indigenous patients and families also continue to feel unheard, disrespected, and experience blatant racism in the health care system [23][30]. Because of this, numerous Indigenous health care services have been established to offer culturally safer care [38][39]. The inclusion of cultural values, customs and beliefs, and traditional healing practices within these services are central strategies and have produced promising results in patient satisfaction and health outcomes [39][40][41].

7. The Link between Heart and Mental Health: Centering Indigenous Perspectives from across Canada

There are over 50 distinct Indigenous Nations, representing over 600 First Nations communities across what is now called Canada [42]. Each Nation has unique languages, ways of being, and cultural teachings regarding personhood, spirituality, and the body. However, amongst this diversity, these Nations typically share common worldviews and ways of being including the integration of wholistic wellness practices throughout all aspects of life. These views often include maintaining balance and connection with oneself, family, and community as it is seen as essential for the wellbeing of Indigenous peoples [12][20][37][43]. This section will further discuss some of the Indigenous cultural views that have been shared publicly regarding heart health and how this often extends to being healthy in mind, body, spirit, and having good relationships with others. Before sharing some interpretations from Indigenous peoples, it is important to consider that the English language can be limiting, lacking the words to fully describe Indigenous conceptions [44]. These are also short quotes and references that may lack context in their teachings. Please continue through this section with an open heart and open mind, and know that these concepts go much deeper than their words.

Many Indigenous peoples believe that the hart has strong cultural meanings, and is often referred to as being the center and the connection of everything [31][45][46]. In some Indigenous cultures, such as the Anishinaabe, the strawberry is a symbolic representation of the heart and is referred to as heart berry; not only because of its shape, but also because of the vast plant system spreading out with leaves, shoots, and roots similar to how the heart uses the circulatory system to connect to all organs in the human body [46]. Moreover, the heart berry also stands as a reminder of the connection between the body, mind, emotions, and spirit, and guides in balance among these [46].

Other Indigenous Nations understand the heart to not only be connected to other body systems, but to operate as a single unit. Musqueam Elder Larry Grant simply articulates that “the heart and mind function as one” [36]. When

asked, Pnnal Jerome in Gesgapegiag described that there is no word for heart in Mi'kmawi'simk (Mi'gmaq language) but rather a word that described the whole person, because in Mi'gmaq culture, the heart, mind, and spirit are not separate [45]. A Cree woman is quoted saying that the heart "is gifted to every human being at birth by the Creator and is where one's emotions and intelligence are derived" [20]. These quotes demonstrate the strong connections between the heart and the mind within varying Indigenous cultures across Canada.

Like the previous quotes, participant Esther Sanderson from Opaskwayak Cree Nation (the Pas, Manitoba) shared a reflection on the meaning of her heart recognizing that it has two functions:
"*It is a physical organ that pumps blood through my body, and second is the blood flowing into my heart that carries my ancestors' Cree language, ceremonies, songs, values and life teachings. It is the same blood that has flowed through my ancestors that flows through me*". [47]

Sanderson's quote also illustrates the understanding of deep generational ties and the relations' contribution to wholistic heart health and personal wellness.

What she describes is often referred to as 'blood memory'. Blood memory is the ability to pass down ancestral knowledge, wisdom, and history [48][49]. It extends beyond genetic inheritance of disease to inheritance of all that makes us well [48]. This also relates to the seven generations principle. Numerous Indigenous peoples, including Cree First Nations, believe that the actions influence life for the next seven generations, and therefore researchers must act responsibly in consideration of the future of the families and communities [50].

This includes the consideration of the heart health and how researchers take care of one another. Eliza Beardy, who is Oji Cree from Wasagamack First Nation, Manitoba, has emphasized that in order for the children to be healthy, researchers need to be healthy and heal the hearts [51]. Not only do researchers have impact on future generations, but future generations can make us well too. Virginia McKay who is Saultaux and living in Berens River First Nation, Manitoba, recognizes her grandchildren as a source of healing for her [52]. In a family interview, one man's daughters also shared how they cared for one another during their grandfather's struggle with heart disease, making sure everyone had good food to eat and the social support they needed [53]. They also went to ceremony and prayed for their family members after their grandfather had passed away [53]. Their father also describes "broken heart syndrome" which happens when someone with few relationships dies following the death of a loved one. However, when there are enough relations around, such as children and grandchildren, then the heart can heal itself and this person can go on to process grief and live a healthy life [53]. Beyond family, many Indigenous peoples also believe that the overall health and wellbeing of their community and social networks are important contributing factors to their mental health wellbeing [54][55]. First Nations and Métis participants named social and cultural activities as places to build respectful relationships and contribute to supporting one another, providing a sense of fulfillment [54]. For many Indigenous peoples, their community is seen as an extension of their individual wellbeing and it is seen as a necessary contributing factor in wholistic balance and wellness [14][54][55]. The quotes from these Indigenous peoples discussing heart health eloquently expresses the wholistic view of how the body's physical health is intertwined with mental, emotional, and spiritual wellbeing, and family and community.

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