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Culturally Safe Nutrition Counselling for Caldwell First Nation Older Adults with Type 2 Diabetes

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Abstract

Indigenous older adults in North America face a disproportionately high burden of Type 2 Diabetes Mellitus. The study site, Erie Shores HealthCare, is situated on the land that is traditionally associated with the Three Fires Confederacy of First Nations, which includes the Ojibwa, Odawa, and Potawatomi nations, as well as the ancestral and unceded territory of the Caldwell First Nation (CFN). The hospital provides nutrition counselling through a mobile

medical unit bringing primary and preventative care to the doorsteps of the CFN communities in a manner that fosters follow-through and community partnerships. Our research, a collaborative effort with the community, aimed to gain a deeper understanding of CFN members' perspectives on adherence to nutrition counselling. The informants articulated multifaceted interconnections between food access, cultural identity, health system barriers, and the everyday realities of living with a chronic illness. Dominant themes include a yearning for appropriate education and nutritional information - specifically culturally sensitive but also western. Another overwhelming theme, predictably, is lack of access to medical resources. Even the basics like glucose monitoring equipment seem to be lacking - despite robust health coverage for these items. This study is hopefully the first step in facilitating to create a positive impact, as the findings may encourage clinicians to develop culturally sensitive nutrition counselling education materials that are relatable to the Three Fires Confederacy of First Nations.

Keywords: Culturally safe, nutrition counselling, Caldwell First Nation, Indigenous community, Rural healthcare

Introduction

The prevalence of diabetes has sharply increased among the Indigenous population after the age of 40 since 2008/09 [1]. Specifically, the rate of type 2 diabetes (T2DM) in the Canadian Indigenous population is 17.2% higher compared to that in the non-Indigenous population [2]. Over the last half-century, various socio-cultural, biological, environmental, and lifestyle changes experienced by this population group have significantly contributed to the rising rates of T2DM and its complications [3]. One notable factor is that Indigenous peoples were forcibly relocated to smaller, less resourceful, and less desirable lands when the Canadian government implemented the reservation system in the 1940s [4]. As compensation, Indigenous populations were given Five White Gifts: flour, sugar, salt, dairy, and lard [5]. The consumption of these foods has played a significant role in the rise of obesity, which is closely linked to T2DM [5].

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According to the American Association of Clinical Endocrinologists, ongoing lifestyle optimization is essential for all patients with diabetes [6]. The critical components of lifestyle optimization include nutrition counselling, healthy eating patterns, regular physical activity, adequate sleep, behavioural support, and smoking cessation [7]. Nutrition counselling can effectively reduce the disease burden by improving cardiac health, promoting weight loss, and resulting in better control of blood sugar levels among low-income patients with chronic diseases [7]. Erie Shores HealthCare (ESHC) is located on the traditional territory of the Three Fires Confederacy of First Nations and the ancestral, unceded territory of Caldwell First Nation [8]. The hospital acknowledges the land and declares our collective responsibility to this place and its peoples' histories, rights and presence [9]. We are dedicated to honouring Indigenous history and culture. We are committed to moving forward respectfully with all First Nationsacross Turtle Island, ensuring their voices are heard and their needs are met. We recognize the importance of their inclusion in our healthcare initiatives.

Many individuals and families in the surrounding communities, including CFN, face significant challenges in accessing primary care for various reasons such as lack of transportation, cultural barriers, and/or anticipated discrimination based on historical distrust [10]. They often avoid seeking healthcare unless they are critically ill [10]. The Mobile Medical Support (MMS) program was established by ESHC in response to the growing need for efficient healthcare solutions [10]. This comprehensive healthcare service includes medical consultations, diagnostic tests, and prescription services [10]. MMS provides a mobile clinic that offers consistent access to healthcare, effectively improving the situation by bringing healthcare directly to vulnerable communities in our region [10]. This innovative approach, designed through a collaborative partnership with our Windsor-Essex Ontario Health Team and its encompassing 45 partners [11], has been a unique and sustainable solution to our healthcare challenges. The senior author (VM), leading MMS's clinical care, observed a concerning rise in Type 2 Diabetes Mellitus (T2DM) among the population over the past 12 years. This observation prompted the research team to investigate further, as front-line workers also identified multiple barriers to effective nutrition counselling. These barriers included a lack of cultural sensitivity, entrenched distrust in authority, and limited access to food resources. Understanding these challenges underscores the necessity of creating a culturally safe nutrition plan that honours Indigenous cultures and traditions.

