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Indigenous Peoples Experiences with Aging: A Systematic Literature Review

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Abstract

Purpose: To identify the qualities of healthy aging from an Indigenous perspective and suggest improvements for accessible healthy aging services, particularly within Indigenous communities.

Methods: A comprehensive search of primary databases was undertaken, including Scholars Portal, ProQuest Social Science, Medline (PubMed), Sociological Abstracts (ProQuest), Ovid Healthstar, Embdase (Ovid), PubMed, Google Scholar, and Medline (Ovid). Papers pertaining to the topic of Indigenous Peoples' aging were selected and analyzed through Nvivo12 to generate key themes across the studies.

Results: Our findings revealed a holistic understanding of aging amongst Indigenous Peoples. Good health is perceived as a balance between the mind, body, spirit, and emotions. Indigenous older adults continue to experience the direct impacts of colonialism. Current programming for Indigenous Peoples fails to incorporate the social and cultural aspects integral to their knowledge and belief systems, leaving them with suboptimal support towards a healthy aging process. Indigenous older adults also face multiple disparities, such as lower socioeconomic status, poor health status, and shorter life expectancy than the wider Canadian population, which affects their social, physiological, and emotional well-being.

Conclusions: Developing more comprehensive, culturally appropriate, accessible healthy aging services is crucial for the progression and maintenance of Indigenous older adults' well-being.

Keywords

Indigenous Peoples, Aging, Older Adults, Culture, Programming, Colonisation, Canada

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Introduction

Indigenous Peoples¹ in Canada are a non-homogenous group consisting of First Nations, Metis, and Inuit Peoples representing the original settlers of a given land or a geographical area (Parrott, 2018). Based on geographical location, there are unique names used to describe a given subset or group of Indigenous Peoples around the world. Despite their proximity, they originate from different nations, tribes, and communities and remain distinct in their spoken language, history, and way of life. Although there has been a notable growth in the literature on Indigenous Peoples, relatively little is published about their understanding of healthy aging. Similarly, there is a dearth of literature about the specific needs and wishes of Indigenous Peoples in Canada to facilitate a healthy aging process.

Given the notable lack of literature about Indigenous older adults², this systematic review focuses on current relevant literature without homing in on a subset of the Indigenous

¹ This paper will use the non-colonial term *Indigenous* when referring to and discussing First Nations, Métis, and Inuit Peoples as a group. Periodically, throughout this paper, the terms *Indian*, *Native*, and *Aboriginal* will be used, but only when there is a direct reference to these terms through policy or direct quote (Bruner, Lovelace, Hillier et al., 2019).

² For this paper, we use the term Indigenous older adults to refer to someone who is at the later stage of aging in their life. We use this term instead of 'Elder' in order to contrast it with the traditional Indigenous understanding of who and what an Elder is. Being an Elder is not defined by any age category, instead Elders are recognized by their communities because they have earned their respect through their knowledge, wisdom, harmony and balance of their actions in their teachings.

population. We³ sought to understand how this population in Canada, and in other settler colonial countries, defines and characterizes the healthy aging process. Indigenous elders view aging through a holistic lens compared to the general mainstream evaluation (Coombes et al., 2018), incorporating a connection to one's land and community, spirituality, family and social roles, learning of traditions, and teaching (Balestrery, 2016; Coombes et al., 2018; Gabel & Pace, 2016; Habjan et al., 2012; Waugh & Mackenzie, 2011). As a result, Indigenous older adults often criticize standardized definitions of healthy aging and refuse to identify with them (Browne et al., 2014).

Literature on Indigenous older adults reports that this population is at a much higher risk than the general population towards ill health and medical morbidities (Almeida et al., 2014; Brooks-Cleator et al., 2019; Browne et al., 2014; Coombes et al., 2018; Cotter et al., 2012; Habjan et al., 2012). These medical morbidities include respiratory diseases, hypertension, and diabetes (Coombes et al., 2018; Cotter et al., 2012). In addition, Indigenous older adults experience reduced quality of life due to their socio-economic status (Gubhaju et al., 2015; Temple & Russell, 2018; Wilson et al., 2011). These factors compound to yield substantially lower life expectancies for Indigenous Peoples compared to the general population, although this gap is becoming notably smaller in Canada and Australia (Waugh & Mackenzie, 2011; Wilson et al., 2011). There also appears to be an underutilization of support services and programs by Indigenous older adults. Health disparities and a lack of uptake in services between Indigenous

³ The authors of this study come to this work with their own unique worldviews and experiences that has helped to frame and inform this research and article. The principal author is a queer mixed Mi'kmaw / settler (western Europe), but maintains status under the colonial *Indian Act*, and grew up having a close relationship with his grandmother while living economically disadvantaged in a small isolated community in rural Newfoundland. Co-author Al-Shammaa is a first-generation Canadian coming from Iraq. He has traveled extensively in search of new opportunities and grew up with grandparents and aunts & uncles who lived a simple yet culturally immersed life where older adults are highly valued and regarded as the ultimate mentors/teachers.

and non-Indigenous older adult populations are undoubtedly attributable to the history of and ongoing trauma faced by the former. Prior to colonisation, Indigenous Peoples maintained traditional practices for living, healing, and aging. Since the start of European settlement, colonisers have sought to neglect, dismiss, and be rid of Indigenous Peoples (Morgensen, 2011). Colonialism practices introduced traumatic experiences like violence against Indigenous Peoples, assimilation through Residential Schools⁴, removal of Indigenous children from their communities during the “sixties scoop”⁵, introducing small pox-infected blankets, and carrying out nutrition experiments on Indigenous children (Nutton & Fast, 2015). Indigenous Peoples also experience forced relocation from their traditional lands to reserves, banning of cultural and traditional ceremonies, high incarceration rates, missing or murdered Indigenous women and girls, and constrained political voices and rights through ongoing governmental intervention. To be effective, the services and programs provided for Indigenous aging populations today must integrate Indigenous culture, beliefs, and worldviews and acknowledge their lived trauma.

