

Obesity Management and Indigenous Peoples

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KEY MESSAGES FOR HEALTHCARE PROVIDERS

Exploring obesity within the context of multiple co-occurring health, socioeconomic, environmental and cultural factors, and situating these within policy/jurisdictional structures specific to Indigenous populations (e.g., federal versus provincial health funding), can facilitate emerging opportunities for obesity management. These contexts highlight a tension that providers must navigate, between drivers of obesity embedded in social- and system-level inequities and protective factors that promote healing through relationships and culturally contextualized approaches to care. Healthcare professionals should consider the following contextual factors when providing obesity care for Indigenous peoples:

- Structural inequities (i.e., social and systemic in origin) are embedded in health, education, social services and other systems, and they maintain social disadvantage for a large segment of the Indigenous population. These inequities influence food security, for example, through lower wages perpetuated by inaccessible education and high food costs in urban and remote areas, or through limited access to activity-based resources at individual and community levels. Indigenous people have experienced systemic disadvantage throughout their lifespan and those of their family members, producing a cumulative effect on obesity. In Indigenous contexts, obesity is therefore deeply affected by responses to pervasive stressors, as individuals navigate social and systemic barriers to meeting their goals.

- Overwhelming stress from social (e.g., discrimination) and systemic exclusion (e.g., poor or absent primary healthcare) can disempower Indigenous people in maintaining healthy behaviours. Patients may appear to be resistant to healthcare recommendations, where together with healthcare providers they may come to feel fatalistic toward their capacity to address obesity. Healthcare professionals often interpret such patient incongruity with recommendations in a deficit lens, labelling it as patient non-compliance or non-adherence. This non-concordance, or seeming apathy, may actually be a sense of paralysis in the face of overwhelming stress.
- Exploration of the patient's social reality can open opportunities for contextualized approaches to obesity management.
- Reflection on assumptions about seeming apathy may contextualize patient motivations, where deep exploration of one's own perceptions, attitudes and behaviours toward Indigenous patients may uncover anti-Indigenous sentiment implicit in healthcare practices or systems.
- Validation of a patient's experiences of inequity can empower both patients and providers to identify steps to address social factors that influence health behaviours.
- Culture and relationships facilitate learning of complex knowledge. The interaction of obesity with co-occurring structural factors represents complex knowledge that is critical for patients to gain deep understanding of their health. Non-Indigenous healthcare providers may have ways of knowing and doing that are inconsistent with Indigenous patient perspectives on health knowledge and

how it should be exchanged. Obesity management in this context requires a longitudinal, relationship-centred approach that engages and explores interactions with co-existing factors to build both knowledge and trust, in a manner aligned with Indigenous principles for communication.

- o **Connection:** When patients connect with healthcare providers around their co-occurring health needs, there are complex linkages between wider structures and their health. The therapeutic relationship may be critically supportive when knowledge is delivered in a relevant way and makes sense to the patient.
- o **Trust-building:** Healing of the therapeutic relationship is itself fundamental to engaging and supporting patients within contexts of multi-generational trauma to explore complex intersections in relation to health and health behaviour change.
- o **Differing worldviews:** Western concepts of healthy behaviours related to obesity management, including preferences for body size, activity and food, may be discordant with Indigenous perspectives. Patients may not identify with provider perspectives, and providers must not assume that patients share provider worldviews or principles around how to communicate health knowledge. Discordant perspectives may involve a distinct sense of locus of control, self-efficacy and modes for speaking about the pathways into and out of obesity. An Indigenous approach to knowledge exchange includes contextualizing knowledge within the world of the patient and employing a narrative-based and indirect approach to sharing knowledge.

RECOMMENDATIONS

We suggest that healthcare providers for Indigenous people living with obesity:

- Engage with patient social realities.
- Validate the patient's experiences of stress and systemic disadvantage influencing poor health and obesity, exploring elements of their environment where reduced stress could shift behaviours (Level 4, Grade D, Consensus).
- Advocate for access to obesity management resources within publicly funded healthcare systems, recognizing that resources beyond may be unaffordable and unattainable for many (Level 4, Grade D, Consensus).
- Help patients recognize that good health is attainable, and they are entitled to it (Level 4, Grade D, Consensus).
- Negotiate small attainable steps relevant to the patient's context (Level 4, Grade D, Consensus).
- Address resistance, seeming apathy and paralysis in patients and providers (Level 4, Grade D (Consensus).
- Self-reflect on anti-Indigenous sentiment common within healthcare systems, exploring patient motivations and mental health (e.g., trauma, grief) as alternative understandings of causes and solutions to their health problems. Explore one's own potential for bias influenced by systemic racism (Level 4, Grade D, Consensus).
- Expect patient mistrust in health systems; reposition yourself as a helper to the patient instead of as an expert, which may stir resistance and be a barrier to their wellness (Level 4, Grade D, Consensus).

- When resistance, seeming apathy and paralysis are encountered, explore patient mental and emotional health needs, which have unique drivers and presentations in many Indigenous contexts (Level 4, Grade D, Consensus).
- Build complex knowledge by healing relationships (Level 4, Grade D, Consensus).
- Build patient knowledge and capacity for obesity self-management through longitudinal explorations of co-occurring health, social, environmental and cultural factors. Strive to build relationships that incorporate healing from multi-generational trauma, which due to residential schools and child welfare system involvement may more frequently include sexual abuse (Level 4, Grade D, Consensus).
- Build your own knowledge regarding the health legacy of colonization—including ongoing experiences of anti-Indigenous discrimination within systems and wider society—to facilitate relationships built on mutual understanding (Level 4, Grade D, Consensus).
- Ensure knowledge provided is congruent with the patient's perspectives and educational level, and is learner-centred, including potential for patient anticipation of racism or unequal treatment (Level 4, Grade D, Consensus).
- Connect to behaviour, the body and Indigenous ways of knowing, doing and being (Level 4, Grade D, Consensus).
- Elicit and incorporate the patient's individual and community-based concepts of health and healthy behaviours in relationship to body size, activity and food preferences (e.g., preference for and/or scarce access to land-based foods and activities) (Level 4, Grade D, Consensus).
- Deeply engage in learning of common values and principles around communication and knowledge sharing in Indigenous contexts (e.g., relationalism, non-interference) (Level 4, Grade D, Consensus).

KEY MESSAGES FOR PEOPLE LIVING WITH OBESITY

There is a strong relationship between stress, health, and obesity. Addressing stressors is an important part of being healthy.