A similar initiative has been successfully implemented for the Sioux Lookout First Nation (https://www.slfnha.com/) since 2014, yet their educational materials often do not resonate with members of the CFN community. To our knowledge, there are currently no available educational resources specifically designed for CFN older adults that align with their traditional beliefs and food practices. Consequently, the study seeks to delve into the CFN members' perspectives on nutrition counselling through interpretive description, aiming to bridge the knowledge gap.

Methods and Methodology

This study applied interpretive description [12], a constructivist methodology that learns from the informants lived experiences, to evaluate and reshape clinical pathways. Recognizing that research in Indigenous communities requires cultural humility [13], the study was grounded in reciprocal engagement, subjectivity, and reflexivity. Rather than merely documenting community experiences, we endeavoured to analyze and interpret them in a meaningful way for community-based care. This study was conceptualized in partnership with CFN members and was implemented by the ESHC research team. Our focus was to understand the perspectives of older adult CFN members with T2DM on effective nutrition counselling that they think they can adhere to. Our enquiry was grounded in a social construct that values partnership with the CFN. Five CFN older adults aged 55 years and above with a diagnosis of T2DM agreed to be our informants. All informants had prior exposure to some form of dietary counselling, those who were able to provide informed consent and participate in a 60-minute interview. Recruitment strategy included community posters (Appendix A) and word of mouth.

The second author (AC) interviewed the informants at their convenience. The second author (AC) is an Indigenous community person herself. We believe her being the interviewer reduced the interviewer bias of this study as she could relate to the informant’s accounts through her lived experiences. Interviews were conducted using a semi-structured format, either in-person or via secure video call, depending on the informant's preference. We audio-recorded all sessions with informed participant approval and conducted them for approximately 60 minutes. The interview questions (Appendix B) focused on nutrition counselling, past healthcare experiences, and culturally safe educational approaches. The interviewers were trained in culturally safe practices [14] and to avoid deficit-based assumptions. Throughout the entire research process, we upheld Indigenous concepts of respect, reciprocity, and relational accountability, with a particular emphasis on the respect for the elders of the community who were consulted for the interviews to ensure culturally safe protocols were upheld. The interviews were transcribed verbatim, and the data were uploaded to NVivo software platform [15] for inductive thematic analysis [16]. Co-author (AC) created initial coding line-by-line, creating

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preliminary codes. The research team (AC, MS, DE) refined the codes into categories and themes through iterative reviews and discussions. The process was grounded in interpretive description [12] anchored by the guiding question, "What matters most to informants in adhering to the nutrition counselling?" The use of NVivo by the research team to visualize the frequency of codes and intersections of nodes and cluster themes helped confirm saturation and internal consistency. Team cooperation was maintained through memo-writing and debriefing. Codes were refined in cycles, and the absence of new themes determined saturation. The research team worked on a schedule of weekly meetings to assess coding alignment and resolve any interpretation bias. The framework of context and tone, along with the web of lived experiences, was applied, ensuring the integrity of our research process.

Results

The informants discussed how food access, cultural identity, health system challenges, and daily life with chronic illness are all connected. After critically sorting and organizing data, we identified 87 nodes from 261 codes. We organized the nodes into 21 parent nodes or sub- themes based on the similarity of ideas expressed (Appendix C). After several discussions among the co-authors (AC, MS, DE), a consensus was reached on five themes: 1) education, 2) ideas about a healthy diet, 3) access to healthy food, 4) food choices and cooking, and 5) food sovereignty (Table 1).

Education and workshops

Our informants expressed a desire for nutrition guidance that is consistent, interactive, and hands-on revealed through seven sub-themes: limited resources, virtual learning with a real person, not having right person for the right job, regional partnership, attending in-person workshop is a challenge, education on how to grocery shop is important, and regular follow- up. The need for a physically accessible dietician for CFN was emphasized as the members often have to travel to Windsor (47 km distance) for their dietician appointment. An informant emphasized that education should extend beyond the distribution of brochures: "Even when we see a dietitian or nutritionist, we're more likely to take those papers and toss them".

Most of the informants commented on the importance of digitalized and personalized approaches:

When it comes to the diet program… make it more digital access, like have a spreadsheet… That would help a lot more… make it more positive, I feel, instead of, you know, thinking you're doing a good job but now you know you're doing a good job.

Some of the informants suggested regional partnerships to employ a dietician well- versed in the traditional food options and beliefs on dietary intakes resonated in the following excerpt.