Purpose

While there is growing attention on Indigenous Peoples’ in society, much of the current programs aimed at supporting Indigenous older adults fail to target their actual needs (Abraham et al., 2018; Balestrery, 2016; Browne et al., 2014; Habjan et al., 2012). This systemic review sought to identify the qualities of healthy aging from an Indigenous perspective, in order to understand the underutilization of support services and programs by Indigenous older adults in Canada.

⁴ Government-sponsored catholic schools that were created to assimilate Indigenous children into Euro-Canadian culture.

⁵ A practice that occurred in Canada during the 1960’s of “scooping up” Indigenous children from their communities and placing them in foster homes or for adoption.

Our findings will aid non-Indigenous service organizations, researchers, and policymakers to further understand Indigenous views on aging, improve programming, and create policies that best support the Indigenous aging process.

Methods

A comprehensive search of the literature was conducted in March 2019. The following electronic databases were used to scan the relevant literature: Scholars Portal, ProQuest Social Science, Medline (PubMed), Sociological Abstracts (ProQuest), Ovid Healthstar, Embase (Ovid), PubMed, Google Scholar, and Medline (Ovid). A single search strategy was adopted, using the following keywords across the databases: ('elderly*' OR 'aging' OR 'senior*') AND ('Indigenous' OR 'Aboriginal' OR 'Métis' OR 'First Nations' OR 'Inuit'). The term 'Indigenous' is used throughout this review to broadly refer to this ethnic group of people, as it is the most inclusive title internationally (legally, the term 'native' has no status in Canada). Due to the limited number of Canadian results, inclusion was expanded to international studies from other settler-colonial countries (United States, New Zealand, and Australia). Nonetheless, the search terms and main focus of this literature search remain on Indigenous Peoples in Canada, with international studies serving to provide broader context. In total, the search yielded over 3000 results from all databases. Many results were duplications or outside the scope of our defined parameters (noted above) and were excluded during the first screening. Following that, all remaining titles and abstracts were read to determine eligibility.

In order to be included, studies had to:

- Be published in English after February 2009;
- Describe Indigenous Peoples in Canada, Australia, New Zealand, and US;
- Be peer-reviewed;
- Report findings specific to Indigenous older adults.

Following the initial screening process, electronic full-text documents of 88 potential peer-reviewed studies were obtained for further analysis. The full-text was read to determine

relevance.

Studies were further excluded if they:

- Were discussion (i.e., opinion-based) articles;
- Pertained to the general population (i.e., Indigenous Peoples were not the focus);
- Based their discussions on aspects unrelated to aging (e.g., finances, medical technologies);
- Targeted a non-age-specific factor affecting quality of life, health, or communities as a whole;
- Were study protocols (i.e., outlined procedures for carrying out the research with no execution or results);
- Were review articles.

Following further analysis and screening, 50 studies were deemed irrelevant and excluded. The final review encompasses 38 peer-reviewed studies that meet all inclusion criteria. A complete list of these articles is presented in Tables 1 and 2. NVivo 12 was used for detailed analysis and to generate common themes across studies.

We aimed to identify sensitive features that are often overlooked in Indigenous Peoples' research. This included the researcher's cultural background (i.e., if they openly identified as Indigenous or non-Indigenous), research methodology (were Indigenous methods/worldviews incorporated), and whether the research was informed by consultation with Indigenous Peoples. We typically identified this information within the articles; however, if the author's cultural background was not specified, we located official written biographies on their institution's site. In some cases, this did not definitively answer whether an author identified as Indigenous or non-Indigenous.

Results

Of the 38 articles analyzed, 17 were written by self-identified Indigenous researchers, 15 were written by non-Indigenous researcher(s), and for six, no determination was made (see Table 1). Fourteen of the 38 studies utilized Indigenous methodologies, including storytelling, yarning

circles, and some form of community-based participatory research (CBPR). A total of 25 studies were conducted in consultation with and/or alongside members of Indigenous communities and/or organizations. Of the 17 studies conducted by Indigenous researchers, eight incorporated both Indigenous methodologies and consultation, seven studies used Indigenous consultation alone, and one study adopted Indigenous methodologies alone. Of 21 studies conducted by non-Indigenous or unspecified researchers, five employed both Indigenous methodologies and consultation while five used Indigenous consultation alone.

Table 1.

Reference	Country	Researcher(s) Background	Indigenous Methods/Consultation
Abraham et al. (2018)	New Zealand	Non-Indigenous	N/A
Almeida et al. (2014)	Australia	Non-Indigenous	N/A
Balestrery (2016)	US	Non-Indigenous	Community based participatory research (CBPR) & Indigenous consultation
Bartlett et al. (2012)	Canada	Indigenous	Community based participatory research (CBPR)
Baskin and Davey (2015)	Canada	Indigenous	Storytelling & Indigenous consultation
Bell and Lindeman (2015)	Australia	Non-Indigenous	N/A
Brooks-Cleator (2019)	Canada	Non-Indigenous	Indigenous consultation
Brooks-Cleator and Giles (2016)	Canada	Non-Indigenous	Indigenous consultation
Brooks-Cleator et al. (2019)	Canada	Indigenous	Community based participatory research (CBPR) & Indigenous consultation
Browne and Braun (2017)	US	Not specified	N/A
Browne et al. (2014)	US	Not specified	Community based participatory research (CBPR) & Indigenous consultation
Coombes et al. (2018)	Australia	Indigenous	The Yarning Circle & Indigenous consultation
Cotter et al. (2011)	Australia	Not specified	N/A
Cotter et al. (2012)	Australia	Not specified	N/A
First Nations Information Governance Centre and Walker (2017)	Canada	Indigenous	Indigenous consultation
Gabel and Pace (2016)	Canada	Indigenous	Community based participatory research (CBPR) & Indigenous

