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Indigenous Child Health in Canada – Part II: Present

Developed by Nikita-Kiran Singh, Dr. Lola Baydala, and Sherri Di Lallo for PedsCases.com.
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Introduction

Hello! My name is Nikita-Kiran Singh; I am a fourth-year medical student at the University of Alberta, situated on Treaty 6 territory. This module is part II in a series of three podcasts on Indigenous child health in Canada which have been developed in collaboration with Dr. Lola Baydala, Professor of Pediatrics at the University of Alberta and Sherri Di Lallo, Indigenous Child Health Nurse Coordinator at the Stollery Children's Hospital in Edmonton, Alberta. A special thank you is extended to Sherry Letendre and Aaron Letendre from the Alexis Nakota Sioux Nation; Aaron sings "Grandmother's Song" heard throughout this series. We also thank Melissa Tremblay, Assistant Professor of Educational Psychology at the University of Alberta, and the youth of Maskwacis for sharing their photovoice project images featured in part III. The three parts of this module are organized by the past, present, and future as related to pediatric care for Indigenous children. This module is also available in video format with supplementary materials available at PedsCases.com.

Objectives

In our first podcast, we explored the historical context of colonialism. The objective of part II of this module is to understand how this historical context has affected Indigenous health in Canada today. Finally, the third podcast will explore how medical students and healthcare professionals can provide culturally safe care and advocate for Indigenous pediatric patients.

In this podcast, our objectives are:

1. To discuss the lasting impacts colonialism has had on Indigenous health today.
2. To identify the social determinants that have given rise to poorer health outcomes among Indigenous families.
3. To identify and understand why certain medical conditions disproportionately affect Indigenous pediatric patients.

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4. To appreciate the importance of culturally appropriate healthcare interventions for Indigenous children and youth.

Linking History to Today

Let's begin by connecting the historical context we discussed in part I. Medical colonization refers to the undervaluation of Indigenous concepts of health. Today, the Indigenous population is relatively young and growing quickly with higher than average birth rates. The life expectancy of Indigenous peoples is 6-15 years shorter than the non-Indigenous population. The shortest life expectancy is among the Inuit population. This difference is primarily due to higher infant mortality and suicide rates in Indigenous compared with non-Indigenous populations. In considering medical conditions that disproportionately affect Indigenous children today, it is important to view them in light of historical practices, and not merely in its present context. For example, the history of residential schools is crucial to understanding intergenerational trauma in Indigenous families. Even more important is recognizing the role of resilience and kinship in healing in Indigenous communities.

Social Determinants of Health

According to the World Health Organization, "The social determinants of health are the conditions in which people are born, grow, live, work and age" and "are mostly responsible for health inequities - the unfair and avoidable differences in health status seen within and between countries." Poorer living conditions that disproportionately affect Indigenous communities – including overcrowding, contaminated water, or lack of access to clean water – are major factors influencing health outcomes. In addition, given the location of most reserves in rural and remote areas, it is more difficult to access timely healthcare services. Indigenous peoples are disproportionately affected by poverty, which limits access to resources like healthy food, time for physical activity, and transportation. Furthermore, when Indigenous people do access healthcare services, they may encounter additional barriers such as racism and stereotyping which hinder access to quality care.

The impact of social determinants on health outcomes begin before birth. There are several risk factors associated with higher adverse birth outcomes among Indigenous peoples, including difficulty accessing prenatal care, co-existing medical conditions like diabetes, increased prevalence of infection, and young maternal age. Food insecurity disproportionately affects Indigenous communities in the north, as high transportation and food costs impact access to healthier food alternatives and increase the risk of malnutrition and obesity. Increasingly, resources have become available to improve access to healthcare services, including healthcare navigators and transportation to medical appointments, although the demand for these services often outweighs the supply. It is important to understand how these factors overlap to affect accessibility to healthcare services.

Common Conditions

We'll now discuss some of the medical conditions that disproportionately affect Indigenous children. The aim of this podcast is not to explain in detail the diagnosis and treatment of all the conditions discussed, but to develop an understanding of the social determinants of health that have given rise to the prevalence of these conditions in the first place. If you're interested in learning more about the conditions discussed, there are excellent podcasts and cases available for many related topics through PedsCases.com.

Common medical conditions affecting Indigenous children today include dental caries, respiratory illness, skin and soft tissue infections, diabetes, obesity, developmental delays, mental illness, substance use, and injuries. Vitamin D deficiency also affects Indigenous children at a relatively high rate, especially in children who live in northern communities with decreased exposure to sunlight during the winter months. We'll discuss why these conditions are more common among Indigenous families and provide a general overview.