- The causes of obesity are complex, with unique personal and historical factors that include colonization and residential school experiences affecting Indigenous people. Look for opportunities to speak with your healthcare providers, family, and wider community to build understanding of its causes and to reveal pathways to your health and wellness.
- Addressing stress and other emotional pain in your life can be protective of obesity. It is important for you to explore, identify, and address causes of stress in your life, at personal, social, and wider system levels. Seek out support from people you trust, including your healthcare providers. Doctors, nurses, dietitians, and social workers can be important resources for healing and accessing knowledge.
- Part of healing from the past is working on small, attainable steps that may best influence positive health and promote a healthier body weight.
- Community resources are important in this journey. Seek to connect with community activities that promote healthy behaviours (e.g., activity groups, traditional food preparation, community gardens).
- Due to colonization and social exclusion, Indigenous people experience significant stress that discourages overall mental and emotional wellness. Cultural and community disruption caused by colonization complicate the already-complex causes of obesity for Indigenous people. Learning about the causes and possible solutions to stressors at personal, social, and systemic levels is important to preventing and managing obesity, as this can allow you to connect to opportunities for support.

Within all populations, obesity co-occurs and interacts with multiple acute and chronic physical and mental health conditions. Obesity also co-occurs and interacts with complex social, cultural, environmental and patient behavioural factors. The burden of co-occurring morbidities is often higher for Indigenous people compared with the general Canadian population, arising from social and health-care inequities perpetuated by the ongoing legacy of colonization.

Given more than a century and a half of individual, familial and community experiences of disruption perpetuated by Canadian

institutions and society at large, there is a risk that the multiple morbidities and Indigenous patients' complex social and cultural realities will take precedence within a clinical interaction. The result is that obesity issues may seldom be explored, despite this complexity being an opportunity to have ongoing exploration with the patient regarding interactions with obesity. Much of what can be accomplished is attainable by incorporating the recommendations within existing phases of the clinical interview structure, namely during information gathering, explanation and planning,¹ or through exploring with patients their own obesity story, reframing and co-constructing a new one.²

Methodology

The United Nations Declaration on the Rights of Indigenous Peoples states that health programs and policies should be developed with active involvement of Indigenous peoples.³ This not only provides rationale for specific exploration of obesity management among this diverse population, but also for prioritization of evidence derived by, or collaboratively with, Indigenous people. To achieve this commitment, this chapter was developed through a three-step knowledge contextualization process that first centred a review of relevant scholarship within community experiences, and second in terms of insights from providers who work closely with Indigenous patients.

Literature search

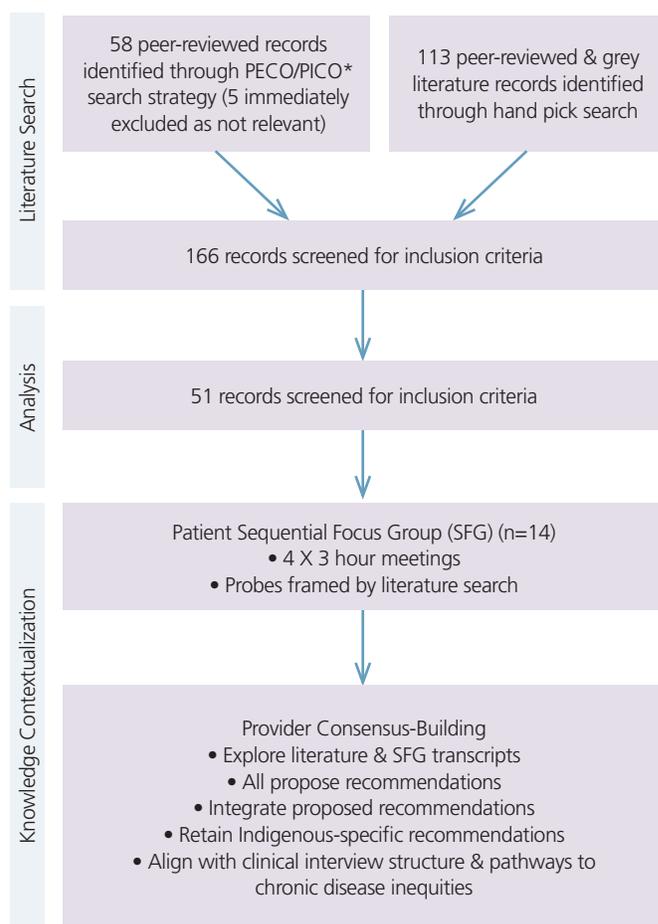
In 2018, a systematic search method of the peer-reviewed intervention literature identified 166 articles related to obesity and related chronic diseases in Indigenous populations (e.g., diabetes, cardiovascular disease, rheumatoid arthritis) (see Appendix 1: Literature Criteria for Nutrition, Physical Activity and Health Education/Literacy Interventions, and Appendix 2: Literature Criteria for Pharmacologic and Surgical Interventions) The search strategy was framed by a series of structured questions formulated to assess environmental and social factors framing obesity outcomes in Indigenous contexts⁴ (see Appendix 3: PICO/PECO Questions Guiding Literature Search and Extraction). These questions were systematically screened, resulting in 51 articles in the final inclusion. To be included, the source must address an Indigenous population in North America, Australasia or the circumpolar north. The study must also relate socio-cultural factors shaping obesity or chronic diseases, and the methods must engage Indigenous community members.

Among the sources that were initially identified, few met the highest grade for clinical recommendations (e.g., randomized control trials). Two systematic reviews indicated a low number of studies measuring long-term effectiveness of interventions⁵, and only one randomized control trial of a diabetes or obesity intervention was identified in an Indigenous context.⁶ The literature's concentration on population health studies and dearth of evidence around clinical practice informed our team's adapted evidence synthesis through community and provider knowledge contextualization.

Community and provider knowledge contextualization

Community experiences were derived from a patient sequential focus group⁷ carried out in Calgary, Alberta in January and February 2019 with Indigenous patients of diverse gender, cultural and geographic backgrounds (n=14) (see Table 1: Participant Demographics). Provider insights were engaged via a consensus-building process between clinician and social science co-authors that was carried out over the Spring of 2019, further grounding evidence in clinical practice. We followed Canadian Tri-Council guidelines for ethical research involving Indigenous people.⁸ The University of

Figure 1: Literature Search and Knowledge Contextualization



*Patient/Population/Problem; Exposure/Intervention; Comparison; Outcomes

Calgary's Conjoint Health Research Ethics Board granted approval of the study.