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			consultation
Gubhaju et al. (2015)	Australia	Not specified	Indigenous consultation
Habjan et al. (2012)	Canada	Indigenous	Indigenous consultation
Hampton et al. (2010)	Canada	Indigenous	Indigenous consultation & community action research methodology
Hulko et al. (2010)	Canada	Indigenous	Storytelling & Indigenous consultation
Hyde et al. (2016)	Australia	Not specified	Indigenous consultation
Keith et al. (2016)	Australia	Indigenous	Indigenous consultation
Lanting et al. (2011)	Canada	Non-Indigenous	Indigenous consultation
Lewis (2013)	US	Indigenous	Indigenous consultation
Lewis and Allen (2017)	US	Indigenous	N/A
Lukaszuk et al. (2018)	Australia	Indigenous	The Yarning Circle & Indigenous consultation
Owen-Williams (2012)	Canada	Non-Indigenous	Community based participatory research (CBPR) & Indigenous consultation
Ramage-Morin and Bougie (2017)	Canada	Non-Indigenous	N/A
Temple and Russell (2018)	Australia	Non-Indigenous	N/A
Temple et al. (2019a)	Australia	Indigenous	Indigenous consultation
Temple et al. (2019b)	Australia	Indigenous	Indigenous consultation
Tobias and Richmond (2016)	Canada	Indigenous	The Yarning Circle & Indigenous consultation
Tonkin et al. (2018)	Canada	Indigenous	Indigenous consultation
Waugh and Mackenzie (2011)	Australia	Non-Indigenous	Storytelling & Indigenous consultation
Weeks and LeBlanc (2010)	Canada	Non-Indigenous	N/A
Wilson et al. (2010)	Canada	Non-Indigenous	N/A
Wilson et al. (2011)	Canada	Non-Indigenous	N/A
Wright et al. (2016)	Australia	Non-Indigenous	Storytelling & Indigenous consultation

We sought to uncover common themes across the articles in this review (see Table 2 for study breakdown, sample size, age, and variables). Ten articles had a broad focus on health/health status, 15 on social and cultural influences, nine on the perceptions of aging and health, two on the risk of falls, and two examined frailty. The remaining studies assessed diverse topics including housing, dementia, depressive disorders, life experiences, and physical activity.

From the 38 articles analyzed through NVivo 12, 12 major themes were identified and will

be discussed below:

1. Underutilization of services and programs;
2. Perceptions of health and aging;
3. Accelerated aging and lower life expectancy;
4. Medical morbidities and co-morbidities;
5. Senior care;
6. Socioeconomical disadvantage;
7. Family and social relationships;
8. Teaching and learning;
9. Traditions and communities;
10. Staying active and independent;
11. Stigma and;
12. Promising practices and recommendations.

Table 2.

Reference	Sample Size	Sample Age	Variables Studied
Abraham et al. (2018)	4	25-50	Experiences in the emergency department
Almeida et al. (2014)	250	46-89	Depressive disorders
Balestrery (2016)	22	55-85	Points of tension that characterize culturally pluralistic care services
Bartlett et al. (2012)	45	60+	Experiences of aging in place
Baskin and Davey (2015)	10	60-75	Social services, quality of life, social interaction
Bell and Lindeman (2015)	N/A	N/A	Service delivery, cultural perspectives, community care
Brooks-Cleator (2019)	45	55-79	Definitions of ageing, community care and services
Brooks-Cleator and Giles (2016)	7	N/A	Physical activity, cultural relevance
Brooks-Cleator et al. (2019)	32	55+	Ageing perspectives, community care, service delivery
Browne and Braun (2017)	10	55+	Care preferences, cultural values, family caregiving, definition of ageing
Browne et al. (2014)	41	60-94	Senior care, health and well-being, care preferences
Coombes et al. (2018)	76	45-89	Healthy aging perspectives
Cotter et al. (2011)	Population	N/A	Care preference, utilization of services
Cotter et al. (2012)	Population	N/A	Life expectancy, premature aging
First Nations Information Governance Centre and Walker (2017)	1820	65+	Health and well-being, frailty
Gabel and Pace (2016)	12	6 seniors 50-75	Social interaction, health and well-being
Gubhaju et al. (2015)	1563	45+	Health behaviour, health and well-being, physical limitations

Habjan et al. (2012)	216	30+	Senior care, care preferences, utilization of services
Hampton et al. (2010)	5	N/A	End of life preferences, cultural values, care preferences
Hulko et al. (2010)	21	57-88	Perceptions of aging, memory loss
Hyde et al. (2016)	182	45-96	Frailty, disability, mortality
Keith et al. (2016)	289	45+	Falls risk
Lanting et al. (2011)	3	59-73	Perceptions of aging, perceptions of memory loss
Lewis (2013)	20	61-93	Community engagement, physical health, emotional well-being, spirituality
Lewis and Allen (2017)	10	61-94	Cultural connection and social interactions
Lukaszyk et al. (2018)	76	45+	Falls risk
Owen-Williams (2012)	N/A	N/A	Traditions, family characteristics, community characteristics
Ramage-Morin and Bougie (2017)	2142	45+	Family networks and health
Temple and Russell (2018)	2900	18+	Food insecurity
Temple et al. (2019a)	2730	45+	Stigma, racism, mental health
Temple et al. (2019b)	2606	45+	Racism
Tobias and Richmond (2016)	46	N/A	Repossession of Indigenous communities
Tonkin et al. (2018)	38	N/A	Perspectives on community programs
Waugh and Mackenzie (2011)	6	48-70	Perceptions of aging, perceptions of health and well-being
Weeks and LeBlanc (2010)	25	N/A	Housing
Wilson et al. (2010)	130827	55+	Health and well-being, determinants of health
Wilson et al. (2011)	51080	18+	Health and well-being, determinants of health
Wright et al. (2016)	18	N/A	Attributes for meaningful engagement

Underutilization of Services and Programs

Fourteen studies discussed the underutilization of services by Indigenous older adults. These studies reported lower access to services amongst Indigenous versus non-Indigenous older adults and further, between urban-based and remote Indigenous clients (Bell & Lindeman, 2015; Habjan et al., 2012). There was also an overall underutilization of services by Indigenous older

adults who did not know they exist (Bartlett et al., 2012; Brooks-Cleator et al., 2019; Browne et al., 2014; Tonkin et al., 2018). When Indigenous older adults were aware of these services, they faced barriers to admission including financial difficulties (Browne & Braun, 2017; Browne et al., 2014; Coombes et al., 2018; Lukaszyk et al., 2018; Wilson et al., 2011), geographical isolation (Bartlett et al., 2012), and problems with transportation (Bartlett et al., 2012; Brooks-Cleator et al., 2019; Browne et al., 2014; Coombes et al., 2018; Tonkin et al., 2018).

