A Place for Oral Health in Diabetes Management

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The dental profession has long supported the notion that proper oral health is essential to overall health, a position strengthened by the growing evidence linking oral health and systemic health. The relation between periodontal disease and diabetes has been at the forefront of this issue for many years. Löe considered periodontal disease the sixth complication of diabetes.[1] However, recognizing the importance of oral health in diabetes management has largely gone unnoticed by diabetes care providers. Primary care providers focus on diagnosing diabetes, glycemic control and screening for all complications of diabetes except periodontal disease. Oral health providers are generally absent from the diabetes management team, and individuals with diabetes are mostly unaware of the importance of maintaining good oral health as part of their diabetes management regimen.

In recent years, the International Diabetes Federation (IDF) has taken steps to bring oral health into the diabetes management agenda. The IDF Task Force on Clinical Practice Guidelines and the IDF–FDI World Dental Federation Oral Health Working Group held sessions in May 2008 to develop an oral health guideline document for diabetes care providers. The conclusions drawn at the workshop recognized that sufficient evidence supported the development of oral health guidelines based on the relation between periodontal disease and diabetes. This relation is based on the pathophysiological principle that an infective and inflammatory disease such as periodontitis can have pronounced deleterious effects on individuals with diabetes due to their altered immune and reparative processes. The committee members did state that the body of research evidence on the relation between periodontal disease and diabetes was mixed[2-6] and emphasized the need for more epidemiologic studies to examine the effects of periodontal disease and its treatment on glycemic control and other diabetes complications. The health costs attributed to periodontal disease and its impact on diabetes management were largely undetermined and will also require further study to address this knowledge gap.

IDF launched its guideline *Oral Health for People with Diabetes*[7] at the World Diabetes Congress in October 2009. The guideline provides recommendations on clinical care for people with diabetes. The recommendations stress that, once a year, diabetes care providers should ask their patients if they receive professional oral health care and explain to them that oral health home care is a normal component of their diabetes self-management. Diabetes care providers should also ask patients if they are experiencing symptoms of periodontal disease and educate them on the implications of periodontal disease in diabetes management. This guideline serves a dual purpose in that it not only gives recommendations to care providers, but it also echoes a call to action to gather stronger epidemiologic data to support the relation between oral health and diabetes. This call to action is embodied in BRIDGES

(Bringing Research in Diabetes to Global Environments and Systems), an IDF program that currently supports 11 translational research projects worldwide. The BRIDGES program (www.idfbridges.org) could serve as an opportunity for researchers to strengthen the oral health–diabetes relation.

IDF has also been active in the development of a diabetes–oral health web-based resource (www.idf.org/diabetes-and-oral-health). This resource contains information describing the relation between oral health and diabetes in a user-friendly format for professionals, the public, the media and diabetes educators. IDF facilitates the dissemination of existing resources from the World Health Organization (WHO) and the National Diabetes Education Program (NDEP) and will endeavour to create additional resources where information is lacking. The NDEP's Pharmacy, Podiatry, Optometry, and Dental Professionals Work Group has developed a primer[8] for these professional groups that focuses on interdisciplinary care for clinicians who treat individuals with diabetes. This resource is available at www.YourDiabetesInfo.org.

Charting a Course for the Future

The principal objective of integrating oral health care into diabetes management is to ensure that all individuals with diabetes have proper oral health. Good oral health positively affects diabetes management. One way to achieve this objective is to work in pursuit of common purpose. Joint activities that focus on common themes could better utilize expertise and resources to address professional and public needs. The WHO notes that noncommunicable diseases such as diabetes and oral health share preventable risk factors related to lifestyle, such as diet and nutrition.[9] Improving health outcomes by modifying these common behaviour-related risk factors would assist in the prevention, primary care and ongoing management of noncommunicable diseases. Additional factors that place individuals at risk are barriers that prevent access to primary care, lack of resources for health promotion and prevention, and inadequate education resources to teach self-management skills. Unfortunately, noncommunicable diseases are often overlooked in a global context, as evidenced by the omission of these diseases from the United Nations' Millennium Development Goals.[11]

Developing strategies to address the core themes shared by diabetes and oral health may lead to positive health outcomes. This objective can be advanced through the development of 5 key elements: education, dissemination, advocacy, navigation and guidance (**Box 1**).

Box 1 Key elements for the successful integration of oral health within diabetes management

- **Education:** Develop curriculum resources for diabetes care providers and oral health care providers and create interprofessional learning experiences to foster an interdisciplinary approach to diabetes care. Develop educational resources for individuals with diabetes on the importance of oral health in diabetes management.
- **Dissemination:** Provide effective and efficient means of distributing educational resources to professionals, the public, governments, the media and industry. Use multiple methods of delivery, including print and electronic means, to facilitate distribution.
- **Advocacy:** Reduce the disparities faced by the diabetes community in accessing oral health care. Identify barriers and develop strategies and programs to meet the oral health care needs of individuals with diabetes. Work with industries that influence health behaviour to reduce the effects of modifiable risk factors.
- **Navigation:** Identify key stakeholders, such as national dental and diabetes organizations, who have an inherent interest in oral health–diabetes initiatives to advance this often overlooked aspect of diabetes management. Secure financial support through public and private sources to launch and sustain programs in health promotion, prevention and primary care.
- **Guidance:** Monitor health indicators, undertake a periodic review of evidence and encourage knowledge translation in order to provide sound recommendations to legislators for health policy development.

Conclusion

In his address at the 20th World Diabetes Congress, IDF president Jean Claude Mbanya noted that the incidence of diabetes is rising in every nation in the world and that no nation has been able to reverse this trend.[10] Globally, 285 million people live with diabetes and an additional 344 million now have impaired glucose intolerance. If this current rate continues, the number of people with diabetes will climb to 440 million and the number with impaired glucose intolerance will rise to 472 million by the year 2030. President Mbanya noted that action needs to be taken on 2 fronts: first, ensure that people with diabetes have proper access to care and education, and second, prevent people from developing diabetes in the first place by addressing unhealthy lifestyle choices driven by social, cultural and market forces. Tremendous efforts need to be undertaken in the battle

against diabetes. From an oral health perspective, the battle is just beginning. It is a worthwhile fight, as most oral disease is preventable, and where it does occur, it can be treated.[9]

The next World Diabetes Congress will be held in Dubai, in the United Arab Emirates, in December 2011. I anticipate that substantial advances to integrate oral health into diabetes management will be made leading up to the congress. It is my hope that Canada will contribute to these advances through education, dissemination, advocacy, navigation and guidance initiatives.

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