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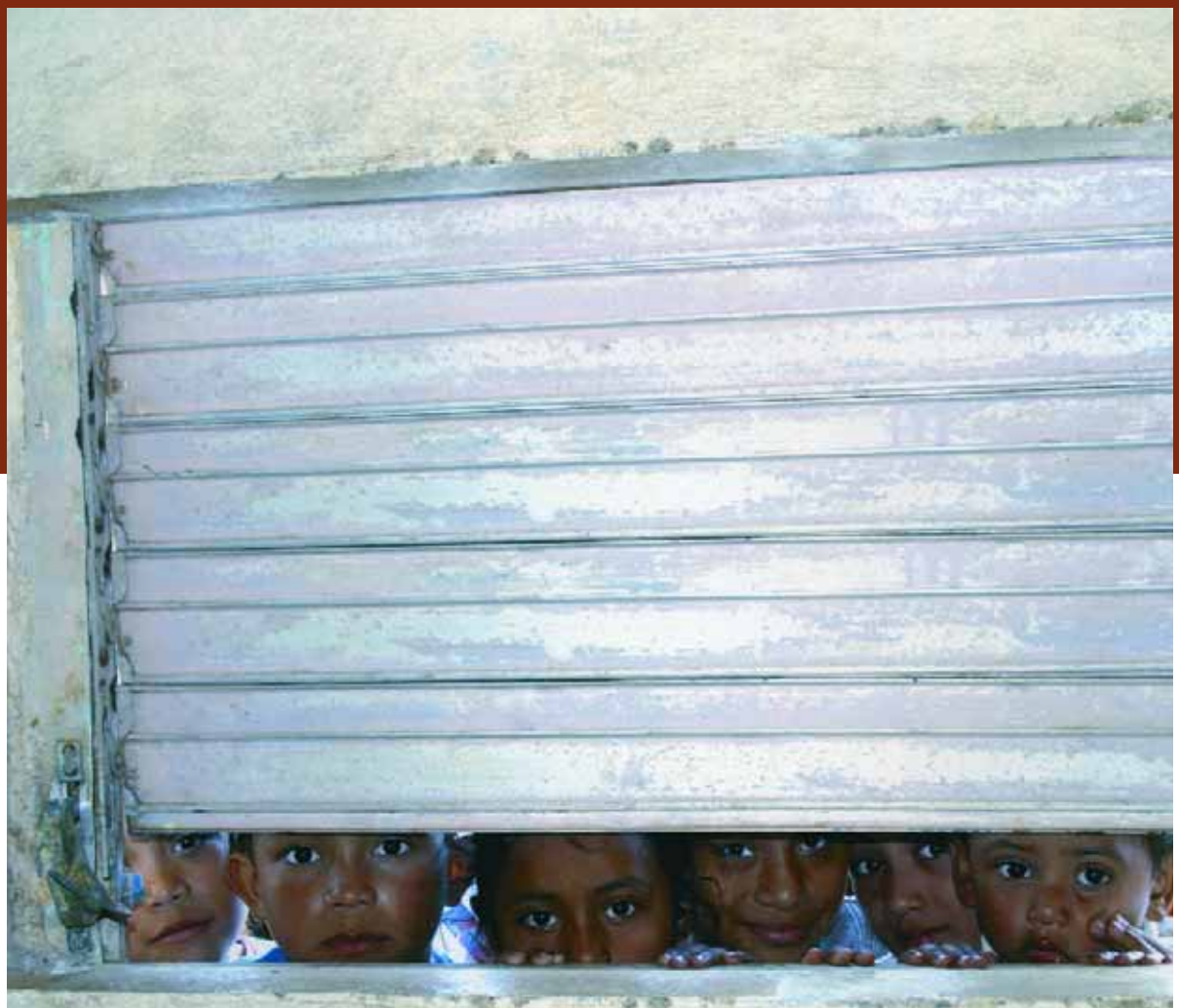

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THE CANADIAN DENTAL HYGIENISTS ASSOCIATION
L'ASSOCIATION CANADIENNE DES HYGIÉNISTES DENTAIRES

THE OFFICIAL JOURNAL OF THE CANADIAN DENTAL HYGIENISTS ASSOCIATION

Volunteering for a Brighter Future

by Diane Thériault, RDH

VOLUNTEERING IS A POWERFUL FORCE FOR change, both for those who volunteer and for the people they serve. Individuals have found an outlet for their untapped skills and ingenuity through volunteering, while governments and communities around the world have relied greatly on the efforts and creativity of volunteers to build stronger, healthier, and sustainable communities.

CDHA needs your vision and your feedback on various issues affecting our profession.

The profession of dental hygiene has also prospered thanks in large part to the vision and efforts of our past and present volunteers. Thousands of fellow dental hygienists across the country have worked and continue to work diligently to reach common goals for the benefit of all in the profession. The participation of each and every individual volunteer is a gift to our association and profession because the value of one's contribution is the power of many. That's why the time you devote through your participation in your associations' activities is more valuable than money.