A lack of culturally-relevant services and programs make it difficult for Indigenous older adults to navigate the healthcare system (Abraham et al., 2018; Bell & Lindeman, 2015; Browne et al., 2014; Coombes et al., 2018; Habjan et al., 2012); five studies noted an imperative sense of community is missing from such programs (Bell & Lindeman, 2015; Brooks-Cleator & Giles, 2016; Browne et al., 2014; Coombes et al., 2018; Habjan et al., 2012). Mainstream ‘Westernized’ programs are undesirable, with older adults fearing separation from their traditions and culture (Abraham et al., 2018; Brooks-Cleator & Giles, 2016; Coombes et al., 2018). Habjan et al. (2012) and Browne et al. (2014) also noted an association between a lack of education and difficulty accessing services amongst Indigenous older adults.

Fourteen studies mentioned the need for Indigenous-specific programming, and five stressed the need for culturally appropriate on-reserve care. Thirteen studies recommended the development of cohesive programs to provide a necessary sense of community and relatedness for Indigenous older adults. Participants in four studies emphasized the importance of language and translation services because failures in communication between a patient and their healthcare provider result in lower-quality care (Abraham et al., 2018; Brooks-Cleator et al., 2019; Habjan et al., 2012; Lanting et al., 2011).

Perceptions of Health and Aging

Seven studies reported distinct definitions of health amongst Indigenous older adults and 13 gave a detailed overview of successful aging from an Indigenous perspective. Indigenous older adults view health from a holistic understanding, striving for harmony between the mind, spirit, body, and emotions (Balestrery, 2016; Coombes et al., 2018; Gabel & Pace, 2016; Habjan et al., 2012; Waugh & Mackenzie, 2011), and viewing good physical health as important as one's connection to their community and passing wisdom to younger generations (Balestrery, 2016; Baskin & Davey, 2015; Browne & Braun, 2017; Browne et al., 2014; Lewis & Allen, 2017; Owen-Williams, 2012; Wilson et al., 2010). An intimate connection between Indigenous older adults and their families, community, and land are imperative to healthy aging (Coombes et al., 2018; Gabel & Pace, 2016; Habjan et al., 2012; Waugh & Mackenzie, 2011).

Accelerated Aging and Lower Life Expectancy

Accelerated aging and lower life expectancy were initially coded and analyzed separately, but later merged into one theme. A trend towards lower life expectancy was documented in eight studies; Indigenous Peoples in Canada and Australia, on average, live five to 15 years less than the general population (Coombes et al., 2018; Cotter et al., 2012; Wilson et al., 2011).

Indigenous older adults are one of the fastest-growing demographic groups in Canada (Habjan et al., 2012). Frailty levels amongst 45–54-year-olds are comparable to that of people aged 65–74 in the general Canadian population (First Nations Information Governance Centre & Walker, 2017). In their study on Indigenous Australians, Gubhaju et al. (2015) noted a higher prevalence of severe health limitations in Indigenous participants aged 45–49 compared to their non-Indigenous counterparts. Another study found a significant prevalence of frailty and disability in Indigenous Australians, beginning at a much younger age than in the general population (Hyde et al., 2016). In Australia, Indigenous Peoples aged 50–69 years are 2.6 times more likely to require

assistance with daily activities compared to their non-Indigenous counterparts (Cotter et al., 2012). To combat against the effects of shorter life expectancy, some studies define older adults as 55 and up (Brooks-Cleator et al., 2019) or even 45 and up (Keith et al., 2016; Lukaszyk et al., 2018; Temple et al., 2019b; Wilson et al., 2010). In Canada, participants of Brooks-Cleator et al.'s study (2019) indicated that it would be more appropriate to change the age requirement from 65 to 55 for Indigenous older adults requiring health support services. The First Nations Information Governance Centre and Walker (2017) have indicated a need for services for Indigenous Peoples who fall outside the standard age criteria to ensure they are able to thrive within their communities.

Medical Morbidities and Co-morbidities

The theme of medical morbidities was persistent in 14 studies. While rates of infectious disease and subsequent death are declining in Indigenous populations, numerous chronic conditions are increasing and more prevalent than in the general population (Almeida et al., 2014; Brooks-Cleator et al., 2019; Browne et al., 2014; Coombes et al., 2018; Cotter et al., 2012; Habjan et al., 2012). A Canadian study found seven percent of the Indigenous participants aged 55-64 report three or more chronic conditions, versus just two percent in the age-matched non-Indigenous group (Wilson et al., 2010). In Australia, Indigenous Peoples suffer higher rates of respiratory diseases, cardiovascular disease, diabetes, chronic kidney disease, and long-term musculoskeletal disease compared to the general population (Coombes et al., 2018). Cotter et al. (2012) suggest earlier onset and higher prevalence of some conditions, particularly hypertension, respiratory disease, and diabetes in Indigenous populations. Almeida et al. (2014) found that the prevalence of diabetes and heart problems was very high in their Indigenous sample compared with the general Australian population.