I think in terms of like Indigenous specific dietician or I think the way to minimize that barrier is perhaps creating

Table 1: Emerged themes

Themes	Sub-themes	Notable quotes
Education	Limited resources, virtual learning with a real person, not having right person for the right job, regional partnership, attending in-person workshop is a challenge, education on how to grocery shop is important, regular follow-up (7)	I don't know right here of a dietician. I do know someone in Windsor at SOAHAC who's a dietician, but whether I think her services are only available to SOAHAC clients and that's another, that's another barrier, not an enabler.
Ideas about a healthy diet	Processed food is bad, plenty of water is good, fruits and vegetables are ideal food, The food you like is good for you, sugar is bad, balanced food (6)	As well as weight gain and processed foods are very, very negative for healthy diet, especially when having to switch things around so that you're in line with being careful with diabetes and not stepping off that ladder is how I am trying to put it.
Access to healthy food	Rising cost of food, lack of political commitment for food security, seasonal nature of fresh food supply (3)	I think one of the things is cost. So, there's a general increased cost, I would say, to eating healthy or finding healthy foods.
Food choices and cooking	Cook-book with traditional recipe, meals on wheels with traditional food, limited food choice (3)	We had something called moccasins on wheels, meals on wheels but for the seniors and elders. But I mean, even, even then, we do meal planning for them, for the people that need that. And that's for myself. I would like to have that too.
Food sovereignty	Impact of colonialism, teaching people traditional gardening (2)	some of that, you know, is lost both through colonialism and, you know, across the generations and for those of us who don't live on a reserve or weren't brought up on the reserve or in those traditions' kind of dovetailing that with this to help, help with some of the challenges in the communities.

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partnerships. So, if one organization has an indigenous dietitian who looks at, you know, healthy food and guidelines etcetera for First Nation communities then maybe those in the same sort of geographic area could help, could share in that knowledge and the expertise of that person. So, you know, maybe they work four days a week at their primary location and then one day a week, they could go out into the community or provide some programming to other First Nations.

Ideas about a healthy diet

The informants reflected on sound knowledge surrounding dietary requirements for diabetes, which was captured in six sub-themes: processed food is bad, plenty of water is good, fruits and vegetables are ideal food, the food you like is good for you, sugar is bad, and balanced food. All of the informants were aware of the meaning of a healthy diet, as resonated in the following excerpt, "Everything in moderation, that's what it should be." However, their concern was about limited food choices, which compelled them to consume unhealthy diet.

As well as weight gain and processed foods are very, very negative for a healthy diet, especially when having to switch things around so that you're in line with being careful with diabetes….

Access to healthy food

The theme reflected serious financial and geographic barriers for the CFN members through three sub-themes: rising cost of food, lack of political commitment for food security, and seasonal nature of fresh food supply. The following excerpt captures the overall idea of this theme:

Those items are usually the higher priced items. Within the community that I'm a part of there is also some financial hardships. I'm not speaking for myself, but speaking for the community in general, that it just would not allow you know the funds to be available for that and there is some food insecurity.

An informant suggested traditional gardening as a solution. However, gardening is a seasonal activity compounding the informant's frustration

Like we could have a garden for four months of the year, but then the rest of the time you know how we access food. There are some food banks, but again, I would say by enlarge, there's not always fresh, healthy food choices.

Food choices and cooking

The theme highlighted the importance of practical skills and cultural alignment, offering valuable suggestions to achieve these goals through three sub-themes: a cookbook featuring traditional recipes, meals on wheels with traditional food, and addressing limited food choices. The informants expressed their deep concern about the limited options for available food and their struggle to access traditionally acceptable food. This sentiment was best captured in the following excerpt: "Yeah, no, I think if you're looking for umm, traditional Indigenous meals, umm that doesn't exist." The community members needed resources to prepare food in a manner that respects tradition and is sustainable in their daily lives. They expressed a desire for a cookbook or a cooking workshop to assist them in this endeavour.

Teach us to maintain that healthy nutrition. Set goals, set specific diets to help us make the food, help us prepare the food… teach us how to cook with more natural products as opposed to processed foods… such as, apples, oranges, stuff like that.

Several CFN community members proposed the implementation of a culturally sensitive Meals on Wheels project as a potential solution to the issue of limited food choices.

Then someone who's, you know, interested in, or putting out an RFP to someone who's interested in preparing Indigenous meals and I'm sure within the community there would be people who would volunteer to do the delivery, or people who could pick them up. I think they're, there's if there's a desire for it, there's a way to make it happen.

Food sovereignty

A collective yearning to restore traditional food habits and knowledge was reflected in this theme. The sub-themes explored the profound impact of colonialism and the importance of teaching traditional gardening practices.

