Developing a land-based oral health promotion project with an Indigenous community in northern British Columbia, Canada

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ABSTRACT

In British Columbia, Canada, First Nations children and youth consistently present with a higher incidence of dental disease. Efforts to improve the oral health status of Indigenous populations have had mixed success, and programs have typically been offered through a Western lens. Recent years have brought calls for oral health professionals to embrace a more holistic approach to health promotion, representative of Indigenous cultures. Colonization has been considered a negative health determinant as it led to the destruction of culture, language, and the removal of Indigenous peoples from their traditional lands. Self-determination and cultural connection are critical to mitigating cultural genocide. Health promotion projects have the potential to support these goals. Fundamental to decolonizing oral health promotion is the development of a sustainable program founded in the traditional ways of Indigenous health and healing. The purpose of this short communication is to report on a collaborative oral health project that used cultural connection as the framework for oral health promotion in a remote Indigenous community.

RÉSUMÉ

En Colombie-Britannique, au Canada, les enfants et les jeunes des Premières Nations présentent systématiquement une incidence plus élevée de maladies dentaires. Les efforts visant à améliorer l'état de santé buccodentaire des populations autochtones ont connu un succès mitigé, bien que les programmes aient généralement été offerts dans une optique occidentale. Ces dernières années, les professionnels de la santé buccodentaire ont été appelés à adopter une approche plus globale de la promotion de la santé, représentative des cultures autochtones. La colonisation a été considérée comme un déterminant négatif de la santé, car elle a mené à la destruction de la culture et de la langue, ainsi que l'expulsion des Autochtones de leurs terres traditionnelles. L'autodétermination et le lien culturel sont essentiels pour atténuer le génocide culturel. Les projets de promotion de la santé ont le potentiel de soutenir ces objectifs. L'élaboration d'un programme durable fondé sur les méthodes traditionnelles de santé et de guérison autochtones est essentielle à la décolonisation de la promotion de la santé buccodentaire. L'objectif de cette brève communication est de faire le point sur un projet de santé buccodentaire collaboratif qui a utilisé le lien culturel à titre de cadre pour la promotion de la santé buccodentaire dans une communauté autochtone éloignée.

Keywords: Canada; cultural connection; cultural genocide; culture, Indigenous; oral health promotion; self-determination
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INTRODUCTION

In British Columbia, Canada, First Nations children and youth consistently present with a higher incidence of dental disease than their non-Indigenous peers.[1-5] Because many Indigenous reserves lack dental services, the statistics have been worse for those living on reserves since data were first collected.[1-5] Efforts to address the oral health status of Indigenous populations have led to some improvements,[3] although programs have typically been offered through a Western lens.[6-8] Poor oral health is not the only challenge faced by Indigenous communities, as poverty, HIV, and suicide are disproportionately found in Indigenous populations throughout Canada.[9-12] In 1997, after recognizing that Canada's National Population Health Survey failed to address the health needs of Indigenous peoples living on reserves, the National Aboriginal Health Organization (NAHO) created the first health survey specific to the needs of Indigenous peoples in Canada.[13] Founded on the principles of ownership, control, access, and possession of data, this survey introduced appropriate information gathering and sharing in Indigenous communities. For the first time, Indigenous populations were asked questions relevant to their health needs. The focus of the First Nation Information Governance Committee (FNIGC) health surveys is on the holistic nature of Indigenous well-being,

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underlining the importance of community, culture, and the environment to these populations.[1-5]

Indigenous health and healing

Anishinaabe kwe scholar Kathy Absolon describes Indigenous ways of being as "[w]holistic and multilayered, which encompasses the spiritual, emotional, mental and physical elements of being."[14] The individual's interconnection to the whole of their environment, including community relationships, culture, family, and natural resources, is fundamental to Indigenous well-being and balance.[1,3,14] In Western health promotion, oral health is separated from other health disciplines, creating a rift between the mouth and the body.[15] In contrast, Indigenous teachings describe the mouth as the place "the natural world enters our body through foods and water and also a place where our stories leave our body to shape the world."[6 p262] Recommendations to incorporate a holistic approach into oral health promotion[6-8] call for oral health care professionals to acknowledge these opposing world views.

Social determinants of health

The social determinants of health are the socioeconomic factors that provide opportunities for individuals and societies to live a healthy life.[16] Safe working conditions, healthy environments, and safe housing are some of the indicators that affect an individual's biomedical health markers.[16] Health promotion offers individuals access to healthy choices through good government policy, healthy environments, and education.[17] Through the creation of health promoting government policies such as Occupational Health and Safety,[18] Healthy Communities Initiative,[19] and Canada's National Housing Strategy,[20] Canada's populations are offered healthier lifestyles that may prevent injury and illness.