Diseases that cause a decline in cognitive functioning, such as dementia, affect Australian Indigenous older adults at much higher rates than in the general population (Cotter et al., 2012). Only 10.5 percent of First Nations older adults in Canada report having no health conditions, which is significantly lower than the general population (First Nations Information Governance Centre & Walker, 2017). Additionally, Indigenous older adults are more likely to have more than one health condition simultaneously (Brooks-Cleator et al., 2019; Wilson et al., 2010; Wilson et al., 2011).

Older Adult Care

Concerns with older adult care arose as a key theme in seven studies (Bartlett et al., 2012; Bell & Lindeman, 2015; Brown & Braun, 2017; Browne et al., 2014; Coombes et al., 2018; Habjan et al., 2012; Owen-Williams, 2012). Social expectations (Bell & Lindeman, 2015; Browne et al., 2014) and quality of care (Bartlett et al., 2012; Habjan et al., 2012) were identified as prominent sub-themes to this issue. Indigenous Peoples perceive older adult care as a social responsibility that generally falls on the older adults' family and community (Bell & Lindeman, 2015; Browne et al., 2014). While Indigenous families face financial and emotional difficulties, they continue to provide care for their aging family members due to their inherent value system (Browne et al., 2014). Additional responsibilities and less funding for support programs render family members feeling overwhelmed by the burden of care (Bell & Lindeman, 2015; Brown & Braun, 2017). There is also a trend of migration away from their communities amongst Indigenous youth, attributed to the lack of work opportunities at home (Habjan et al., 2012; Tobias & Richmond, 2016). Consequently, aging family members are left behind, with no family to look after them and inadequate older adult care services in their community (Habjan et al., 2012). On-reserve services are scarce, and Indigenous older adults are often forced out of their communities to

access better care (Bartlett et al., 2012; Bell & Lindeman, 2015; Coombes et al., 2018; Habjan et al., 2012).

Socioeconomical Disadvantage

Socioeconomic disadvantage was a prominent theme in 11 studies. Lower levels of income (Bartlett et al., 2012; Brooks-Cleator et al., 2019), wealth, and education (Habjan et al., 2012; Hyde et al., 2016) attenuate the socioeconomic status of Indigenous Peoples and result in adverse health outcomes and living conditions for Indigenous older adults (Gubhaju et al., 2015; Temple & Russell, 2018; Wilson et al., 2011). Moreover, Indigenous Peoples' low socioeconomic status is associated with physical inactivity, tobacco use, and drug and alcohol abuse (Wilson et al., 2011). In Canada, food insecurity (Bartlett et al., 2012; Brooks-Cleator et al., 2019;) homelessness, and poor housing conditions are other pervasive issues among Indigenous older adults (Brooks-Cleator et al., 2019; Habjan et al., 2012), with poor housing conditions linked to adverse health effects in this group (Habjan et al., 2012; Weeks & Leblanc, 2010; Wilson et al., 2011). Of 182 Indigenous Australian participants in a study by Hyde et al., only 60% had some form of education, and there was a negative association between education and disability (2016). In two Canadian studies, financial disadvantage was highlighted as a critical variable predicting whether older Indigenous Peoples could access healthcare services and healthy food (Bartlett et al., 2012; Brooks-Cleator, 2019). Participants of Browne et al.'s study noted better accessibility to services, healthier food, and a more adequate income as "health needs" for Native Hawaiians (2014). Overall, Indigenous older adults face serious financial struggles due to costly needs (food, housing, transportation) and the lack of financial support they receive, with moderately more financial support available to on-reserve older adults versus those who have left their communities (Habjan et al., 2012).

Family and Social Relationships

Maintaining healthy relationships with family and other community members was indicated in 19 studies as a coping mechanism for Indigenous Peoples. These relationships are imperative for emotional support (Abraham et al., 2018; Browne et al., 2014; Lewis, 2013; Ramage-Morin & Bougie, 2017), caregiving (Bell & Lindeman, 2015; Browne & Braun, 2017; Browne et al., 2014), and a sense of belonging and connectedness (Bartlett et al., 2012; Baskin & Davey, 2015; Brooks-Cleator et al., 2019; Coombes et al., 2018). Indigenous older adults are motivated to keep their families connected, despite the historical and ongoing trend of state-sponsored segregation they face (Baskin & Davey, 2015; Browne & Braun, 2017; Coombes et al., 2018; Owen-Williams, 2012). In particular, grandparent-grandchild relationships are important for intergenerational teaching and learning (Baskin & Davey, 2015; Gabel & Pace, 2016; Owen-Williams, 2012; Waugh & Mackenzie, 2011).

Teaching and Learning

Traditional teaching and learning were prominent in 11 studies, with Indigenous older adults valuing this historical storytelling technique for knowledge translation and transmission to their predecessors (Bartlett et al., 2012; Baskin & Davey, 2015; Waugh & Mackenzie, 2011). Some Indigenous older adults indicated a desire to fill the gap of ancestral and historical knowledge that has been lost due to centuries of colonisation (Baskin & Davey, 2015; Gabel & Pace, 2016; Waugh & Mackenzie, 2011). Most participants reported gaining their cultural knowledge through the teachings of parents and grandparents (Browne & Braun, 2017; Gabel & Pace, 2016; Owen-Williams, 2012), while others accessed Indigenous services in the community (Baskin & Davey, 2015). Indigenous communities value older adults, associating them with knowledge and wisdom (Browne & Braun, 2017; Browne et al., 2014; Lewis & Allen, 2017). Indigenous older

adults, in turn, have a desire to teach their children and grandchildren about their ancestry, ultimately feeling responsible for culture preservation (Baskin & Davey, 2015; Brooks-Cleator, 2019; Browne & Braun, 2017; Gabel & Pace, 2016; Hulko et al., 2010; Waugh & Mackenzie, 2011).

