



## Focusing on oral health for the Canadian rural population

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Oral diseases are highly prevalent, but because they are seldom life-threatening, physicians often underestimate their importance. However, oral health is part of overall health and has a significant impact on both the physical and psychological state of the patient. General disease states can manifest themselves in the oral cavity and oral diseases can precipitate or maintain general disease states.

### ASSOCIATIONS

Many reports have shown significant associations between periodontal disease and cardiovascular disease, diabetes mellitus, low-birth-weight infants and pulmonary disease.<sup>1-10</sup> As an example, studies have shown that pregnant women with periodontal disease have a 3- to 7-times greater chance of giving birth to a preterm or low-weight baby than do others with no periodontal disease.<sup>11</sup>

### TOOTH LOSS AND DIET

Tooth loss has an impact on nutrition, general health and quality of life.<sup>2,12-17</sup> There is ample evidence that people who wear dentures, no matter what their socioeconomic level, have significantly poorer nutrition than those who have teeth.<sup>14,18-20</sup> Furthermore, several cross-sectional and longitudinal studies have demonstrated that the diets of those who are edentulous are low in fibre and high in saturated fat.<sup>15,16,21-24</sup> The reduced consumption of high-fibre foods could be considered a prime cause of cardiovascular disease, gastrointestinal disorders and cancers.<sup>25-27</sup> Moreover, excessive intake of processed high-fat

and high-carbohydrate foods contributes to obesity and obesity-related diseases.<sup>2,17,28,29</sup>

### SOCIAL EFFECTS

Oral health affects people psychologically and socially. Oral health behaviour and oral health status influence quality of life.<sup>30,31</sup> Oral disease can lead to social problems such as avoidance of laughing and meeting people or missing work or school.<sup>32</sup> Oral and other chronic diseases have common risk factors, such as smoking.<sup>12</sup>

### COLLABORATION

Although it seems that oral and general health are interconnected in many ways, there has been little collaboration between the 2 fields in the past because the impact of oral health on general health was underestimated. It has also been suggested that the differences in private and public reimbursement for oral and general health care have contributed to the separation between the groups. It is important that multidisciplinary physicians, especially those working in rural areas, be familiar with oral disease, particularly because of the lack of dental care providers in remote areas. For example, oral cancer screening can be performed by a general practitioner as part of a routine check up and patients in intensive care units can benefit from the provision of adequate oral care.<sup>33,34</sup>

### ENVIRONMENT

General and oral health are influenced by the environment in terms of socio-political support and economic

resources.<sup>35,36</sup> Rural health care is differentiated from urban health care by socioeconomic deprivation, deficient substructures, reduced public services, unequal distribution of health services, high prevalence of chronic disease and distance barriers.<sup>37-39</sup> A more isolated community faces greater difficulties in ensuring the availability of high-quality health services. Moon and colleagues<sup>40</sup> found that children living in rural communities have a less favourable oral health status, which affects their performance at school. According to the National Rural Health Association, rural Americans are twice as likely to lose their teeth compared with urban residents.<sup>11</sup>

## **GEOGRAPHY**

Rural communities are a large part of Canada's territories. They represent 30% of the population and 95% of the land mass.<sup>41</sup> The rural environment, geography and demography have an impact on the needs of rural Canadians. A recent study in rural northern Alberta communities showed that these communities had poor oral health-related quality of life in conjunction with a high rate of treatment needed for oral health problems.<sup>42</sup> Disparities are complex and relate not only to providers' knowledge gaps, but also to lack of research, as well as attitudinal- and system-level issues.<sup>43</sup>

## **RURAL ORAL HEALTH PROGRAMS**

Although there are some rural oral health programs in the United States, Australia and a few developing countries, few rural oral health programs have been integrated in Canada.<sup>44-46</sup> As an example, the Alberta government, in collaboration with the University of Alberta's Faculty of Dentistry, has provided a dental service in 3 rural community hospitals. According to this program, the close association of dental students with rural physicians provides invaluable experience as well as encouragement to establish dental practices in such needy areas.<sup>44</sup>

## **PROMOTING ORAL HEALTH**

To promote oral health, the Office of the Chief Dental Officer of Canada was created in October 2004. The office focuses on integrating oral health with general health and assists in collecting epidemiologic data for program planning on the federal, provincial and community levels. The office is involved in several projects, for example, the Oral Health and the Canadian Health Measures Survey, which aims

to determine relationships between oral health and risk factors such as environmental and socioeconomic factors. This project will also measure the association of oral health with major health diseases, such as diabetes. The Office of the Chief Dental Officer, in collaboration with the Dental Director of each province and the Senior Dental Consultant for the First Nations and Inuit Health Branch of Health Canada, aims to improve the effectiveness of public dental health programs.

## **COLLABORATIVE SOLUTIONS**

It is evident that oral health disparities cannot be resolved without collaborative efforts between the public health sector and academic public health resources.

To accomplish wide dental-medical collaborations, the transfer of knowledge is essential. Faculties of dentistry could become involved not only in educating and training future dentists to care for the rural population, but also in providing oral health education for non-dental professionals and family practitioners. Educational changes are needed in dental and medical training to better address oral health disparities.<sup>45</sup> During their educational years, students need interprofessional experiences to develop collaborations across professions and within communities. Furthermore, researchers in both oral and general health could also collaborate to assess the common oral and general health needs in rural communities. Community-based oral health research requires dedicated researchers as well as the collaboration of members of the rural community. The little information already gathered in this field demonstrates that the most difficult part of establishing rural dental projects is the recruitment of professional staff.<sup>38,47</sup> Therefore, rural research should be developed as participatory action research. In this way, rural problems are not only better understood and resolved, but participants of the research also benefit through opportunities within the research structure that are thoughtfully created for them.

We encourage rural health care professionals to assist in the development of strategies for the improvement of oral rural health.

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