Dental Caries

Dental caries, usually caused by *Streptococcus mutans*, lead to tooth demineralization and enamel decay. Early childhood caries (ECC) refers to tooth decay in the primary tooth of a child under six years old. The presence of bacteria causing caries, combined with a diet high in carbohydrates and host susceptibility, strongly increases the risk of children having early childhood caries. Further sequelae of dental caries include inflammation, pain, growth restriction, and difficulties learning in class. Indigenous children are more susceptible to developing dental caries because water in Indigenous communities often does not contain fluoride and *S. mutans*, like any pathogen, can spread more readily in conditions of overcrowding. Dental caries can be effectively addressed with a community fluoride program to fluoridate water and apply fluoride varnishes to children who would otherwise be unable to access dental care. The risk of early childhood caries can be minimized by prenatal oral health screening, breastfeeding versus bottle-feeding, and improving education and access to resources surrounding oral hygiene. The treatment of caries is important to improve oral health, minimize pain, avoid negative impacts to growth and development, and for avoidance of general anesthesia for surgical management of severe caries.

Respiratory Illness

Respiratory illnesses, including asthma, bronchitis, and tuberculosis, can arise from poor ventilation in Indigenous communities with limited resources for improving housing conditions. RSV, or respiratory syncytial virus, commonly causes bronchiolitis. In some cases, infants may require prophylaxis for RSV in the form of palivizumab, a monoclonal immunoglobulin. Given higher rates of lower respiratory tract infections leading to hospitalization in some Inuit regions, there has been discussion surrounding providing RSV prophylaxis for Inuit infants. The Canadian Paediatric Society suggests providing RSV prophylaxis if an infant is born before 36 weeks gestation, is under six months of age at the beginning of RSV season, and who would need air transport for hospitalization. While prophylaxis can be considered for term Inuit infants under six

months in regions with high rates of RSV hospitalization, first priority is for infants who have been born prematurely, or who have chronic lung or congenital heart disease.

The rate of tuberculosis is significantly higher in Indigenous communities, a reflection of over-crowding which increases the risk of infection transmission to others. Factors related to immunosuppression, including HIV, diabetes, and substances of use, can further increase the risk of tuberculosis infection. An Indigenous child's risk of exposure to tuberculosis is important to recognize, particularly if you're considering starting medications like steroids or immunosuppressants.

Skin and Soft-Tissue Infections

Scabies, a skin infestation caused by the mite *Sarcoptes scabei*, is transmitted through skin to skin contact. It is more prevalent in communities affected by overcrowding, poverty, and malnutrition, which is why it disproportionately affects Indigenous communities. Scabies infection is characterized by linear burrows, pruritus, and sometimes vesicles or pustules. Treatment entails application of a 5% permethrin topical cream; everyone at home in contact with an individual with scabies should be treated as well, even if asymptomatic, to reduce transmission.

Another source of skin and soft-tissue infections in Indigenous children is community-associated methicillin-resistant *Staphylococcus aureus*, or CA-MRSA. Again, overcrowding and lack of indoor piped potable water are associated with greater risk of CA-MRSA infection. Measures to prevent the acquisition and transmission of CA-MRSA include public health measures to ensure easy access to clean water, avoiding antibiotic use when unnecessary, promoting hand hygiene, and encouraging influenza vaccination given influenza infection increases the risk of MRSA pneumonia. Instructions for wound care should also be provided to families with children who have skin or soft-tissue infections.

Diabetes and Obesity

Type 2 diabetes mellitus is becoming increasingly prevalent in the pediatric population and the risk is higher in Indigenous children. Risk factors include obesity, physical inactivity, food insecurity or lack of access to nutritional food, and family history of type 2 diabetes. The Canadian Paediatric Society suggests screening Indigenous children for diabetes with fasting blood glucose, random glucose, or oral glucose tolerance test if their body mass index is greater than 85th percentile expected for age and they are 10 years of age or older with any of the following associated factors: sedentary lifestyle, maternal gestational diabetes during pregnancy, family history in first or second degree relative, acanthosis nigricans, dyslipidemia, hypertension, or polycystic ovarian syndrome. Approaches to risk reduction of diabetes that have been most successful are those that are culturally-based and community-centered (for example, including traditional diets and group activities with elders).

When managing obesity, it is important to look beyond risk factors, and understand why those risk factors exist in the first place. For example, diets are often high in carbohydrates because those foods are less expensive or the only options at school, and physical activity may be limited because activity programs aren't yet available. Some children may grow up in communities where it is not safe for them to play

outdoors without supervision, limiting access to physical activity. Addressing those underlying causes are important for empowering behavioural change.

Substance Use and Addictions

Substances of use, or different approaches to using historically ceremonial substances such as tobacco, were introduced to Indigenous populations during the early colonial period. Although rates of alcohol consumption are higher in Indigenous populations, so is the rate of non-drinkers. In “The Survivors Speak,” a report of the Truth and Reconciliation Commission of Canada, many survivors of residential schools describe how substances were used as a coping mechanism in response to physical and emotional trauma. This historical context explains why substance use rates are often higher in the Indigenous population.

Fetal Alcohol Spectrum Disorder

Alcohol consumption in pregnancy, which commonly occurs during unexpected pregnancies, may lead to fetal alcohol spectrum disorder (FASD). FASD is characterized by particular facial features including short palpebral fissures, flattened facial features, and smooth philtrum. Children with FASD may have neurodevelopmental effects including attention deficit disorder and challenges with learning or memory. Early identification of children with FASD can prompt early intervention with educational and cultural programs, even before a definitive diagnosis is made.