Traditions and Community

Nine studies addressed the importance of traditions and communities. As noted earlier, Indigenous older adults underutilize care services and programs due to the lack of Indigenous traditions within their framework(s) (Bell & Lindeman, 2015; Brooks-Cleator & Giles, 2016; Browne et al., 2014; Coombes et al., 2018; Habjan et al., 2012). Engaging in cultural and traditional activities with their community provides Indigenous older adults a sense of belonging, value (Gabel & Pace, 2016; Lanting et al., 2011; Lewis & Allen, 2017; Tobias & Richmond, 2016; Waugh & Mackenzie, 2011), and togetherness (Baskin & Davey, 2015; Brooks-Cleator & Giles, 2016; Waugh & Mackenzie, 2011). Participants discussed avoiding mainstream services as a form of cultural preservation, fearing this may weaken their connection to their communities (Abraham et al., 2018; Brooks-Cleator & Giles, 2016; Coombes et al., 2018). Indigenous older adults feel a deep connection to their land and would prefer living in their communities if care programs were available and adequate (Balestrery, 2016; Habjan et al., 2012; Tobias & Richmond, 2016; Weeks & LeBlanc, 2010). In a self-reported health survey, Indigenous older adults living in their own communities reported feeling healthier than those living off-reserve (Wilson et al., 2011).

Staying Active and Independent

Staying active and independent were initially analyzed separately, but subsequently combined due to their presumed association. Elders constitute a powerful resource in Indigenous

communities, radiating knowledge, a sense of connectedness, and leadership (Owen-Williams, 2012). Therefore, it is essential they maintain an active role within their communities, despite the struggles they face along the aging process. Participants in three studies emphasized the importance of accepting the reality of age-related functional declines and doing what they can to remain active within their functional capacity (Bartlett et al., 2012; Brooks-Cleator, 2019; Lewis, 2013). Participants in two studies mentioned good physical health and independence as crucial components of healthy aging (Bartlett et al., 2012; Brooks-Cleator, 2019). Having a sense of purpose emerged as a vital factor of aging well (Brooks-Cleator, 2019), and was unanimously reported to result from engagement in meaningful activities such as disseminating traditional knowledge (Brooks-Cleator, 2019), blueberry picking (Tobias & Richmond, 2016), and volunteering opportunities (Bartlett et al., 2012).

Stigma

Indigenous older adults must cope with the legacy of intergenerational trauma and its ongoing repercussions including widespread racial stigma (Hampton et al., 2010; Temple et al., 2019a; Temple et al., 2019b; Weeks & LeBlanc, 2010), negative stereotypes (Balestrery, 2016; Baskin & Davey, 2015; Coombes et al., 2018; Habjan et al., 2012), and a lack of respect from others (Bartlett et al., 2012; Brooks-Cleator & Gilles, 2016; Browne et al., 2014; Owen-Williams, 2012; Waugh & Mackenzie, 2011). In some instances, colonisation has negatively impacted the respected status of Indigenous older adults, who are not valued in their communities as elders once were (Baskin & Davey, 2015; Brooks-Cleator & Gilles, 2016; Habjan et al., 2012; Owen-Williams, 2012; Waugh & Mackenzie, 2011). This is exemplified by a lack of respect and mistreatment from younger generations (Bartlett et al., 2012; Baskin & Davey, 2015; Habjan et al., 2012; Owen-Williams, 2012; Waugh & Mackenzie, 2011). This dishonor leaves Indigenous

older adults feeling unsupported, and by extension, neglected as they age (Brooks-Cleator et al., 2019; Habjan et al., 2012).

Off reserve, Indigenous older adults face racism from non-Indigenous people (Temple et al., 2019a; Temple et al., 2019b; Weeks & LeBlanc, 2010) and discrimination within hospitals and healthcare centers (Abraham et al., 2018; Browne et al., 2014; Hampton et al., 2010; Temple et al., 2019a; Temple et al., 2019b). Negative stereotypes are widely known to drive discrimination towards Indigenous groups (Balestrery, 2016). Many people have the perception that Indigenous Peoples are lazy, unproductive, and reliant on other people's money (Balestrery, 2016; Baskin & Davey, 2015; Coombes et al., 2018).

Promising Practices and Recommendations

Promising practices, or authors' recommendations to address the care and wishes of Indigenous older adults, were discussed in 16 studies. Three key recommendations emerged: recognizing and understanding the unique needs of Indigenous older adults (Abraham et al., 2018; Bell & Lindeman, 2015; Brooks-Cleator & Giles, 2016; Brooks-Cleator et al., 2019; Browne et al., 2014; Coombes et al., 2018; Cotter et al., 2011; Hampton et al., 2010; Lanting et al., 2011; Lukaszuk et al., 2018; Owen-Williams, 2012; Waugh & Mackenzie, 2011; Wright et al., 2016), promoting Indigenous leadership and allowing Indigenous older adults to take ownership of their actions (Brooks-Cleator & Giles, 2016; Brooks-Cleator et al., 2019; Lewis & Allen, 2017; Lukaszuk et al., 2018; Tobias & Richmond, 2016; Wright et al., 2016), and providing a sense of connectedness and community within older adults services (Baskin & Davey, 2015; Brooks-Cleator & Giles, 2016; Browne & Braun, 2017; Browne et al., 2014; Cotter et al., 2012; Hampton et al., 2010; Owen-Williams, 2012; Tobias & Richmond, 2016; Waugh & Mackenzie, 2011; Wright et al., 2016). Participants from Brooks-Cleator et al.'s (2019) study indicated

feeling more supported to age well when they perceived service providers to genuinely care for them, both as Indigenous individuals and as a collective group. The importance of providing care services for adults not meeting the traditional age criteria was advocated, due to the apparent discrepancy in age expectancy and health complications between Indigenous and non-Indigenous peoples (Brooks-Cleator et al., 2019; First Nations Information Governance Centre & Walker, 2017).