Synthesis of evidence

We structure findings here according to insights from the Educating for Equity (E4E) Care Framework,⁹ an educational approach designed to enhance primary care delivery for Indigenous patients with diabetes (see Figure 3). The E4E framework supports a systematic linking of relevant obesity and chronic disease literature related to Indigenous people—composed mainly of population health studies—to clinical practice insights. We used the framework as a tool to guide literature extraction, leading to recommendations that highlight a dynamic interplay in all aspects of an Indigenous person's life, between colonization as a driver of negative population health outcomes, and culture as an important protective resource. For clarity around clinical action areas, we draw attention to notable pathways to health inequities that are shaped by colonization—specifically materialist, psychosocial and political/economic pathways.¹⁰ We then highlight therapeutic

With potential to extend to obesity outcomes, chronic disease literature with Indigenous populations shows that addressing social and cultural contexts improves health outcomes more than clinical interactions alone.^{20,21} One important component of clinical interactions is exploring and acknowledging social contexts that influence health, including identifying patient priorities²² and setting personal goals.²³ Tailoring interventions to individual abilities,²⁴ building understanding of the individual's unique barriers and supports and working together to develop coping skills and strategies to improve capacity for self-care all show promise for mitigating the effects of obesity.^{9,25}

Additionally, family- and community-based interventions that emphasize traditional ways of life have been shown to lead to positive health outcomes.²⁶ These include programs in schools, community hunts, community gardens, festivals with traditional food preparation, informal sharing of traditional foods, community cooperatives and community cooking events (e.g. traditional pit-cooking).^{27,28} Collaborating with local organizations, and supporting and advocating for these programs in addition to optimizing access to publicly funded healthcare may mitigate material inequities.^{29,30}

Sequential focus group participants emphasized historical factors behind the materialist pathway to health inequities, highlighting that barriers are not just financial and that they play out in specific ways for Indigenous people. This requires relationships and working together to contextualize plans to each person's social reality. Validation with patients of their stressors and exploration of their experiences of disadvantage align focus group participant preferences for care with the materialist pathway, where support and advocacy for access to publicly funded obesity management resources may mitigate potential for further financial distress. Signalling to patients that they are entitled to good health acknowledges experiences that prevailing systems tend not to provide accessible resources to Indigenous people, while negotiating small attainable steps acknowledges patient contextual factors.

Psychosocial pathways to health inequity: addressing resistance, seeming apathy and paralysis in patients and providers

The impact of the psychosocial pathway on obesity is in part due to a diminished capacity for self-care that materialist pathways produce. In one Cree community, participants reported a lack of time and resources for traditional food gathering,³¹ and a lack of time and energy for physical activities.³² Lacking time and energy to nurture relationships, many communities may experience community-level stress, including lateral violence, unhealthy relationships and a high prevalence of poor health behaviours, in turn creating barriers to healthy food and physical activities.²⁵ One study with Yup'ik people in Alaska showed that individuals with lower psychosocial stress (measured by the Perceived Stress Scale) reported higher physical activity levels and lower BMI, body fat percentage and waist circumference.³³

Multi-generational trauma, discrimination and exclusion of Indigenous people in Canada are both historical and ongoing forms of

Box 1: Materialist Pathway from Sequential Focus Group Participants:

" I understand that a lot of why we're overweight is that we can't afford to pay for the more healthier food...So I believe that's where it stems from...through generations of eating non-healthy, from back in the day when we were placed on reservations and we were given, you know, the bare minimum to eat with and it was all unhealthy food." (Male, Cree, age 32)

" [A doctor should understand) the context of what happened to us...you need a doctor that actually cares, that thinks that you've got to make changes." (Male, Ojibwe age 47)

" If you do want that kind of personalized support you have to go to like Weight Watchers or Jenny Craig, and that costs money!" (Female, Blackfoot, age 36)

Text Box 2: Psychosocial Pathway from Sequential Focus Group Participants:

" You get stuck into a survival kind of mode all the time. Like for myself, the high stress from family, who's got addictions and homeless stuff. It's so easy to get caught up in just surviving. You're always worried about having fresh food in the house or whatever that it's just exhausting, you don't really have the energy to...just provide for your basic needs. Even if you are educated, it's really hard to keep your head above water." (Female, Cree, age 35)

" Addictions and obesity are fused together because of years of abuse... some people suppress those memories with eating." (Male, Cree, age 32)

" The upper middle-class, they have a hyper vigilance of looking after their health, they're all on their bikes or running behind me while I'm sitting by the water and listening to it. They feel so entitled and empowered in the system; they have a hypervigilance to look after themselves...On our side it's different. There's kind of like a malaise, there is effort but why our health suffers is because of that feeling of what happened, we were sequestered on reserves. Made to feel less than." (Male, Ojibwe, age 47)

oppression that perpetuate health disparities, including obesity.²² Today, discriminatory child welfare legislation^{34,35} and the lasting legacy of the physical and sexual abuse common in many residential schools impacts mental health, family relationships and community, land and cultural connections.³⁶ Collective and inter-generational trauma, adverse childhood experiences, lateral violence within communities and stress all increase risk for obesity and related health outcomes.^{29,37} In one study, women in particular reported less time, less support and more lateral violence as barriers to physical activity,³⁸ in part owing to support they provide others in their lives. A sense of overwhelming stress and even grief undermining one's own capacity to self-care, as well as capacity

among family members, runs through sequential focus group participant experiences.

The psychosocial pathway is not merely about trauma but may play out in a sense of dissonance between an Indigenous person's own experiences and dominant social values around physical activity and nutrition. This in turn connects to the political/economic pathway below, as the evidence suggests a need to address (in both patients and providers) resistance, seeming apathy and paralysis that arise from a colonial legacy in prevailing political and economic systems, including healthcare.

Political/economic pathways to health inequities: build complex knowledge by healing relationships

A shared history of colonization among Indigenous populations globally is widely affirmed as the most significant social determinant of health among Indigenous people.^{39,40} Though Indigenous communities initially maintained traditional food and physical activity behaviours that long sustained healthy ways of life, state-sanctioned policies to restrict traditional practices by the mid-twentieth century, as well as settler overhunting, industrial developments on and near protected lands, and hunting and fishing regulations all created challenges.^{11,29} Forced acculturations via residential schools resulted in a loss of traditional physical activities,³³ denying many Indigenous communities today culturally safe and accessible physical fitness resources.^{32,41} Forced community relocations, the banning of Indigenous ceremonies, and residential schools have all denied access to healthy traditional foods by way of fragmented families and the loss of land, culture, language and traditional food practices.¹¹

Studies also report a lack of educational resources in Indigenous communities, experienced as an ongoing process of colonization that impacts obesity.²⁰ A study of Native Hawaiians and Pacific Islanders in the United States found that low education due to underfunding was associated with difficulty in reading nutrition labels, general low health literacy and higher BMI.⁴² In addition to adequate knowledge of health behaviours, health literacy is associated with confidence and follow-through in making healthy choices. Higher education levels are associated with higher health literacy (including physical activity literacy and of fruit and vegetable consumption recommendations), which coincide with higher rates of physical activity and fruit and vegetable consumption.⁴³ Colonization factors into health literacy in Indigenous communities, as low health literacy is associated with lack of meaningful or accessible nutrition labelling,^{42,44} while lower health food self-efficacy may result from loss of traditional knowledge.⁴⁴ The cultural importance of intergenerational knowledge sharing may also be protective. For instance, one study found that youth with knowledge of food labels could teach older adults, who could in turn share traditional food knowledge.⁴⁵

Highlighting colonial policies that drive inequities, studies show that Indigenous people avoid healthcare settings for multiple rea-

