

Feasibility of implementing a community-based oral health educational tool for newcomers in Alberta: perspectives of frontline community leaders

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Introduction

Early childhood caries (ECC) is a severe form of tooth decay affecting the primary teeth of preschool children. Worldwide, ECC is the most prevalent childhood chronic disease, affecting more than 40% of children by kindergarten^{1,2}. In addition to pain and discomfort, ECC can negatively affect the health and positioning of adult teeth and the overall well-being of children, including their eating, sleeping, and proper growth³. Canadians from lower income families have consistently worse oral health outcomes, untreated disease, lower rates of dental visits, a higher proportion of individuals who avoid dental visits, and lower participation in recommended dental care because of costs⁴. Known high-risk groups, such as new immigrants and Aboriginals, have ECC rates of 50% to 98%⁴⁻⁷.

Canadian surveys have found that children from disadvantaged groups, including recent immigrants, have higher rates of caries and lower rates of dental visits than Canadian-born children and tend to seek dental care for treatment reasons^{4, 8-10}. This situation will likely persist due to a steady flow of immigrants in the last century. From 2001 onwards, the average annual number of immigrants ranged between 221,352 and 262,236 (Statistics Canada, statcan.gc.ca).

Oral diseases disproportionately affect immigrant communities¹¹. For example, besides financial costs, African new immigrant families face additional barriers, including those related to language and cultural values, which leads to a lower rate of dental care uptake for their children¹². In recent community-based studies, the authors found that 60% of children of African recent immigrants had untreated dental decay and 63% of them had never been to a dental. Parental awareness of dental coverage did not seem to facilitate the utilization of dental services for young children^{13,14}. Therefore, there is a clear need to enhance prevention and treatment of oral diseases among recent immigrant children, especially those from communities with a higher prevalence of dental problems.

Dental education for immigrant and refugee families can be accomplished through community leaders with experience in health promotion. These individuals have the potential to reach out to newcomer parents, raise their awareness of oral health and preventive care, and facilitate their children's access to dental services. With this in mind, the "Early childhood dental health in newcomers: A community-based knowledge translation workshop" was held at Ramada Edmonton Hotel and Conference Centre on October 11, 2014. This event was supported by the Canadian Institutes of Health Research (CIHR)

and the University of Alberta school of dentistry. The main goal of the workshop was to introduce frontline community health workers to an oral health educational intervention developed for newcomers and to gather their thoughts on the appropriateness of the intervention and the feasibility of its implementation for newcomer families through community-based programs.

- a. The specific communication objectives for the target audience of frontline health workers were:
- b. Highlight the oral health needs of young children from newcomer families.
- c. Outline the oral health care guidelines of the Canadian Academy of Pediatric Dentistry.
- d. Present oral health services and programs available to newcomer families.
- e. Discuss how they can raise oral health awareness with newcomers and alert them to common parental barriers.
- f. Present the educational program to community workers and integrate their insights into the development of program planning.
- g. Review and evaluate the preliminary educational tool provided to each attendee.

Theoretical framework

The RE-AIM framework can be used for planning, implementation, and evaluation of community-based interventions. The overall goal of the RE-AIM framework is to encourage program planners and evaluators to pay more attention to essential program elements that can improve the sustainable adoption and implementation of effective, evidence-based health promotion programs¹⁵. This framework helped us develop an evidence-based oral health prevention program for newcomers and build capacity among immigrant services networks for efficient delivery of the interventions. The RE-AIM framework includes elements related to program design at both the participant level (Reach, Effectiveness, and Maintenance) as well as organizational or setting level (Adoption, Implementation, and Maintenance).

Methods

The project was conducted in four phases:

1. Intervention development: A group of dentists, researchers, and students came together to develop an educational tool to be delivered to frontline community health workers. The tool was in the preliminary stage of development and was based on the informational needs of the preselected

community leaders who were enthusiastic about promoting pediatric oral health and oral health needs of newcomer families.

2. Dissemination event: A dissemination event was conducted with community leaders from several settlement agencies based in Edmonton, including Multicultural Health Brokers Cooperation (MCHB) and Edmonton Multicultural Coalition (EMC). These individuals serve newcomer families and have the potential to reach out to recent immigrant parents, raise their awareness of oral health and preventive care, and facilitate their children's access to pediatric dentists. The half-day event was held at the centrally located Ramada Hotel and Conference Center in Edmonton in Oct 2014.

The first half of the dissemination event was tailored to meet the informational needs of community health workers. Invited presenters and facilitators were selected based on their knowledge, experience, and appreciation of the challenges that newcomer families face.

In the second half of the event, participants were provided with a preliminary version of an oral health educational tool that was developed to give them with the knowledge and skills they require for delivering the tool to parents of young children. Participants were assigned to five groups with one facilitator and one presenter each. Presenters and facilitators were selected based on their experience as health promoters and facilitators of recent immigrants' social integration into Canadian society. Further, they all were interested in promoting pediatric oral health within the communities they work with and some had previously participated in our studies by recruiting families, collecting data or delivering oral health promotion interventions.