Five studies recommended that, in order to avoid a “one-size-fits-all” approach, service providers working with Indigenous older adults become culturally informed of their unique needs, languages, beliefs, and practices, including traditional medicines, healing rituals, and ceremony (Bell & Lindeman, 2015; Brooks-Cleator et al., 2019; Browne et al., 2014; Coombes et al., 2018; Lanting et al., 2011). In response to the lack of older adult services on reserve, several studies indicated the need for more services within Indigenous communities (Bartlett et al., 2012; Bell & Lindeman, 2015; Coombes et al., 2018; First Nations Information Governance Centre & Walker, 2017). Allowing Indigenous older adults to take ownership of their actions permits them to make culturally-informed adaptations to the scope and structure of support program(s) (Brooks-Cleator & Giles, 2016; Lewis & Allen, 2017) and will ensure the specific needs of each community are addressed (Browne & Braun, 2017; Lukaszyk et al., 2018).

Discussion

The purpose of this review was to identify the qualities of healthy aging from an Indigenous perspective and suggest improvements for accessible healthy aging services, particularly within Indigenous communities. Indigenous older adults experience significantly greater socioeconomic disadvantages when compared to their non-Indigenous counterparts (Bartlett et al., 2012; Brooks-Cleator et al., 2019; Habjan et al., 2012; Hyde et al., 2016). The impacts of

socioeconomic status on a person's wellbeing are diverse, and they follow various intersecting paths. The 38 peer-reviewed studies we examined highlighted disparities between Indigenous and non-Indigenous older adults, marked by lower socioeconomic status (Bartlett et al., 2012; Brooks-Cleator et al., 2019; Habjan et al., 2012; Hyde et al., 2016), life expectancies (Coombes et al., 2018; Cotter et al., 2012; Wilson et al., 2011), health status (Almeida et al., 2014; Brooks-Cleator et al., 2019; Browne et al., 2014; Coombes et al., 2018; Cotter et al., 2012; Habjan et al., 2012), and hindered access to care (Bartlett et al., 2012; Brooks-Cleator et al., 2019; Browne & Braun, 2017; Browne et al., 2014; Coombes et al., 2018; Lukaszyk et al., 2018; Wilson et al., 2011; Tonkin et al., 2018). As suggested by Wilson et al. (2011), socioeconomic status plays a significant role in one's health status; with lower socioeconomic groups more likely to engage in unhealthy behaviours like tobacco consumption, physical inactivity, and drug or alcohol abuse. Lower socioeconomic status decreases access to healthy foods and hinders access to health care (Bartlett et al., 2012; Brooks-Cleator, 2019; Browne et al., 2014). Indigenous older adults may not be able to access appropriate healthy aging programs and services due to their financial struggles (Browne et al., 2014; Lukaszyk et al., 2018) and are burdened with poor-quality living conditions and homelessness (Bartlett et al., 2012; Bell & Lindeman, 2015). Essentially, this population, along with the programs and services available to them, are underfunded and suffering from financial insecurity. If Indigenous older adults maintain the same socioeconomic status, then this may impact how or if they can age in a healthy manner. Financial supports could reduce or eliminate stressors related to income, bills, housing, food, etc. and enable older adults to focus more on health and physical activity. Thus, enhancing financial support programs for Indigenous older adults will be an indispensable first step toward sustaining these populations.

Indigenous older adults are one of the fastest growing demographics in Canada (Lanting et al., 2011), and face a rising prevalence of chronic medical morbidities (Almeida et al., 2014; Brooks-Cleator et al., 2019; Browne et al., 2014; Coombes et al., 2018; Cotter et al., 2012; Habjan et al., 2012). Increased morbidity and premature morbidity are responsible for the significantly reduced quality of life and lower life expectancy in Indigenous populations. The literature suggests we have Westernized definitions for healthy aging, and thus, fail to serve and support marginalized groups such as Indigenous Peoples. In Canada, one must be at least 60 to qualify for Canada's Pension Plan and importantly, the benefits received at 60 are less than those at 65 years (Government of Canada, 2019). As mentioned earlier, Indigenous Peoples experience accelerated aging due to premature chronic morbidities and consequently live shorter lives than the general population, leaving them disproportionately affected by eligibility age requirements for pension plans. Two Canadian studies have addressed the importance of providing access to services for Indigenous Peoples who fall outside the conventional age criteria (Brooks-Cleator et al., 2019; First Nations Information Governance Centre & Walker, 2017). If things remain as they are, Indigenous older adults may be denied services vital to their healthy aging and may be too sick, frail, or already deceased by the time they qualify. The colonial practice of prescribing numbers, and, by extension, limiting access to care, must be abolished for this group on the grounds that they face complex and unmet health requirements beyond the 'norm' of society. Indigenous Peoples' access to pension plans and other government benefits must be prioritized in the future formulation of Canadian policy.

There is a shortage and inadequacy of older adult care in Indigenous communities, despite the growth of senior populations and chronic conditions they face (Bartlett et al., 2012; Browne et al., 2014; Habjan et al., 2012). Accordingly, Indigenous older adults are often

required to leave their communities to access adequate care programs and services (Bell & Lindeman, 2015; Browne et al., 2014; Habjan et al., 2012), which is a modern-day form of colonisation (forced migration). Since Indigenous elders attach great importance to their communities; a connection to the land is a determinant of one's health and well-being (Balestrery, 2016; Coombes et al., 2018; Habjan et al., 2012; Tobias & Richmond, 2016). To reduce dissonance and allow elders to remain on their own land, adequate on-reserve care must be established. Many healthy aging initiatives fail to take the impacts of colonisation into account (Brooks-Cleator et al., 2019); without acknowledging and actively opposing the influences of colonisation, Indigenous older adults will not feel supported by the programming available to them. The effects of colonisation are passed down to younger generations through intergenerational trauma, with many Indigenous older adults facing stigma around what their families have gone through and what Indigenous culture means (Balestrery, 2016; Baskin & Davey, 2015; Coombes et al., 2018; Owen-Williams, 2012). Disregarding the effects of colonialism in our education system and programming does little to address, or reduce, the stigma Indigenous Peoples experience on a daily basis. Colonial trauma has damaged Indigenous identity, seeking to eliminate the social roles, traditional norms, and practices of this culturally-rich group. To counter the impacts of colonisation, these social structures must be reinforced through Indigenous support programs. This would enhance the relationship between older adults and younger generations, providing a sense of community, connectedness, and greater well being in Indigenous older adults.