Box 3: Political/Economic Pathway from Sequential Focus Group Participants

" I can do all the research myself, but at the same time just trying to understand and figure out this syndrome or whatever it is that I have...I find healthcare providers don't really have the...well, it's not that they don't have the time, it's that they don't really take the time." (Female, Cree, age 35)

" My culture was just watching my grandpa's generation with snub-nosed bottles of Blue in their hand...I didn't hear no water drums songs...I didn't hear the old legends or our creation story...So there's no mooring, nothing to tether to...basically my childhood was almost feral...y'know, collect a few empties now and then, take them in for candy...So there's something there between the food and the dopamine kick I get to my head when I'm pigging out [laughs]...That's what I live with and I notice it a lot in my family, like even my cousin was like that, self-destructive. He lost his knee, now he's on dialysis, he's three or four years younger than me, but there's not anything in him to say like, 'two litres of Coke isn't good on a daily basis.' You can tell him what's right, but he'll still do what's wrong, and I'm kind of that way...I don't know what that is though, that kind of self-destructiveness that I notice in my family members and community members... but it is addictive, like the kind of foods that we eat, the chips and the sugar." (Male, Ojibwe, age 47)

sons. Interactions with providers perceived to be authoritarian can trigger recall of negative childhood experiences (e.g., of residential schools). Lengthy wait times may pose difficulties for those with diminished capacity for self-care.⁴⁶ Mistrust resulting from the historical mistreatment of Indigenous people in healthcare settings may frame patient expectations of unequal treatment.⁴⁷ Ongoing issues that play out in psychosocial barriers include services provided with no available interpreter to Indigenous languages, and mistrust of healthcare institutions long experienced as colonial through feelings of alienation, racism, discrimination, stereotyping, denied care and inferior care.^{6,20,46,48,49}

While knowledge is an important component of improving obesity outcomes, within a colonial context knowledge exchange requires healing relationships that have been undermined. One element of the ongoing colonial context is the Indian Act, which was first implemented in 1876 to eradicate Indigenous people, and although 'renovated' is still enforced. This has framed treaties, which constrain federal provision of healthcare to primarily public health and inconsistent primary care services in reserve contexts.⁵⁰ Provider self-reflection on how to better address patient mistrust in health systems is an important component of improving obesity management through longitudinal exploration of co-occurring social and environmental factors. Grounding in the unique health needs of patients while recognizing the impact of colonization and anti-Indigenous discrimination may build mutual respect, as well as ensure that knowledge shared is congruent with patient perspectives.

Culture as protective: connect to behaviour, the body and Indigenous ways of knowing, doing and being

The literature widely highlights that reconnecting to culture is healing for Indigenous people, making provider knowledge of Indigenous identity and cultural ways of knowing important for supporting patients living with obesity. Indigenous identities vary not only culturally, but geographically, politically, spiritually, and through grounding within the life trajectory of each person. Some research indicates preference across diverse Indigenous communities for larger physiques,⁵¹ while other research highlights cultural values that may promote healthy behaviours, such as preferences against sedentary ways of life.³² Studies indicate that individuals reporting more traditional ways of life have higher physical activity levels,³³ and that those engaged in traditional food and physical activity behaviours have lower BMI.⁵² People engaged in fishing and harvesting of traditional foods are often more food secure,⁵³ while individuals with closer community and cultural connections report lower psychosocial stress and higher physical activity levels.³³

Healthcare providers should support individuals seeking closer community and cultural connections. Where appropriate, encourage traditional food consumption and physical activities. Respecting the role of culture in health and healing is one step in decolonizing healthcare experiences for Indigenous people.⁵⁴ However, it is noteworthy that sequential focus group participants highlighted social and political barriers to accessing traditional foods and even ceremonies, such as among those located in urban settings. This highlights that the burden of not being able to access traditional foods or activities may make discussions themselves about such resources triggering.

Finally, Indigenous ways of knowing and doing offer insight into common preferences for how health knowledge is exchanged, and how support is provided. Communication styles common across many Indigenous groups in North America are often misinterpreted in clinical settings as withdrawal or indifference. Mohawk psychiatrist Clare Brant identifies several cultural principles guiding Indigenous approaches to knowledge sharing. Derived from a pre-colonial reality of harsh northern climates, where survival long “required harmonious interpersonal relationships and cooperation,”⁵⁵ Indigenous ways of knowing and doing often discourage competition and coercion. In particular, relationalism and non-interference are core values with clinical relevance for promoting harmony and suppressing conflict in the therapeutic relationship. Relationalism recognizes the interrelated nature of all living things, organizations and health, and works to dismantle inequitable power relations.⁵⁵ Clinically, it may situate a patient’s locus of control over behavioural health changes more external to the individual⁵⁶ or it may impact how one approaches promoting patient self-efficacy.⁵⁷ Meanwhile, non-interference discourages any physical, verbal or psychological coercion, and serves to respect individuals’ personal autonomy, particularly over their bodies and chosen path to wellness.⁵⁵ Clinically, expert advice or instruction commonly valued in a Western paradigm can thereby be viewed as an attempt to establish dominance. This may lead some

Box 4: Culture as Protective Force from Sequential Focus Group Participants

“I don’t even know who to go to on my reserve to learn more about traditional foods, how to access them. It’s a huge barrier, I have no knowledge of where to start. It’s definitely something I’ve wanted to look into...We can go get our own meat and pick berries and everything, and I don’t know where to start, who to talk to.” (Female, Blackfoot, age 27)

“ It helps when doctors are really actually focused on you, have deep discussions with you, look eye to eye. Not just listening to what you say, you really connect with that kind of doctor...My family doctor, I can really connect with.” (Male, Cree, age 32)

“ With some doctors it’s ‘Here’s your prescription, okay, you can go now.’ With the doctor that I have now, she takes more time, I find she cares more about me so I can be in there a lot longer, and she’ll talk to me, tell me what to do or whatever, like ‘okay, let’s get you healthy again. Make sure you make your appointment, see you next time.’ I feel more of that connection with her than with any other doctors that I’ve had. With weight loss I don’t really talk to her about it, just with my medicine. The weight loss and the medicine kind of come hand in hand because of my hypothyroidism, it’s kind of the reason why I gained a lot of the weight.” (Female, Blackfoot, age -36)