3. Focus groups with the community leader: Following presentation of the educational tool, community leaders gave their perspectives on the deliverability and acceptability of the proposed educational intervention. Five focus groups facilitated by team members explored ways to make the tool a better fit for their community. The RE-AIM conceptual framework was used to guide the focus groups. The RE-AIM framework includes elements related to program design at both the participant level (Reach, Effectiveness, and Maintenance) and the organizational or setting level (Adoption, Implementation, and Maintenance). Interviews were recorded, transcribed verbatim, and coded by two researchers independently. Identified barriers and facilitators were categorized based on the key elements of the RE-AIM framework.

4. Further adjustment: Based on the input received from the community leaders, the tool was modified and presented in a follow-up focus group comprised of eight community leaders from different communities for final approval.

Key Findings

1. Intervention development

The educational tool consisted of four illustrative booklets, supplementary visual materials like educational videos and posters, and several hands-on activities for parents and children. This educational tool will allow community leaders to educate newcomer parents about the importance of children's oral health and preventive practices, including oral hygiene practices, diet, and regular dental visits. It has been reviewed several times to be clear, simple, visually appealing and informative. Practice exercises for parents and children were designed at the end of the educational tool.

2. Dissemination event

The event was dynamic, interactive, thought-provoking, and entertaining. It was designed to maximize the uptake and integration of information by a non-academic audience. After opening remarks by Dr. Amin, the executive directors of the MCHB and EMC co-presented their expectations of the event and shared their visions about frontline health workers' involvement in addressing the pediatric oral health care needs of newcomer families, especially those coming from known at-risk areas, such as certain regions within Africa and South East Asia.

3. Integration of community leaders' input/process evaluation

The second aim of the dissemination plan was to collect feedback from participants using the RE-AIM framework for planning a community-based intervention. After transcribing the interviews and qualitative analysis of the data, potential factors that would facilitate or impede each construct of the RE-AIM framework were identified as follows:

Reach

According to the community leaders, the potential target audience will be mothers, children 0-6 years old and older, and parents or other caregivers who frequently interact with the child. Various means of communication with the target audience were suggested, including e-mail, mobile applications, social media platforms (such as Facebook) and phone calls. Using "word of mouth" was also identified as an effective means of communication within some communities. They believed that gatekeepers play an important role in reaching out to the community members. Therefore, their approval of new interventions or programs needs to be established prior to initiating a new program within the community. As a result, appealing to gatekeepers is crucial for the successful application and implementation of the tool.

Effectiveness

Effectiveness of the tool was believed to be demonstrated through four tightly intertwined factors: increased knowledge and awareness as well as improved attitudes and behaviours. Some cultures have pre-established attitudes about certain

aspects of oral health (e.g., the importance of baby teeth); therefore, our educational tool was designed to improve those attitudes by increasing participants' knowledge about oral health and the importance of maintaining healthy baby teeth. Changes in attitudes and an increase in knowledge will result in increased awareness, and thus could be demonstrated through subsequent behaviour-related changes.

Community leaders thought that the educational tool was informative and written in clear language. They found that the tool was clearly formatted, with simple material that is easy to understand, and contains good visual and demonstrative illustrations that portray individuals from various cultures on the photos. The leaders also suggested that the information included in the tool should be divided into several sessions in order to be delivered to the community members effectively. Community leaders saw the practice exercises for parents and children at the end of the educational tool as a bonus and thought they would appeal to both parents and children.

Adoption

Focus group participants suggested several strategies to enhance community members' adoption of the educational tool. It was noted that the community members showed interest, optimism and curiosity about this new educational program. Community leaders were eager to adopt an educational tool that will meet the needs of their community members in terms of overall knowledge about oral health and proper oral health habits.

Implementation

Two main factors guiding the implementation of the educational tool were identified: those related to logistics and resources. Important logistical factors were the time required for recruitment of participants, preparation of facilitators and delivery of the intervention. Implementation of an effective intervention program requires trained leaders within the community who will promote the tool and communicate its importance within their community members. Most of the community leaders work on a volunteer basis and use their own time to be involved in implementing this educational tool. Moreover, even though the program is community driven, participants thought that professional involvement from persons within the dental field would enhance the program's credibility. Community leaders perceived it as a combined effort between themselves and dental professionals: initial presentation of the tool by dental health care professionals, which later phases into a community driven, sustainable program. It's particularly important to find time to involve community leaders and find and recruit dental health care professionals willing to be involved. Combining community leaders' involvement with expert opinion will help establish optimal levels of trust and improve community members' willingness to use the educational tool. Therefore, available resources must be considered: perhaps a form of

compensation or other incentive for both community leaders and dental professionals is an essential component of the educational tool's viability.

Maintenance

Two main strategies were identified for maintaining application of the educational tool by community leaders. First, participants requested that a brief summary of the educational tool be developed for families to reinforce what they learned at the intervention session. Second, several trainers should be thoroughly educated on the educational tool, so that they can answer questions that may arise from community members. In order to maintain this educational tool in a meaningful way and to assess its long-term sustainability, measures of success and the factors that contribute to its effectiveness need to be defined.

Conclusion

This workshop served as a catalyst to engage community leaders in developing an effective, culturally appropriate oral health educational program for parents of young children from newcomer families in Edmonton. Using the RE-AIM theoretical framework enabled us to develop a program based on the inputs received from community leaders. It also helped to identify potential factors that could impede or facilitate the program's successful implementation and required strategies to make the program sustainable over time.

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