There is a clear movement in Canada to decolonise research by including Indigenous researchers and community members on publications. This can happen in two ways: incorporating Indigenous researchers, perspectives, and methods in study design and engaging

with Indigenous communities and organizations during the research process. Both were lacking in the studies we examined. Indigenous communities have long been over-researched and have a limited say in how this research is conducted. We must honour the distinctness between and amongst Indigenous groups in our research; their complex histories set them apart from the general population and each other. If an investigation is not conducted by or alongside Indigenous researchers, community recommendations must be sought from the very start, during study conceptualization, to determine appropriate methodologies, assessments, and measurement techniques.

We reported that when support programs and services are available, Indigenous older adults severely underutilize them, whether on or off-reserve. To increase use, it is essential to understand why these services are being avoided in the first place. To start, many older adults are not even aware that support programs are available, indicating a need for proper education and promotion (Brooks-Cleator et al., 2019; Browne et al., 2014). This could be accomplished by spreading simple messages in the traditional language spoken by each Indigenous community. Brooks-Cleator and Giles (2016) recommended depicting local community members in print advertisements, to spark a sense of relatedness and increase affinity to the programs being advertised. The literature notes issues with transportation and eligibility requirements as further reasons for not utilizing services (Bartlett et al., 2012; Brooks-Cleator et al., 2019; Browne et al., 2014; Coombes et al., 2018; Tonkin et al., 2018). Travel costs to access services may be covered upon approval by the Non-Insured Health Benefit (NIHB) Program in Canada, however, this does not include transportation to access care within one's home community (Government of Canada, 2018). This may affect older adults who do not own a car and those who cannot afford public transportation costs to medical facilities within their home community. Consequently,

some older adults may fail to attend their medical appointments or avoid accessing healthcare services altogether. The NIHB Program covers travel costs for one non-medical companion with the older adult, only at the request of a healthcare professional (Government of Canada, 2018). However, the non-medical companion is approved only if the Indigenous older adult is travelling outside their home community and has a physical or mental disability hindering their ability to travel alone (Government of Canada, 2018). Indigenous older adults value their family's role in providing primary or secondary support (Bell & Lindeman, 2015; Browne & Braun, 2017; Browne et al., 2014), and as such, would likely feel more comfortable if a family member's travel were covered regardless of the aforementioned criteria. Generally, healthcare personnel are not adequately informed about Indigenous culture (Abraham et al., 2018; Browne et al., 2014; Hampton et al., 2010), and thus, they are incapable of matching the support family members can provide. Indigenous older adults requiring services outside their home communities, who aren't warranted a non-medical companion, may suffer psychologically while navigating their care alone: perhaps feeling confused or unable to make critical decisions. When older adults are denied further transportation coverage or feel immensely uncomfortable traveling alone, their families may become inclined to relocate to where senior services are more readily available. It is important to re-iterate, however, that Indigenous Peoples feel a strong attachment to their home communities and would prefer to remain on reserve if healthcare services were more adequate (Habjan et al., 2012; Tobias & Richmond, 2016).

An important factor in service underutilization is the lack of culturally informed programming that incorporates Indigenous traditions and principles (Brooks-Cleator & Giles, 2016; Browne et al., 2014; Coombes et al., 2018). Initiatives with the goal of aiding Indigenous older adults exist but fail to acknowledge the uniqueness of Indigenous communities. Taking a

“one size fits all” approach is detrimental, as it disempowers Indigenous older adults and perpetuates colonisation. This review also illustrates how highly Indigenous older adults value their traditions and virtues and thus, would benefit from support programs that align with their beliefs. To increase use of services, we must understand and incorporate the components of healthy aging in Indigenous Peoples, including spirituality, connectedness to the land, and passing on knowledge through storytelling (Bell & Lindeman, 2015; Brooks-Cleator & Giles, 2016; Browne et al., 2014; Coombes et al., 2018; Lanting et al., 2011). By tailoring aging services to their needs and values, we will encourage Indigenous older adults to access support without feeling they must leave their culture behind in the process.

Limitations

This review has limited generalizability due to the heterogeneity in findings across the Indigenous older adult groups and the specific focus placed on Indigenous populations in Canada. Although a comprehensive search of the literature was conducted, some eligible studies may have gone unnoticed.

Conclusion

This review sought to describe healthy aging from an Indigenous perspective and suggest improvements for accessible, culturally informed healthy aging services. Our 38-peer reviewed articles identified 12 major themes: underutilization of services and programs; perceptions of health and aging; accelerated aging and lower life expectancy; medical morbidities and co-morbidities; senior care; socioeconomical disadvantage; family and social relationships; teaching and learning; traditions and communities; staying active and independent; stigma; and positive practices and recommendations.

Our findings suggest that Indigenous older adults require more comprehensive support to

age in a healthy manner. There is a need for greater inclusion of culture into older adult-centered care, programs, and support services. Service providers need to ensure that Indigenous older adults are actively engaged in the creation of the programming and services being delivered to them. Future governmental policy should target the financial insecurities, housing conditions, and restricted access to services faced by Indigenous older adults. Additionally, future policy should focus on providing more on-reserve senior services, improving current support centers, and expanding access to adults who fall outside the age requirements set for governmental aid. For older adults services and programs to be successful, it is imperative to listen to Indigenous older adults and make adaptations based on their recommendations and beliefs. Rather than using a Westernized approach, older adult services must adopt a holistic Indigenous paradigm that incorporates the historical, social, spiritual, and economical implications of colonisation that continue to affect the aging Indigenous population.

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