Colonization is a negative social determinant of health,[12,16,21] as European settlers sought to destroy the culture, economy, and language of the Indigenous peoples of Canada.[21,22] Attempts to eradicate the fundamental structures that allow a group to function as a unit can lead to cultural genocide.[22 p1] Through government policy, Canada's pursuit of cultural genocide led to the loss of Indigenous peoples' right to self-determination. Vital to the health of Indigenous peoples, self-determination ensures control over decisions that shape economic, cultural, and social programs.[12,23]

It is widely accepted that epistemic racism towards Indigenous peoples in Canada's health system has created an unsafe environment.[24,25] Changing the delivery of health care for Indigenous peoples requires a shift towards both self-determination[21,23] and cultural connection.[4,9-12] Efforts to mitigate the effects of colonization and cultural genocide on self-determination can be enhanced by following the principles of ownership, control, access, and possession (OCAP). Developed in 1998 in response to First Nations health surveys, OCAP is fundamental to self-determination.[26-28]

Understanding the history of colonization requires health care professionals to reflect on the influences their own socioeconomic and academic upbringing have had on their world view.[29,30] Cognitive imperialism is "maintaining the legitimacy of only one language, one culture and one frame of reference,"[31 p198] leading to the denial of another's world view. The process of self-reflection is necessary to mitigate cognitive imperialism, making it possible to create a decolonized health promotion program rooted in the traditional ways of Indigenous health and healing.[6,21]

Chandler and Lalonde's seminal article[32] on the impact cultural connection had on suicide rates among First Nations youth in British Columbia (BC) showed that Indigenous communities with a strong cultural identity and self-government had significantly lower youth suicide rates. Calls for oral health professionals to create culturally relevant oral health promotion projects for Indigenous communities[3,4,6-8] have yielded successful projects.[33,34] For example, the "cradle loan project" was developed in a northern BC Indigenous community after Elders shared with the oral health team that, prior to colonization, children were rocked to sleep in willow cradles rather than given a bottle. In this 1997 project, Elders fabricated willow cradles and lent them to caregivers with infants.[7,33] It was reported that, when the project ended, fewer children were going to bed with a bottle.[33] The resulting oral health program was culturally sensitive and community driven. Similarly, a children's oral health program in a remote community in Algonquin, Quebec, developed an oral health promotion game fashioned after snakes and ladders, renaming it "Eagles and Otters," with questions relevant to oral health promotion.[34] As Indigenous health is closely linked to the relationship with the natural environment, substituting the snakes and ladders with animals chosen by the community allowed the researchers to engage the students in a culturally relevant manner.[34] The youths' enthusiasm to carry on with the project exemplifies the community's ownership of the project.

Developing oral health promotion projects in Indigenous communities must put OCAP first, with cultural connection integrated in the planning phase. If oral health professionals are open to a new way of sharing knowledge, it is possible to be a part of the reconciliation effort.

PROJECT DESCRIPTION

A physician from a remote northern BC community contacted The University of British Columbia (UBC) Faculty of Dentistry with concerns regarding the oral health of the children and youth attending a K-12 school serving the local First Nations Band. Two representatives from the UBC dental faculty held an initial meeting with the principal and 3 teachers from the school where the concerns were noted. There were 37 students attending the K-12 school, the majority of whom were members of the local Band, a hunting and fishing community with a population of approximately 130 and a member of a larger Nation. The school has 2 outdoor gardens—1 a medicine garden and 1 Western—both of which grow seasonal foods. The classrooms have hydroponic systems

that provide edible plants. The harvest from these sources is used in a breakfast and lunch program offered to the students. The school follows The First Peoples Principles of Learning,[35] a 9-point template that outlines Indigenous learning theory. Health, experience, community, connection to land, generational roles, spirits, and ancestors are some of the principles that support the goal to build a culturally relevant curriculum. Elders actively work to bring the ancestral language into the school.

Following the principle of control in OCAP, the involvement of the community was a priority in planning this oral health promotion project. To get the buy-in of the community, individual meetings were held between the physician, UBC representatives, and the community health coordinator (CHC), a member of the First Nation. At that time, the lead author, a University of Victoria Master of Public Health student and registered dental hygienist (RDH), was invited to join the project. Prior to planning the project, the CHC led a sharing circle with approximately 5 members of the Band. Some of the more salient points brought forth were as follows:

1. Ensure community input is used
2. Coordinate with someone in the community
3. Be culturally sensitive
4. Include culturally relevant information

It was also requested that the focus be on healthy options, such as the preparation and sharing of a meal made with foods that are good for oral health. As part of the initial meeting, the researchers donated over 200 plastic toothbrushes to the community, prompting the observation from one community member "that is a lot of plastic," with a request that more natural products, such as bamboo toothbrushes, be provided for future project activities.

The project team determined that the initiative would provide an opportunity to create cultural connection, with attention placed on the connection to land and the involvement of Elders. As this project was designed as a relationship-building health promotion program with no data collection, ethics approval was not required.

