Mount Sinai Hospital Dental Program for Persons with Disabilities: Role in Undergraduate Dental Education

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ABSTRACT

Access to dental care for persons with special needs or disabilities continues to be a problem. This population is known to have a high incidence of dental disease, but unfortunately oral health is a significant unmet health need in many cases. To address this need, the Mount Sinai Hospital Dental Program for Persons with Disabilities was developed over 30 years ago by staff within the discipline of pediatric dentistry at the faculty of dentistry of the University of Toronto. Undergraduate students receive hands-on clinical training in dental management of persons with disabilities, the majority of whom have a developmental disability and could receive care in a community-based dental practice. This program has been successful, but access to community care is still an issue for the population served. Two new initiatives have been introduced in an attempt to develop personal links between persons with disabilities and future dentists, the first a series of lectures given by persons with disabilities and the second a nonprofit organization dedicated to raising awareness of the need for dental care for persons with disabilities. Among other activities, the organization sponsors a community-based event called Sharing Smiles Day, which brings together dental students and persons with disabilities in a carnival-like setting where the emphasis is on personal interactions. Dental preventive education is also provided but is of secondary importance. These initiatives and the program as a whole represent recognition of the responsibility of educators to ensure that new graduates have both the education and the desire to provide needed dental care to persons with disabilities.

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Despite at least 30 years of education and public advocacy, persons with disabilities still have limited access to required dental care in their communities. In fact, dental care is one of the most frequent unmet health care needs for persons with special needs.[1-4] Evidence has demonstrated that, as a group, persons with disabilities have more untreated caries and periodontal disease, a poorer state of oral hygiene and a greater need for extractions than the general population.[5-9] All persons, including those with special needs, should have access to a "dental home" for their primary oral health care. A patient's dental home is defined as the ongoing relationship between that patient and his or her dentist, including all aspects of oral health care, provided in a comprehensive, accessible, coordinated and family-centred manner.[10,11] Oral health is considered an integral component of overall health and is significant in an individual's quality of life

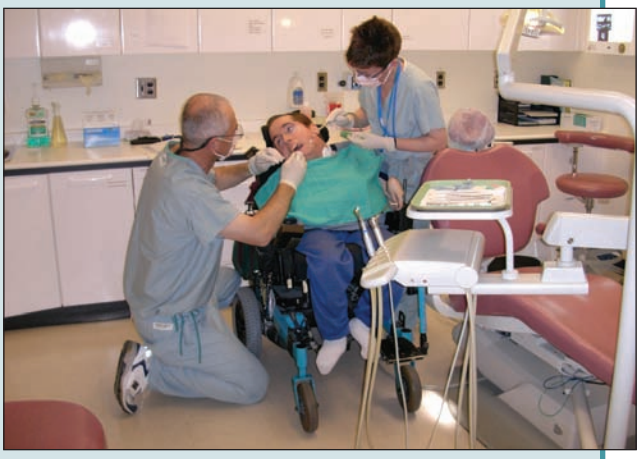

Figure 1: Dental care for persons with disabilities can be provided in a typical dental operatory without the need for special equipment. The operatory must be accessible.

because of its effect on communication, nutrition, emotional expression, taste, social appearance and self-esteem.[2,12] Given the precarious oral health status of persons with disabilities, the necessity for a dental home for these individuals is even more important now that studies suggest a strong relationship between inflammatory gum disease (and possibly dental caries) and systemic conditions such as diabetes mellitus, cardiovascular disease including stroke, and pneumonia or severe acute respiratory syndrome.[13-15]

A person with a disability has been defined as anyone who has or has had an impairment causing a long-term adverse effect upon his or her ability to perform daily activities typical for the person's stage of development and cultural environment. The problem may be congenital, having been present at birth, or acquired at any age thereafter. Disabilities may be visible (such as physical impairments) or invisible (such as learning or memory deficits). Developmental disabilities are defined as impairments of 1 or more of the functions controlled by the brain, with onset during the developmental period from birth to 22 years of age and causing a functional limitation in 3 or more areas of life such as self-care, receptive and expressive language, learning, mobility, self-direction, capacity for independent living and economic self-sufficiency.[16-18] In Canada, 4.4 million people or 14.3% of the population have a disability. In Ontario, the most populous Canadian province, with over 12 million residents (about 38% of the total population of Canada), about 1.85 million people have a disability.[19]

In a recent study in Ontario, the majority of general dentists (more than 80%) and all pediatric dentists reported that they were seeing and/or treating patients with special needs in their practices.[20] However, that study did not determine the number of such patients that respondents saw or the percentage of their practices that involved patients with special needs. A 2006 review of the Dental Program for Persons with Disabilities at the Mount Sinai Hospital in Toronto determined that since 1988, there had been a 12-fold increase in active patients, accounting for more than 8000 visits per year, with patients typically travelling 2–3 hours for a 15-minute checkup. Furthermore, the study revealed that 15% (390) of the patients who indicated that they would seek continued preventive dental care in their local community following initial treatment at Mount Sinai eventually returned to the clinic because they could not find a local dental care provider.[2]