I guess the element of sacredness and the interdependence relationship that as indigenous people we have with the land and the water and the plants and the animals…. some of that, you know, is lost both through colonialism and, you know, across the generations and for those of us who don't live on a reserve or weren't brought up on the reserve or in those traditions' kind of dovetailing that with this to help, help with some of the challenges in the communities. Maybe an element in this is also, you know, teaching people to grow their own food and to hunt and to fish and to gather berries or to go foraging

Discussion

Our interpretive analysis of the interviews indicates that effective nutrition interventions for our target population should holistically integrate cultural values, expand access to nutrition counseling supported by practical educational tools, alleviate food insecurity, and ensure the availability of dietitians trained in Indigenous food culture. Failure to address these interconnected challenges may impede the ability of many Indigenous older adults with T2DM to adhere to recommended dietary modifications. The five interconnected themes revealed through rich qualitative

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accounts illustrate that food is not merely a matter of health; it is also deeply connected to culture, identity, tradition, and systemic barriers. A key observation was that the informants rejected the idea of healthy eating as a fixed, universal standard. Instead, they sought guidance that was relevant to their daily experiences, cultural knowledge, and strategies for managing chronic conditions. Many informants highlighted the inadequacy of the Canada Food Guide, which the health caregivers received as the sole source of nutritional advice, presented without cultural context or practical follow-up. This feedback underscores a well-established scholarly consensus: health initiatives aimed at Indigenous populations must be rooted in their own epistemologies, cosmologies, and historical circumstances [3-5]. This point is critical and cannot be overstated.

Simultaneously, our informants articulated a clear, personal conception of health that transcends biomedical definitions. They were neither oblivious to nutritional guidelines nor antagonistic toward them; instead, they regarded those guidelines as out of step with the lived realities of culture and resource availability. Food preparation, as articulated, was framed as a choreography of harmony, a creative negotiation that modifies ingredients and methods while preserving cultural integrity. We observed a twin burden that Indigenous individuals frequently shoulder: the imperative to honour ancestral practices while engaging with a health system that frequently overlooks their frames of reference. In addition, a strong, recurrent call for interactive, community-driven educational modalities emerged. The informants insisted that authentic learning occurs when individuals engage with ingredients, tools, and skills in context, rather than when they absorb information in isolation, aligning closely with Indigenous models of epistemic transmission that foreground careful observation and oral narrative [17]. The results further illuminate the structural barriers that obstruct the attainment of health autonomy. Respondents recurrently identified transportation deficiencies, the price of nutritious foods, intermittent availability of health providers, and the absence of sustained follow-up care. While previously documented [18], these factors retain their significance. It is important to note that these factors underscore how geographic and infrastructural deficiencies play a crucial role in perpetuating the disconnection of community members from regular services.

The interpretive description presented illustrates a profound alignment with Indigenous epistemologies by emphasizing holistic concepts of wellbeing, embracing community-centred pedagogy, and recognizing the essential role of cultural resonance in health interventions. We acknowledge that focusing on a single community is a limitation of this study, which affects the greater transferability of the findings. However, the data reveal ongoing tensions within prevailing healthcare frameworks structures that often regard food solely as a biochemical resource, overlooking its deep ties to ritual, kinship, and identity. For healthcare practitioners and policymakers, the insights derived from these testimonials underscore the critical need for a transformative shift in the design and implementation of nutrition curricula. There is a compelling call to collaborate with communities as co-experts, ensuring that interventions are crafted with cultural humility and respect for the pedagogical traditions that Indigenous peoples have nurtured over generations. This endeavour extends beyond merely optimizing dietary practices; it encompasses the restoration of relational accountability, the rebuilding of trust, and the re-establishment of care practices that are collectively governed and ethically grounded.

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Ethical considerations

The Office of Research's (https://www.erieshoreshealthcare.ca/research) internal ethics committee and the University of Windsor Research Ethics Board (https://www.uwindsor.ca/research-ethics-board/) approved the ethical conduct of the study in accordance with the ethical standards on Human Experimentation of the institution in which the experiments were done or in accord with the Helsinki Declaration of 1975 and The Tri- Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2).

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Consent for publication

All authors consented for the publication. No identifying images or other personal or clinical details of participants are presented that compromise anonymity.

Author contribution

The first author (MS) conceptualized, designed, collected and analyzed data and contributed significantly to writing the manuscript. VM and DM conceptualized and designed the project. AC collected and analyzed data and contributed significantly to writing the manuscript. DE analyzed data and contributed significantly to writing the manuscript. VM, DM, AW, and NEH significantly contributed to critical revision for important intellectual content and approval of final version of the manuscript.

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Declaration

The work has not been published before nor is it being considered for publication in another journal. All authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Conflict of interest/disclosure statement

There is no conflict of interest to declare.

Availability of data and materials

The data supporting the findings of this study are available on request from the corresponding author. The data is not publicly available due to privacy or ethical restrictions.

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