



Factors Susceptible of
Influencing the Onset of
the Tuberculosis Outbreak
in Qikiqtarjuaq, Nunavut

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Abstract

Recurrent tuberculosis (TB) outbreaks in the North point to the need for a change in the management of this disease. We propose to use a PRECEDE-PROCEED inspired framework to identify three different levels of factors that have contributed to the ongoing TB outbreak in Qikiqtarjuaq, Nunavut. The main predisposing factor discussed is the sustained impact of colonialism, due to the Inuit community's historical experiences with TB eradication efforts led by the Canadian government. Enabling factors that prevent a sustained reduction in the prevalence of TB include inadequate housing and sanitation infrastructure; food insecurity and malnutrition; and a lack of access to healthcare services. Lastly, reinforcing factors including stigma and fear surrounding TB act to sustain the impact of the underlying factors. Addressing these multi-level causes via governmental interventions will contribute to gains in the fight against TB in Inuit communities.

Introduction

1,600 new cases of Tuberculosis (TB) are reported every year in Canada, 90% of which affect two main populations: Canadian-born Indigenous Peoples and foreign-born individuals (1). Qikiqtarjuaq has the highest prevalence rate of Tuberculosis (TB) in the territory of Nunavut; in 2017, 10% of its Inuit population was affected by TB (2,3). In this community, TB predominantly affects individuals over 15 years of age and children under 1 year of age, whereby more cases are reported among men (62%) than women (38%)

(4,5).

The TB outbreak in Qikiqtarjuaq has resulted in significant psychosocial repercussions for affected individuals, including feelings of isolation from the community (6). During the latest TB outbreak in the Qikiqtarjuaq region, residents have reported mental health disorders related to the lack of effective patient-physician communication and the period of quarantine following a diagnosis of active TB (3,6). Community members have also reported feelings of isolation due to their lack of knowledge of TB and the lack of access to mental health workers (3,6).

The PRECEDE-PROCEED (Predisposing, Reinforcing, Enabling Constructs in Ecological Diagnosis and Evaluation – Policy, Regulatory, and Organizational Constructs in Educational and Environmental Development) is an eight-phase planning model often used in public health programming (7). The PRECEDE component of the model “consists of a series of planned assessments that generate information that will be used to guide subsequent decisions” (7), based on the understanding of the factors influencing health behaviours, namely: [1] predisposing factors, which include knowledge or attitudinal characteristics which motivate behaviour; [2] enabling factors, such as access to services or support, which can facilitate the adoption of a particular behaviour); and [3] reinforcing factors, such as immediate feedback and consequences of the behaviours which contribute to its repetition and maintenance (7).

The TB outbreak in Qikiqtarjuaq, Nunavut, spurred our inquiry into the factors – predisposing, enabling, and reinforcing from the PRECEDE-PROCEED framework – that could inform how similar outbreaks could be prevented and abated in Indigenous populations. Therefore, the purpose of this determinant analysis is to better understand the factors which could be targeted in programs aiming at reducing TB transmission among this population.

The determinant analysis presented in this article is based on a rapid review of peer-reviewed and grey literature on TB in Indigenous populations in Canada. We identified peer-reviewed articles in Medline and EMBASE. In the two databases, we searched using terms related to three concepts: [1] Tuberculosis, [2] Indigenous, and [3] risk factors. In addition to the scientific database searches, additional articles were identified through a grey literature search in google, which identified articles and reports from the Government of Nunavut, Public Health Agency of Canada (PHAC), World Health Organization (WHO), and Canadian Broadcasting Corporation (CBC). From the scientific database searches and grey literature search, five peer-reviewed articles and eight grey literature articles were included in this determinant analysis.

Predisposing Factors

Predisposing factors are usually defined as personal or population-wide characteristics that motivate individuals in adopting a specific

health behaviour; these include knowledge, values, and attitudes which may explain individuals' behaviours (7). One important predisposing factor is the sustained impact of colonial public health practices.(8). For instance, community mistrust towards governmental institutions is rooted in a historical legacy of TB in the Canadian North which originates from a time when individuals of all age groups, from children to elders, were forcibly removed from their communities to be treated at southern (often segregated) hospitals, known as TB sanatoriums (6,9,10). Although this approach resulted in a decrease in TB cases in the North, it led to distress among family and community members who were often not informed of their families' living situation. Many of these patients passed away and hence never returned home, often without their families being notified (4,5). Overtime, this practice led to severe community mistrust of the Inuit population around TB control and treatment policies, thus impeding efforts to eradicate TB in the North.

Enabling Factors

The sustained impacts of colonialism have also influenced the following enabling factors, which increase the risk of TB transmission in Nunavut communities: [1] inadequate housing and sanitation infrastructure, [2] food insecurity, hunger, malnutrition, and [3] lack of access to health care services and poor observance of TB treatment recommendations. Inadequate government funding for social housing has led to housing overcrowding and homes that are in need of major repairs (4,11). Overcrowded

diagnosis and evacuation from the community for treatment (3).

Discussion and Conclusion

The identified predisposing, enabling, and reinforcing factors can illuminate some of the potential reasons underlying the onset of the TB outbreak in Qikiqtarjuaq. In addition to the implementation of acute public health measures, the eradication of the TB outbreak will require long-term investment to address underlying root causes of the disease. Qikiqtarjuaq would benefit from increased family income and improved funding for housing and food security. All efforts undertaken to eradicate TB in Qikiqtarjuaq should address issues rooted in the sustained impact of colonialism and socio-cultural factors, including mistrust, language barriers, and access to health care. Furthermore, the development and implementation of TB prevention programs should be community-led to respect the imperative of cultural safety principles. The success of such interventions will require the financial support of key federal and territorial government bodies, as well as active governance by local Inuit leadership and non-governmental organizations.

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