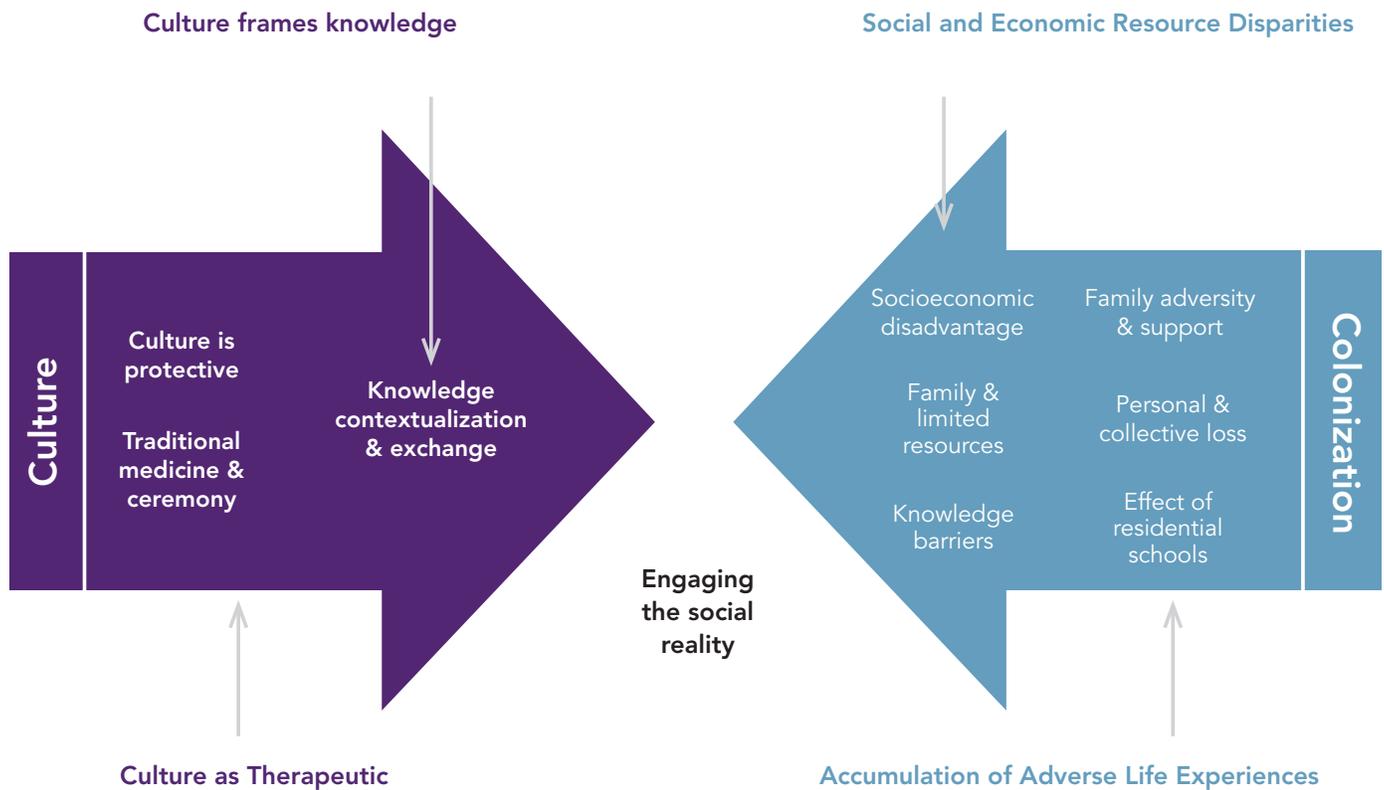
Indigenous people, for whom non-interference resonates, to disengage, avoiding overt, directive instruction. More subtle communication is often preferred, as a means of nurturing respectful relationships while levelling power imbalances. Importantly, non-interference should not be mistaken to imply non-interest in deepening the therapeutic relationship. Rather, it guides how each party to a relationship may come together in a non-coercive, mutually engaging fashion. As with all people, communication preferences are always grounded within personal life trajectories, meaning that cultural preferences are broad patterns and should not be taken as universal or one-dimensional.⁵⁸

Conclusion

Scholarship addressing obesity among the general population may perpetuate a deficit lens on an already-marginalized population, particularly around complex drivers of chronic disease and approaches for healing. This may reduce effectiveness for Indigenous clientele of general best practices, highlighting the need for identifying preferred approaches in Indigenous contexts. Stress is a significant effect of systemic disadvantage that puts whole groups of people with shared experiences, in this case people adversely impacted by colonization, on multiple pathways to health inequities. Culture is a complex, multidimensional resource to mobilize, and requires contextualization within the life experiences of each individual.

Our current healthcare environment tends to be organized around treating diseases that are less grounded than obesity in health behaviours and social drivers, meaning that healthcare providers

Figure 4: Engaging with Patient Social Realities



have minimal competency-based training for behaviour change counselling.⁵⁷ The approach outlined here aligns with emerging scholarship around personalizing obesity assessment and care planning in primary care.⁵⁸ Compassion, listening and grounding one's approach in contextual factors specific to each patient foster cognitive and emotional shifts with benefits for improved function and health. As such, promising approaches for obesity management with Indigenous patients indicate congruence with growing evidence that enhanced communication and counselling skills within the clinical interview form a key opportunity for addressing multimorbidity and patient complexity.

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Case Study: Morris

Morris is a 47-year-old male who has lived in an urban centre since early adulthood. His First Nation reserve where he grew up is three provinces away. He has been your patient for several years and you have been treating his hypertension and high cholesterol. Over time he has revealed many health and social struggles related to his obesity. On an occasion when Morris has come to you for help with obesity management, you are keen to acknowledge how his Indigenous identity may be protective of health. You therefore ask whether he might go hunting or connect to traditional foods, hoping that this might inspire culturally resonant opportunities for obesity management. You are surprised that this seems to provoke anger. As he leaves the appointment, quite annoyed, he suggests that you probably think him incapable of reading nutritional labels, of counting calories, or of understanding the health benefits of physical activity.

You are surprised because your intention to enquire about cultural approaches to nutrition and physical activity seems to have had the opposite effect than expected. Instead of feeling recognition as an Indigenous person and motivated to reconnect to land and culture, Morris seems angry with you. You recognize that effort must be made to reset the therapeutic relationship, and that this may depend on your ability to connect more appropriately with Morris' identity as an urban Indigenous man living outside of his traditional territory.

Morris returns several months later after a workplace injury. You seek to broach your previous discord by acknowledging that he seemed annoyed with you the last time you met. You extend an apology and enquire further: *"I wonder, what was going on for you in that moment, Morris?"*

He responds by noting that *"You did really annoy me,"* then joking that *"your people never get us."* He explains that Indigenous people are often assumed to have access to land and ability to hunt at will, anywhere, without licenses or resource constraints. He leans in and says he figures most Indigenous men his age would have been annoyed by the way you posed the question, even if they do regularly hunt. In his view, your statement was offensive as it was simplistic and stereotypical of Indigenous people and of Indigenous identity and in particular his identity.

You see this moment might be an opportunity to explore his resistance or seeming paralysis in realizing obesity management goals.

He explains to you that his main issue is with food. Despite expressing desire to better control his eating, he shrugs off his eating behaviour as *"just another addiction"* that affects him and his people. He reveals that sometimes he just gets so overwhelmed that he cannot resist stopping for a bucket of fried chicken on his way home, and laughs that eating is what he does to pass time and settle his angst in an attempt to numb his pain.

