



March 2018

## Smoking Cessation Interventions in Indigenous Populations

Indigenous communities have substantial health disparities and are overrepresented in tobacco-related morbidity and mortality.<sup>1,2</sup> The smoking prevalence among people aged 12 years and older was 34% for Aboriginal people in Ontario – more than double the prevalence for the general population (16%) in Ontario, according to the 2015 Canadian Community Health Survey. Although Aboriginal populations tend to have significantly higher smoking rates than the general population, they are underrepresented in the tobacco research literature.

**Key Message:** There is evidence that cessation interventions can be effective in Indigenous populations. More research on community-driven cessation interventions for Indigenous populations is necessary.

### Evidence of Effectiveness

This update is based on the *Smoke-Free Ontario OTRU Scientific Advisory Group Evidence Update 2017* by the Ontario Tobacco Research Unit (OTRU).<sup>3</sup> Overall, there is evidence that cessation interventions can be effective in Indigenous populations, although there is an overall lack of evidence about how best to employ interventions, and about whether tailoring them to the population is necessary or beneficial.

A Cochrane review included four studies, two of combined approaches (pharmacotherapy and cognitive and behavioural therapies) and two using cognitive and behavioural therapy. Cessation data were pooled across all studies producing a statistically and clinically significant effect in favour of the intervention (relative risk: 1.43, 95% confidence interval: 1.03-1.98). The authors urge that more rigorous research is needed on interventions for Indigenous groups.

A systematic review assessed whether cultural adaptation was necessary for interventions to be effective with Indigenous populations.<sup>4</sup> The review concludes that there is likely no significant difference between Indigenous and non-Indigenous populations regarding the efficacy of interventions, but there is a shortage of evidence as to whether culturally adapted interventions are necessary.<sup>4</sup> Similarly, another review concludes that individual-level strategies, such as nicotine replacement therapy (NRT) and/or counseling, are likely to be as effective for Indigenous as for non-Indigenous people overall.<sup>5</sup> The review suggests that interventions provided by Indigenous healthcare workers are likely to contribute to improving quit rates.<sup>5</sup> However, the review found that, among Indigenous Australians, there was a lack of evidence on how best to encourage the population to access available quit supports. A systematic review by Digiacoio et al., (of low quality), found that quitlines were effective in three North American Indigenous populations, but asserts that further attention to cultural adaptation is needed.<sup>6</sup>

A systematic review<sup>7</sup> by Minichiello et al. investigated 73 commercial tobacco control interventions in Indigenous communities globally. The review found that these interventions incorporated a myriad of activities to reduce, cease or protect Indigenous peoples from the harms of commercial tobacco use. Interventions were successful in producing positive changes in quit rates, consumption and initiation, but were unable to produce any measured change in prevalence rates. The authors concluded that findings of this review suggest a growing prioritization and readiness to address the high rates of commercial tobacco use through the use of both comprehensive and tailored interventions. Interventions using multiple activities, the centring of Aboriginal leadership, long term community investments, and the provision of culturally appropriate health materials and activities appear to have an important influence in producing desired change in Indigenous populations.

A recent narrative review<sup>8</sup> by Gould et al. assessed the impact of social modeling, counseling and self-help materials on smoking cessation among Indigenous pregnant women in high-income countries. The review included three randomized clinical trials. Findings from the three trials did not show significant differences in quitting between the intervention and control groups, due to small sample sizes and inappropriate implementation of the trial. The authors urge for larger trials and recommend that strategies to support quitting among pregnant Indigenous women

need to be multifactorial and take account of the social determinants of smoking including historical antecedents, community norms, cultural strengths, and recognition of individual and community needs.

### The Ontario Context

There are a few programs targeting Indigenous populations with regard to smoking cessation in Ontario:

- **Aboriginal Tobacco Program of Cancer Care Ontario:** the goal of the program is to engage stakeholders across aboriginal communities to create health promotion strategies to both decrease and prevent the misuse of commercial tobacco. The program has helped to provide funding for tobacco cessation programs in aboriginal communities as well as to connect front-line staff to training programs that address commercial tobacco prevention, cessation, and protection.<sup>9</sup>
- **The integration of Moving On to Being Free™ into Meno Ya Win Health Centre:** this project serves 33 First Nations communities in North West Ontario. Patients from 28/33 of the communities served have enrolled. Preliminary unpublished outcomes show a one-year cessation rate of 50%.
- **The Research on Non-Traditional Tobacco Use Reduction in Aboriginal Communities (RETRAC)** by OTRU with Well Living House at the Centre for Research on Inner City Health (CRICH). This project studied which interventions best address non-traditional tobacco use in both First Nations on-reserve communities and urban aboriginal communities in Ontario. The project was conducted in collaboration with the Aboriginal Cancer Unit and Cancer Care Ontario (CCO). Overall, initial findings from the knowledge synthesis have demonstrated that a variety of interventions can lead to reductions in smoking and protection from non-traditional tobacco use in Indigenous communities. Furthermore, interventions were likely to be successful if they focused on forming meaningful relationships with community members, provided access to culturally relevant health care, and grounded work in cultural protocol and practice. The RETRAC project will continue with primary research at the community level and the knowledge synthesis work will be updated annually to reflect new literature.<sup>10</sup>

### Discussion

The 2017 update to the Smoke-Free Ontario Scientific Advisory Committee report *Evidence to Guide Action: Comprehensive Tobacco Control in Ontario (2016)* concludes that overall, there is evidence that interventions (i.e. pharmacotherapy and cognitive and behavioural therapies) are effective at increasing smoking cessation in Indigenous populations. However, the evidence consistently states more research is needed on whether culturally adapted interventions for Indigenous populations are necessary. Moreover, most research in this field has been conducted in Australia and New Zealand. Little research has been conducted among Canadian Indigenous populations.

Ontario has cessation programs targeted towards Indigenous populations such as the Aboriginal Tobacco Program of Cancer Care Ontario. Based on current evidence, interventions targeted to Indigenous populations are effective at increasing cessation rates. Evaluations of cessation programs targeted to Indigenous populations are needed in Ontario in order to improve cultural adaptation and access to these services (especially for First Nations that live on-reserve). More research is needed on the reach of interventions targeted to Indigenous populations, especially among Canadian Indigenous populations.

Lack of community involvement has resulted in data that were unusable by Indigenous communities. Research is needed for implementing Indigenous methods alone or in conjunction with appropriate Western methods when conducting cessation intervention research in Indigenous populations. Decolonizing research requires constant reflective attention and action. Self-determination and decolonization should serve as the connection amongst all Indigenous research methods.<sup>11</sup> Cessation interventions should be multifactorial, taking account of the social determinants of smoking including historical antecedents, community norms, cultural strengths, recognition of individual and community needs, and community involvement and leadership from Indigenous people. More community-driven research in cessation interventions for Indigenous populations is needed.

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