The population served by the program at Mount Sinai Hospital continues to have inadequate access to dental care in the community. This problem will be compounded by aging and by the continued process of moving people with disabilities from institutional settings into the community. The apparent lack of access to oral health care is thought to be due in part to dentists' lack of knowledge and experience and also to a presumed requirement for special equipment or facilities to treat this population.[3] On the contrary, however, the basic oral health care needs of most persons with disabilities can be met in a traditional dental setting by dentists and support staff, if they are willing to adjust routine treatment approaches to accommodate the individual's special needs (**Fig. 1**). Only a small minority of such patients require care in a more specialized facility like a hospital.[1] In a recent study, Koneru and Sigal[21] reported that the majority of persons with disabilities and/or their caregivers believed that oral health was important and that most (>70%) could access dental care. However, the sample in that study was biased by the fact that most respondents were members of an organization related to their disability and resided in a major metropolitan area. Nonetheless, it is still the observation of staff in the Mount Sinai program that many persons with special needs cannot access dental care in their communities. Interestingly, many caregivers reported that it was the social impact of the disability, i.e., not knowing how the individual would behave in public or at a dentist's office, that was the greatest barrier to seeking dental care.[21]

The Challenge

If persons with disabilities are to enjoy the same opportunities and quality of life as others in society, universal access to health care, including oral health care, must be provided in their communities, and it is the responsibility of dental educators to ensure that graduates of dental educational programs have the required knowledge to provide such care.[2,3,22,23] Previous researchers have shown a positive correlation between students' exposure, both didactic and clinical, to persons with disabilities and their subsequent confidence in providing dental care to

this population.[23-25] Unfortunately, most undergraduate dental programs in North America do not include or offer only minimal hands-on didactic and clinical experiences in the dental care of persons with disabilities.[24] To address this identified unmet need, the Commission on Dental Accreditation in the United States adopted new standards, which came into effect in 2006, specifying that "graduates must be competent in assessing the treatment needs of patients with special needs."[23] As a result, all US undergraduate dental programs *must* provide such education in their core curriculum.

Mount Sinai Hospital Dental Program for Persons with Disabilities

The Mount Sinai Hospital Dental Program for Persons with Disabilities is an example of an educational course of study in special care dentistry for undergraduate dental students. The program, established in 1975 by Dr. Norman Levine, involves Mount Sinai Hospital's dental department working in conjunction with the department of pediatric dentistry at the faculty of dentistry, University of Toronto. The program was originally designed to provide an access point for oral care for persons with special needs, within an educational environment. The dental care was to be provided by a team that would include undergraduate and graduate dental students and staff. The program was set up with 2 primary objectives: to offer necessary dental care to individuals with disabilities and to provide an educational experience to students, one that would encourage them to treat such patients in their future practices.[2] Dentistry for persons with special needs had always been considered a part of the discipline of pediatric dentistry, and curriculum time was readily available for these rotations within the core time allocated for pediatric dentistry. In the current program, all senior students are assigned, in groups of 4 or 5 students, to 6–8 half-day rotations at Mount Sinai Hospital, for a total of 18–24 hours. An instructor from the university's department of pediatric dentistry supervises the clinic, and each group of students sees an average of 30 patients, most of whom are developmentally disabled. It should be noted that most of these patients do not require a hospital setting for their routine care. It is the philosophy of the program that the students must provide hands-on care if they are to develop an appropriate level of confidence with these patients, and that if they do not develop such confidence while in school, they will not be inclined to provide this type of care in the community after graduation. The treatment provided includes preventive recall care and simple restorative and/or dentoalveolar surgery as needed. For the majority of patients, nonpharmacologic behaviour management is used, which in many cases involves the application of protective stabilization (with appropriate consent). The students are evaluated and their grades from this program are incorporated into their final grades in clinical pediatric dentistry.

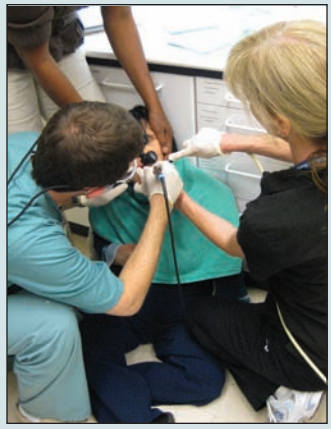

Figure 2: Undergraduate student, assistant and primary care worker providing dental care in a nontraditional fashion, with the patient seated on the floor of the dental operatory.