You ask about his past and current struggles and stressors. He states that it is complicated, but he begins to share some of his perceptions. Trying to hold onto his culture as well as his family's and community's experiences, he feels the impacts of a generations of trauma from oppression and racism due to colonization. He feels isolated from Western society and at times feels judged by his own traditional community, as he is urban based. He is seeking validation of his identity and finds connection through exploration of traditional language and centring his world within political resistance to colonization. He shares that his passion is to create a video documentary based on his research with Elders from his community on traditional language. Morris seems happy that you were interested in his experiences and perspectives.

You realize that for Morris, the protective aspects of culture do not necessarily just relate to his home community. Within his urban context, connecting to others interested in language revitalization as political resistance to ongoing colonization validates his identity, supports his connections, and provides an outlet for his grief. You recognize that at this moment, it is critical to validate his experiences.

You acknowledge the impacts of colonization on his and his family's suffering and on his health behaviours leading to obesity. Morris seems less defensive over the course of this conversation and asks what he can do to help with his stress and grief that leads to his obesity. You humbly ask his perception on how his resistance to addressing his obesity does or does not align with political resistance. He states he sees an alignment, especially around dominant society assumptions that may reduce attention for healthy obesity management to food and exercise alone. With that, you begin to explore with him his capacity to manage and address those stressors in his life that adversely influence his health behaviours.

Appendix 1: Literature Criteria for Nutrition, Physical Activity and Health Education/Literacy Interventions

	Patient/ Population (P)	Intervention (I)	Comparison (C)	Outcomes (O)
Inclusion	Adults; Indigenous; medically underserved populations	Indigenous focused nutrition, physical activity and health education/ health literacy interventions	Indigenous, underserved and mainstream population	Health behaviour, anthropomorphic, function, quality of life, secondary complication rates (DM, Ca, OA...), process of care, adverse outcomes
Exclusion	Children			
Contextual Considerations	Indigenous: Aboriginal, First Nations, Metis, Inuit (FNMI), Native American, American Indian, Aboriginal* Underserved: marginalized and vulnerable	Indigenous specific; community rooted; equity focused; culture/ traditional approaches of particular interest; mainstream adapted; models of care		Anthropometric (flags whole body measure beyond just weight loss) inclusive of individual, clinical, healthcare models and population level outcomes

Appendix 2: Literature Criteria for Pharmacologic and Surgical Interventions

	Patient/ Population (P)	Intervention (I)	Comparison (C)	Outcomes (O)
Inclusion	Adults; Indigenous; medically underserved populations	Pharmacologic and surgical approaches	Indigenous, underserved and mainstream population	Anthropometric , physiological, functional (individual, and social), quality of life, psychological, health behaviour, process of care, health model shifts; utilization; adverse outcomes; wrap around supports
Exclusion	Children			
Contextual Considerations	Indigenous: Aboriginal, First Nations, Metis, Inuit (FNMI), Native American, American Indian, aborigine* Underserved: marginalized and vulnerable	Include Indigenous traditional medicine approaches		Anthropometric flags whole body measure beyond just weight loss

Appendix 3: PICO/PECO Questions Guiding Literature Search and Extraction

Question	Contextual Consideration
<p>What is the burden of obesity and secondary adverse disease and disability outcomes within Indigenous populations of Canada, USA, NZ, Australia and circumpolar areas?</p>	<p>Cost and financial burden; distribution across age, gender, economic gradients, education, geographic location, proximity to urban centres, Indigenous sub-populations (tribes, treaty zones, language groups)</p>
<p>What are social drivers of obesity specific to Indigenous populations?</p>	<p>Colonization; inequity; racism; adverse life experiences; resource disparities; intergenerational trauma; psychosocial (population health level and psychological level); stress and stress response; poverty)</p>
<p>What are perspectives, preferences and experiences of Indigenous patients and community regarding the body, weight and obesity?</p>	<p>Influence of culture on preference of robustness (body type) and wellness; Social preference that normalizes a shift in body type; Influence of Western sedentary trends; Influence of social pathways including poverty and psychosocial adversity</p>
<p>What are models that explain obesity in Indigenous populations?</p>	<p>Social structural influences resulting in barriers to physical activity and healthy nutrition; the general influence of economic context on obesity; physiologic and behavioural influence of stress and adversity arising from colonization; broad impacts of experiences of prejudice, social isolation and racism on obesity; impact of the shift from a traditional Indigenous diet (high fat and protein). Influence of cultural preferences for body type, physical activity, nutrition; biomedical (with focus on deficit modelling, 'thrifty gene,' epigenetics...), possible digestive traits within Indigenous populations that influence obesity?</p>
<p>What are impacts of culturally based (and non-culturally based) interventions focused on health behavioural change (physical activity and nutrition) specific to Indigenous populations with obesity?</p>	<p>Culture/acclulturation, pan-Indigenous, diversity of Indigenous populations; nutrition; physical activity; fostering health literacy; land-based activities; sports; implications for clinical practice</p>
<p>What are the impacts of structural and psychosocial based interventions specific to Indigenous populations with obesity?</p>	<p>Colonization; inequity; racism; adverse life experiences; resource disparities; intergenerational trauma; psychosocial (population health level and psychological level); stress and stress response; implications for clinical practice</p>
<p>What are the healthcare experiences of Indigenous patients with obesity?</p>	<p>Access; quality; bias/prejudice; patient-centred approaches; culture and cultural safety based approaches; structural competency-based approaches</p>
<p>What are promising models of care adaptations for Indigenous patients with obesity?</p>	<p>Patient-centred, culture-based and structural competency-based approaches; emerging pharmacotherapy; geography; technology; wrap-around supports; models of health behaviour change; shared decision-making; motivational interviewing</p>