Over the next several months, meetings between the lead author and the CHC occurred by telephone, email, and twice in person. The CHC shared that ancestors used their teeth for making moccasins and cache boxes, and for birch bark biting, an ancient art form that is slowly being revived. Additional discussions focused on the diets of animals they hunted, the types of teeth these animals have, and what similarities, both dietary and dentally, could be paralleled to humans.

The lead author and the head teacher decided to incorporate science into the project to complement the students' academic curriculum. The head teacher was consulted on the content to ensure educational standards were met. Three of the First Nation's senior students with leadership qualities were involved in both the development and presentation of the content to their peers. The students were taught how to provide brushing and flossing instruction and to use 2-tone disclosing solutions and tablets. They offered insight and a fresh perspective into what the other students would find interesting.

The project was developed in 2 stages. In Stage 1, the RDH (lead author), the CHC, head teacher, and the 3 senior students worked together to merge an Indigenous land-based lifestyle with Western knowledge of dental biofilm and decay. The students assisted in the development and presentation of a slide show depicting the familiar deer, bear, and salmon, and their respective diets. The RDH agreed to lead the discussion on the different teeth of omnivores, carnivores, and herbivores, and the impact of these differences on diets, underlining the similarities between animal and human diets. After the slide show, eggs that were previously soaked in vinegar to dissolve the shells, and a plaque experiment using yeast, water, and sugar would support a discussion of acids and chemical reactions. The presentation would end with a flossing and brushing technique demonstration by the senior students, using bamboo toothbrushes provided in response to the earlier request for renewable brushes. Reflecting locally available healthy foods, a lunch of salmon, spinach, and strawberries would then be provided.

Stage 2 of the project was planned for the following spring, with the senior students and an Elder delivering the program on their own. Although the goal was to have an Elder present for the Stage 1 presentation, it was not possible, thus precluding the inclusion of certain culturally relevant topics, such as birch bark biting. The non-Indigenous, Western-trained RDH acknowledged the ownership of knowledge in that regard and so did not share those ancestral teachings. In preparation for Stage 2, the Elder developed a presentation on traditional healing methods, dental terminology translated into their ancestral language, and examples of animal teeth from the hunting community. In addition, the Elder planned to recruit a local woman to teach birch bark biting to the students.

RESULTS

The intent of this project was to create a sustainable and culturally relevant oral health promotion program that would be delivered in the school by students and an Elder. By collaborating with the community, the project team followed the principles of OCAP and self-determination.

Stage 1 of the project proceeded as described. However, due to COVID-19 restrictions, the Elder was not able to lead the Stage 2 presentation. Without the Elder present, the students opted to restrict their presentation to a brushing and flossing lesson. The Elder aims to be present for future presentations once COVID restrictions are lifted to share ancestral knowledge with the class.

A binder containing information and resources from the first lesson was developed, as well as a slide show and a written transcript that included a "voice over" the students could turn off and restructure to meet their needs. In keeping with OCAP principles, this binder has been left with the community. Maintaining ownership of the project,

with access to and possession of the information gathered, creates an opportunity for continuity and growth of the project under the community's control.

DISCUSSION

The CHC reported the community members felt engaged early in the process, rather than having the project brought to them in a completed format. This could only have been accomplished by involving a diverse group of community members, an Elder, and youth. The continuation of traditional knowledge is dependent on strong intergenerational relationships in the community where Elders have opportunities to pass their teachings on to youth.[1,12,36] By developing the project with the community, engaging students and Elders, the team assured the sustainability of the project.

One notable experience arose when the request for a renewable resource toothbrush was made, as the lead author felt immediate internal questions erupt: "Will the bristles be too hard?" and "Is it possible to find a 'good' bamboo brush?" Upon reflection, it became apparent that it didn't matter if the brush met Western standards of what is "acceptable" to an oral health professional. As a land-based fishing community, the participating First Nations Band indicated that compostable toothbrushes were a priority. It would have been inappropriate for a Western outsider to ignore this request, believing that there were better toothbrushes available. Recognizing this situation as an example of cognitive imperialism gave the lead author the opportunity to reflect on internal biases and adjust accordingly.

Calls for health care professionals to embrace the holistic approach found in Indigenous cultures[6-8] have resulted in the incorporation of cultural connections in various health promotion projects.[33-34] As health care providers, oral health professionals have an obligation to continue to heed these recommendations and change the way oral health promotion is delivered in Indigenous communities. This project is one example of how embracing a holistic approach and including educators, students, community members, and Elders in program development, can support cultural connections, self-determination, and sustainability.

CONCLUSION

This project has built on the ideas and writings of others to incorporate oral health promotion into Indigenous culture. Despite calls for culturally relevant, sustainable oral health programs, there is a paucity of literature on this topic. While it is possible that programs are being implemented, it is important to share the knowledge gained in pursuit of culturally relevant oral health care programs. If an open approach is adopted by Western oral health professionals, there is an opportunity to dismantle a colonialist approach to health and, by working with Indigenous students, Elders, and the community, develop a program to better serve this population.

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CONFLICTS OF INTEREST

The authors have declared no conflicts of interest.

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