Tobacco

Of note, tobacco has been used ceremonially by some First Nations groups before European contact. The use of traditional tobacco differs from the commercial use of tobacco in cigarettes. In light of smoking rates being higher among Indigenous versus non-Indigenous youth (as high as 50% in Inuit communities), it is important to recognize the difference between ceremonial and recreational uses of tobacco. Exposure to tobacco smoke increases the risk of other health conditions, including lower respiratory tract infections, otitis media and hearing loss, meningococcal disease, and lung cancer. In order to prevent these effects of smoking, understanding the social factors that underscore addictions in Indigenous youth is essential. A culturally grounded approach that recognizes and affirms the traditional use of tobacco with family-centered approaches to smoking cessation are more likely to address the factors underlying addiction. Nicotine replacement therapy is covered by the non-insured health benefits program and should be considered for regular smokers. Evidence for using buproprion and varenicline in teenagers is not currently sufficient to make strong recommendations for use.

Inhalant Use and Opioids

Another form of addiction more prevalent in marginalized communities is inhalant use, which leads to an altered euphoric mental state in the short-term and has irreversible neurological effects in the long-term. As with addressing addictions related to cigarette smoking and alcohol consumption, prevention is key and management should involve culturally appropriate treatment programs.

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Opioid addiction has recently become more prevalent, with especially devastating outcomes related to fentanyl consumption. In Alberta, First Nations people are twice as likely to be prescribed an opioid medication and three times more likely to die from opioid overdose. Redressing the inappropriate prescribing of opioids for pain management is important for preventing opioid addiction and increasing accessibility to naloxone is crucial for management of overdose. Culturally appropriate school-based prevention programs and community-based treatment programs are essential for addressing risk factors and the underlying causes of addiction.

Mental Health and Suicide

The impact of colonial practices on the mental health of Indigenous children continues today, reflected in higher rates of mental health concerns and a suicide rate four to five times higher than in non-Indigenous youth. Many First Nations communities have declared states of emergency due to an overwhelming number of suicide attempts. Risk factors for suicide in adolescents include depression, substance use, history of self-harm, impulsivity, precipitating social or family factors, and remote location or lack of connectivity to psychosocial support. Cultural considerations are particularly important when designing suicide intervention programs, otherwise existing programs may inadvertently precipitate mental health concerns related to loss of identity in the context of intergenerational trauma. Utilizing community-based resources, including affirming relationships with families and elders, plays a powerful role in reclaiming cultural identity.

Injury Prevention

Mechanisms of unintentional injury include motor vehicle collisions, drowning, fires, poisonings, and animal bites. Anticipatory guidance is a term referring to educational measures and recommendations that can be discussed with parents to optimize the safety of their child's environment. Anticipatory guidance on injury prevention, smoking, oral health, and nutrition can reduce harmful health outcomes in Indigenous children. Examples of injury prevention measures include the use of child restraints and seatbelts, safety helmets, the safe disposal of cigarettes, child-proof storage of poisons, and supervision of children while in water. However, education is insufficient without access to resources needed for anticipatory guidance. Advocating for access to these resources for Indigenous families is vital.

Overview

This concludes our overview of medical conditions that have a higher prevalence in Indigenous children and youth. For a more thorough understanding of these medical conditions, we recommend that you listen to other podcasts available through PedsCases.com. Understanding and managing medical conditions that affect Indigenous pediatric patients requires knowledge of the social determinants of health and how they contribute to health disparities. It is important to highlight that community-based and culturally appropriate programs, particularly for mental health interventions, have the greatest impacts on improving the health and well-being of Indigenous children and youth. It is a testament to the remarkable resilience of Indigenous communities that the reclamation of cultural identity and the sustaining of strong relationships have been important sources of healing.

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Conclusion

In conclusion, let's review some take-home points:

1. The impacts of colonialism on Indigenous health include reduced life expectancy, higher disease burden, and systemic barriers such as racism and discrimination which impede access to quality care.
2. Poverty, overcrowding, limited access to health care services, and food insecurity are social determinants that contribute to health disparities in Indigenous communities.
3. Medical conditions that disproportionately affect Indigenous children and youth include dental caries, respiratory illness, skin and soft-tissue infections, diabetes, substance use, suicide, and unintentional injury.
4. The higher prevalence of addiction and suicide among Indigenous communities reflects the ongoing impact of intergenerational trauma.
5. Culturally appropriate healthcare interventions that utilize the strengths and resilience of Indigenous communities are crucial to addressing the underlying causes of trauma.

In our next podcast, the third and final part of this module, we will discuss the principles of culturally safe care and how medical students and healthcare professionals can advocate for Indigenous pediatric patients and their families.

Thank you for listening. We will conclude the podcast with Aaron Letendre's full rendition of "Grandmother's Song."

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