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References

1. Kurtz S, Silverman J, Benson J, Draper J. Marrying content and process in clinical method teaching: Enhancing the Calgary-Cambridge guides. *Acad Med*. 2003;78(8):802-809. doi:10.1097/00001888-200308000-00011
2. Luig T, Elwyn G, Anderson R, Campbell-Scherer DL. Facing obesity: Adapting the collaborative deliberation model to deal with a complex long-term problem. *Patient Educ Couns*. 2019;102(2):291-300. doi:10.1016/j.pec.2018.09.021
3. Permanent Forum on Indigenous Issues (United Nations) & UNSD. *State of the World's Indigenous Peoples*; 2009.
4. Morgan RL, Whaley P, Thayer KA, Schünemann HJ. Identifying the PECO: a framework for formulating good questions to explore the association of environmental and other exposures with health outcomes. *Environ Int*. 2018;121(Pt 1):1027. doi:10.1016/j.hal.2017.06.001.Submit
5. Nava LT, Zambrano JM, Arviso KP, Brochetti D, Becker KL. Nutrition-based interventions to address metabolic syndrome in the Navajo: A systematic review. *J Clin Nurs*. 2015;24(21-22):3024-3045. doi:10.1111/jocn.12921
6. Rice K, Te Hiwi B, Zwarenstein M, Lavallee B, Barre DE, Harris SB. Best Practices for the Prevention and Management of Diabetes and Obesity-Related Chronic Disease among Indigenous Peoples in Canada: A Review. *Can J Diabetes*. 2016;40(3):216-225. doi:10.1016/j.cjcd.2015.10.007
7. Jacklin K, Ly A, Calam B, Green M, Walker L, Crowshoe L. An innovative sequential focus group method for investigating diabetes care experiences with indigenous peoples in Canada. *Int J Qual Methods*. 2016;15(1):1609406916674965. doi:10.1177/1609406916674965
8. Canadian Institute of Health Research; Natural Sciences and Engineering Research Council of Canada; Social Sciences and Humanities Research Council of Canada. *Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS2)*. <https://www.homelesshub.ca/resource/tri-council-policy-statement-ethical-conduct-research-involving-humans-tcps2>.
9. Crowshoe LL, Henderson R, Jacklin K, Calam B, Walker L, Green ME. Educating for Equity Care Framework: Addressing social barriers of Indigenous patients with type 2 diabetes. *Can Fam Physician*. 2018;65(1):25-33. doi:10.1097/CEH.000000000000188
10. Hayward KC, Colman R. *The Tides of Change: Addressing Inequity and Chronic Disease in Atlantic Canada*. Agence la santé publique du Canada. 2003. www.pph-atlantic.ca.
11. Socha T, Zahaf M, Chambers L, Abraham R, Fiddler T. Food Security in a Northern First Nations Community: An Exploratory Study on Food Availability and Accessibility. *J Aborig Heal*. 2012;8(2).
12. Gordon K, Lickers Xavier A, Tait Neufeld H. Healthy Roots: Building capacity through shared stories rooted in Haudenosaunee knowledge to promote Indigenous foodways and well-being. *Can Food Stud / La Rev Can des études sur l'alimentation*. 2018;5(2):180-195. doi:10.15353/cfs-rcea.v5i2.210
13. Kelley MN, Lowe JR. A Culture-Based Talking Circle Intervention for Native American Youth at Risk for Obesity. *J Community Health Nurs*. 2018;35(3):102-117. doi:10.1080/07370016.2018.1475796
14. Pardilla M, Prasad D, Suratkar S, Gittelsohn J. High levels of household food insecurity on the Navajo Nation. *Public Health Nutr*. 2014;17(1):58-65. doi:10.1017/S1368980012005630
15. Willis E, Pearce M, McCarthy C, Jenkin T, Ryan F. Utility stress as a social determinant of health: exploring the links in a remote Aboriginal community. *Heal Promot J Aust*. 2006;17(3):255-259. doi:10.1071/he06255
16. Jernigan VBB, Wetherill MS, Heard J, et al. Food insecurity and chronic diseases among American Indians in rural Oklahoma: The THRIVE study. *Am J Public Health*. 2017;107(3):441-446. doi:10.2105/AJPH.2016.303605
17. Wendimu MA, Desmarais AA, Martens TR. Access and affordability of "healthy" foods in northern Manitoba? The need for Indigenous food sovereignty. *Can Food Stud / La Rev Can des études sur l'alimentation*. 2018;5(2):44-72. doi:10.15353/cfs-rcea.v5i2.302
18. Johnson-Down LM, Egeland GM. How is nutrition transition affecting dietary adequacy in Eeyouch (Cree) adults of Northern Quebec, Canada? *Appl Physiol Nutr Metab*. 2013;38(3):300-305. doi:10.1139/apnm-2012-0167
19. Sheehy T, Roache C, Sharma S. Eating habits of a population undergoing a rapid dietary transition: Portion sizes of traditional and non-traditional foods and beverages consumed by Inuit adults in Nunavut, Canada. *Nutr J*. 2013;12(1):70-80. doi:10.1186/1475-2891-12-70
20. Crowshoe L (Lindsay), Henderson RI, Green ME, Jacklin KM, Walker LM, Calam B. Exploring Canadian Physicians' Experiences With Type 2 Diabetes Care for Adult Indigenous Patients. *Can J Diabetes*. 2018;42(3):281-288. doi:10.1016/j.cjcd.2017.06.012
21. Sharma S. Assessing diet and lifestyle in the Canadian Arctic Inuit and Inuvialuit to inform a nutrition and physical activity intervention programme. *J Hum Nutr Diet*. 2010;23(SUPPL. 1):5-17. doi:10.1111/j.1365-277X.2010.01093.x
22. Crowshoe L, Dannenbaum D, Green M, Henderson R, Naqshbandi Hayward M, Toth E. Diabetes Canada 2018 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada: Type 2 Diabetes and Indigenous Peoples. *Can J Diabetes*. 2018;42(Suppl 1):S296-S306. doi:10.1016/j.cjcd.2017.10.022
23. Lee ET, Jobe JB, Yeh J, et al. A cardiovascular risk reduction program for American Indians with metabolic syndrome: The balance study. *J Prim Prev*. 2012;33(4):187-196. doi:10.1007/s10935-012-0273-0
24. Foulds HJA, Bredin SSD, Warburton DER. The effectiveness of community based physical activity interventions with Aboriginal peoples. *Prev Med (Baltim)*. 2011;53(6):411-416. doi:10.1016/j.ypmed.2011.09.008
25. Gadhoke P, Christiansen K, Pardilla M, Frick K, Gittelsohn J. "We're Changing Our Ways": Women's Coping Strategies for Obesity Risk-reducing Behaviors in American Indian Households. *Ecol Food Nutr*. 2015;54(6):583-602. doi:10.1080/03670244.2014.947402
26. Rowley KG, Daniel M, Skinner K, Skinner M, White GA, O'Dea K. Effectiveness of a community-directed "healthy lifestyle" program in a remote Australian Aboriginal community. *Aust N Z J Public Health*. 2000;24(2):136-144. doi:10.1111/j.1467-842X.2000.tb00133.x