The dental care provided through this program is funded by government-sponsored dental plans that cover an appropriate level of basic dental care, including prevention, direct restorations, endodontics, some periodontics, dentoalveolar surgery, sedation and some removable prosthodontics. However, the level of reimbursement is significantly less than the current suggested fee guidelines in Ontario and does not cover overhead costs. The program is also supported by the hospital's budget and by the faculty of dentistry, which provides the teaching and supervising clinical instructors.

In its 30 years of operation, the program has been successful in meeting its objectives. Feedback from students has been positive, and there have been no major incidents such as bite or needle-stick injuries, even though many of the patients have been very uncooperative. Without the involvement of students, the program could not care for the volume of patients now being seen in the preventive recall program, which is the cornerstone of care for this patient population. Patients with significant treatment needs and/or those who are uncooperative can be treated under general anesthesia in this program, with the treatment being provided by pediatric and hospital dental residents. The undergraduate students have learned that dental care can be provided to persons with disabilities using conventional dental equipment and staff, with perhaps some minor modifications in treatment delivery, such as treating the patient while on the dentist's stool, on the floor or doing a toothbrush-assisted examination in the hallway (**Fig. 2**). During the 30-year period that the program has been in operation, about 350 dentists have completed a 1-year hospital dental residency program affiliated with the University of Toronto's

faculty of dentistry, and many of these have gone into general practice. One of the objectives of this postgraduate program has been to develop the residents into so-called "super generalists," capable of providing community-based care to persons with disabilities or special health care needs of mild to moderate severity, such that only the most severe cases would be referred to a hospital-based program. Similar educational programs, though on a smaller scale, are available at the University of Western Ontario's Schulich School of Medicine and Dentistry.

The Future

Studies have shown that increased educational exposure to persons with disabilities during the undergraduate curriculum leads more students to feel capable of caring for these patients after graduation.[24-26] So why then do persons with disabilities still have problems accessing dental care in Ontario? Unfortunately, one of the main hurdles has been and continues to be financial, rather than educational. As noted above, the level of reimbursement for treatment provided to persons with special needs by government-sponsored plans in Ontario is about 60% of the current suggested fee guide for generalists in Ontario, an amount that will not cover office overhead. This, combined with the added administrative requirements of treating this patient population, appears to be the main barrier to care. In support of this hypothesis, Dougherty and colleagues[27] found that when the amount of remuneration for the treatment of persons with disabilities was increased in several US states, many such patients were able to receive dental care from private practitioners in the community. Nonetheless, the fees collected from government-sponsored programs in Ontario definitely help in meeting the financial costs of providing dental care in a hospital setting, which is the most expensive setting for such care.

Another possible reason why dentists do not treat persons with disabilities once they open their own practices is that they do not identify the provision of care to this population as part of dentists' social responsibility. For example, despite the efforts of organizations like the Ontario Association for Community Living, many dentists have not been exposed to people with disabilities as integral members of the community requiring accessible dental care. To address this issue, 2 new initiatives have been introduced into the faculty's program. The undergraduate didactic course in pediatric dentistry now includes a series of guest presentations by persons with disabilities or their caregivers. These speakers have provided firsthand accounts of the experiences of persons with disabilities who require dental care. The underlying theme of all of the presentations has been that these patients are persons first and, regardless of their disabilities, they enjoy their lives like everyone else and want the same things in life, including access to health care in their communities, without the sense of being special or experiencing discrimination. The second initiative, which was developed by the undergraduate students themselves, is Oral Health, Total Health, a nonprofit organization dedicated to raising awareness of the need for dental care for persons with disabilities. This organization also undertakes fundraising activities in support of the dental program for persons with disabilities at Mount Sinai Hospital.[28] The organization has initiated a community outreach event called Sharing Smiles Day, during which dental students host a carnival-like fair for persons with developmental disabilities, followed by oral hygiene instruction and preventive dental counselling. The first event, held in Oakville, Ontario, in 2009, was very successful. The initial fear and reluctance exhibited by the students because of their lack of familiarity with people with disabilities dissolved over the course of the day, and it became apparent that students and fair attendees were enjoying each other's company as people! It is hoped that other dental faculties and schools across Canada will join the nonprofit organization and help to sponsor Sharing Smiles Day on a national basis, eventually involving not just the dental schools but also dental practitioners in the community.

The ultimate hope is that these 2 initiatives directed at the human and social aspects of persons with disabilities, rather than their dental concerns, will result in improved access to dental care for persons with disabilities. The success of the speaker series and the nonprofit organization in achieving this goal will be evaluated after the class of 2012 graduates. For educators, the question is not should this type of education be provided to undergraduate dental students, but rather how to ensure that our graduates have the skills and sense of social responsibility required to offer care to persons with special needs in their future practices.

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