27. Turner NJ, Turner KL. Traditional food systems, erosion and renewal in Northwestern North America. *Bioinforma Concepts, Methodol Tools, Appl.* 2007;6(1):57-68. doi:10.4018/978-1-4666-3604-0.ch003
28. Teufel-Shone NI, Fitzgerald C, Teufel-Shone L, Gamber M. Systematic review of physical activity interventions implemented with American Indian and Alaska Native populations in the United States and Canada. *Am J Heal Promot.* 2009;23(6):8-32. doi:10.4278/ajhp.07053151
29. Satterfield D, DeBruyn L, Santos M, Alonso L, Frank M. Health Promotion and Diabetes Prevention in American Indian and Alaska Native Communities--Traditional Foods Project, 2008-2014. *MMWR Suppl.* 2016;65(1):4-10. doi:10.15585/mmwr.su6501a3
30. Willows N, Dyck Fehderau D, Raine KD. Analysis Grid for Environments Linked to Obesity (ANGELO) framework to develop community-driven health programmes in an Indigenous community in Canada. *Heal Soc Care Community.* 2016;24(5):567-575. doi:10.1111/hsc.12229
31. Bruner BG, Chad KE. Dietary practices and influences on diet intake among women in a Woodland Cree community. *J Hum Nutr Diet.* 2014;27:220-229. doi:10.1111/jhn.12121
32. Bruner B, Chad K. Physical activity attitudes, beliefs, and practices among women in a woodland cree community. *J Phys Act Heal.* 2013;10(8):1119-1127. doi:10.1123/jpah.10.8.1119
33. Bersamin A, Wolsko C, Luick BR, et al. Enculturation, perceived stress, and physical activity: Implications for metabolic risk among the Yup'ik - The Center for Alaska Native Health Research Study. *Ethn Heal.* 2014;19(3):255-269. doi:10.1080/13557858.2012.758691
34. Blackstock C. The Canadian Human Rights Tribunal on First Nations Child Welfare: Why if Canada wins, equality and justice lose. *Child Youth Serv Rev.* 2011;33(1):187-194. doi:10.1016/j.childyouth.2010.09.002
35. Howard HA. Canadian Residential Schools and Urban Indigenous Knowledge Production about Diabetes. *Med Anthropol.* 2014;33(6):529-545. doi:10.1080/01459740.2013.828722
36. Protudjer JLP, Dumontet J, McGavock JM. My voice: A grounded theory analysis of the lived experience of type 2 diabetes in adolescence. *Can J Diabetes.* 2014;38(4):229-236. doi:10.1016/j.cjcd.2014.05.008
37. Björntorp P. Do stress reactions cause abdominal obesity and comorbidities? *Obes Rev.* 2001;2(2):73-86. doi:10.1046/j.1467-789x.2001.00027.x
38. Macdonald D, Abbott R, Jenkins D. Physical Activity of Remote Indigenous Australian Women: A Postcolonial Analysis of Lifestyle. *Leis Sci.* 2012;34(1):39-54. doi:10.1080/01490400.2012.633854
39. King M, Smith A, Gracey M. Indigenous health part 2: the underlying causes of the health gap. *Lancet.* 2009;374(9683):76-85. doi:10.1016/S0140-6736(09)60827-8
40. Gracey M, King M. Indigenous health part 1: determinants and disease patterns. *Lancet.* 2009;374(9683):65-75. doi:10.1016/S0140-6736(09)60914-4
41. Bhawra J, Cooke MJ, Hanning R, Wilk P, Gonneville SLH. Community perspectives on food insecurity and obesity: Focus groups with caregivers of metis and Off-reserve first nations children. *Int J Equity Health.* 2015;14(1):96. doi:10.1186/s12939-015-0232-5
42. Lassetter JH, Clark L, Morgan SE, et al. Health Literacy and Obesity Among Native Hawaiian and Pacific Islanders in the United States. *Public Health Nurs.* 2015;32(1):15-23. doi:10.1111/phn.12155
43. Berg CJ, Daley CM, Nazir N, et al. Physical activity and fruit and vegetable intake among American Indians. *J Community Health.* 2012;37(1):65-71. doi:10.1007/s10900-011-9417-z
44. Ho L, Gittelsohn J, Sharma S, et al. Food-related behavior, physical activity, and dietary intake in First Nations1 - A population at high risk for diabetes. *Ethn Heal.* 2008;13(4):335-349. doi:10.1080/13557850701882936
45. Boston P, Jordan S, MacNamara E, et al. Using Participatory Action Research to Understand the Meanings Aboriginal Canadians Attribute to the Rising Incidence of Diabetes. *Chronic Dis Can.* 1997;18(1):1-12.
46. Jacklin KM, Henderson RI, Green ME, Walker LM, Calam B, Crowshoe LJ. Health care experiences of Indigenous people living with type 2 diabetes in Canada. *CMAJ.* 2017;189(3):E106-E112. doi:10.1503/cmaj.161098
47. Townsend CKM, Dillard A, Hosoda KK, et al. Community-based participatory research integrates behavioral and biological research to achieve health equity for native Hawaiians. *Int J Environ Res Public Health.* 2015;13(1):1-10. doi:10.3390/ijerph13010004
48. Allan B, Smylie J. First Peoples. Second Class Treatment. 2015:1-65. <http://www.wellesleyinstitute.com/wp-content/uploads/2015/02/Summary-First-Peoples-Second-Class-Treatment-Final.pdf>.
49. Henderson R, Montesanti S, Crowshoe L, Leduc C. Advancing Indigenous primary health care policy in Alberta, Canada. *Health Policy (New York).* 2018;122(6):638-644. doi:10.1016/j.healthpol.2018.04.014
50. Rock M. Sweet Blood and Social Suffering: Rethinking Cause-Effect Relationships in Diabetes, Distress, and Duress. *Med Anthropol.* 2003;22(2):131-174. doi:10.1080/01459740306764
51. Singer J, Putulik Kidlapik C, Martin B, Dean HJ, Trepman E, Embil JM. Food consumption, obesity and abnormal glycaemic control in a Canadian Inuit community. *Clin Obes.* 2014;4(6):316-323. doi:10.1111/cob.12074
52. Jacklin K, Warry W, Kulig JC, Williams AM. Decolonizing First Nations Health. *Heal Rural Canada.* 2012;(May):373-389. https://books.google.ca/books?hl=en&lr=&id=oGLsTPCH9p8C&oi=fnd&pg=PA390&ots=wXwXDxLUNE&sig=XsQK1eSS5WM0-KS1_6j5nKdrfcg#v=onepage&q&f=false.
53. Brant CC. Native ethics and rules of behaviour. *Can J Psychiatry.* 1990;35(6):534-539.
54. Barlow A, Mullany B, Neault N, et al. Paraprofessional-delivered home-visiting intervention for American Indian teen mothers and children: 3-year outcomes from a randomized controlled trial. *Am J Psychiatry.* 2015;172(2):154-162. doi:10.1176/appi.ajp.2014.14030332
55. Maar MA, Manitowabi D, Gzik D, McGregor L, Corbiere C. Serious complications for patients, care providers and policy makers: Tackling the structural violence of first nations people living with diabetes in Canada. *Int Indig Policy J.* 2011;2(1). doi:10.18584/iipj.2011.2.1.6
56. Wark J, Neckoway R, Brownlee K. Interpreting a cultural value: An examination of the Indigenous concept of non-interference in North America. *Int Soc Work.* 2019;62(1):419-432. doi:10.1177/0020872817731143
57. Vallis M, Lee-Baggley D, Sampalli T, et al. Equipping providers with principles, knowledge and skills to successfully integrate behaviour change counselling into practice: a primary healthcare framework. *Public Health.* 2018;154:70-78. doi:10.1016/j.puhe.2017.10.022
58. Luig T, Anderson R, Sharma AM, Campbell-Scherer DL. Personalizing obesity assessment and care planning in primary care: patient experience and outcomes in everyday life and health. *Clin Obes.* 2018;8(6):411-423. doi:10.1111/cob.12283