Whether you participate through your local, provincial, or national association; help organize events such as continuing education courses or conventions; or simply participate in town-hall meetings and answer your association's sponsored surveys, your contribution in some way impacts the evolution of your profession in your province and your country.

In this busy life of ours, we sometimes forget that voicing our opinions and answering a few surveys doesn't take that much time but is of great value. Dante Alighieri wrote: "From a little spark may burst a mighty flame." CDHA needs your vision and your feedback on various issues affecting our profession in order to help us put in perspective all your dreams and work toward creating a better scope of practice and working environment for all dental hygienists in Canada. That's why we ask that you participate in our surveys, focus groups, and town-hall meetings. Abraham Lincoln once said "It is the man who does not want to express his opinion whose opinion I want." We value every opinion and input provided by our

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Le bénévolat pour un avenir meilleur

par Diane Thériault, RDH

LE BÉNÉVOLAT CONSTITUE UNE PUISSANTE force de changement, tant pour les personnes qui en font que pour celles qui en bénéficient. Au moyen du bénévolat, les gens ont trouvé un exutoire pour leurs talents et leur ingéniosité inexploités. Pour leur part, les gouvernements et les collectivités du monde entier comptent grandement sur les efforts et la créativité des bénévoles pour renforcer les collectivités, les assainir et les rendre durables.

La profession d'hygiéniste dentaire a aussi prospéré en grande partie grâce à la vision et aux efforts de ses bénévoles, passés et présents. Des milliers de collègues hygiénistes dentaires d'un bout à l'autre du pays ont travaillé et continuent de travailler avec diligence pour atteindre des objectifs communs au profit de tous les membres de la profession. La participation de chaque bénévole constitue un cadeau pour notre association et notre profession parce que ces contributions individuelles donnent du pouvoir à de nombreuses personnes. C'est pourquoi le temps que vous consacrez aux activités de votre association grâce à votre participation est plus précieux que de l'argent.

L'ACHD a besoin de votre vision et de vos commentaires à propos de diverses questions qui touchent notre profession.

D'une certaine façon, votre contribution a des répercussions sur l'évolution de votre profession dans votre province et votre pays, et ce, que vous participiez aux activités de votre association locale, provinciale ou nationale, que vous contribuiez à organiser des activités telles que des cours de formation professionnelle continue ou des congrès ou, tout simplement, que vous assistiez à des rencontres de discussion ouverte ou que vous répondiez aux sondages commandés par votre association.

Dans la vie remplie que nous menons, nous oublions parfois que le fait d'exprimer nos opinions et de répondre à quelques sondages ne prend pas beaucoup de temps mais peut être d'une grande valeur. Dante Alighieri a écrit : « d'une petite étincelle peut jaillir une flamme puissante ». L'ACHD a besoin de votre vision et de vos commentaires à propos de diverses questions qui touchent notre profes-

Le bénévolat pour un avenir meilleur *…suite page 165*

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Cover photograph by Glenda Stonehocker

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DEPARTMENTS

Knowledge

by Susan Ziebarth, BSc, MHA, CHE

Integrity without knowledge is weak and useless, and knowledge without integrity is dangerous and dreadful.
– Samuel Johnson (1709–1784)

ONE OF THE GENERALLY RECOGNIZED HALLMARKS OF a profession is its specialized body of knowledge. A profession distinguishes itself from an occupation or trade by the application of that knowledge. "Abbott argues that the modern **professions** control their **occupations** by controlling abstract knowledge. In other words, **professions** control the knowledge that generates not only technique but also the definitions and identification of problems in the first place."*

You are professionals with a specialized body of knowledge based on justified true beliefs.

But what is knowledge? Plato was perhaps the first philosopher to define knowledge and this ancient Greek's definition still has relevance today. *Justified true belief* means that for knowledge to be knowledge, as opposed to information, it must be true and that truth must be substantiated by reasons, explanations, or in today's context evidence. Over a thousand years later, Samuel Johnson, in his quote above, also ties the concept of integrity with knowledge. As recently as 2004, Becerra-Fernandez, Gonzalez, and Sabherwal defined knowledge in an area as "justified beliefs about relationships among concepts relevant to that particular area."†

Why are the two proceeding paragraphs relevant to you as dental hygienists? It is relevant because you are professionals with a specialized body of knowledge based on justified true beliefs. It is relevant to CDHA because one of its roles is to be a knowledge manager for its members. This journal is a prime example of an expression of that role. Within its covers, the journal provides peer-reviewed articles that express the best of current knowledge.

Knowledge *…continued on page 166*

* Yinger RJ, Nolen, AL. Surviving the legitimacy challenge. Phi Delta Kappan. 2003;84(5):386.
† Becerra-Fernandez I, Gonzalez A, Sabherwal R. Knowledge management: challenges, solutions, and technologies. Upper Saddle River (NJ): Pearson/Prentice Hall; 2004. p. 12.

La connaissance

par Susan Ziebarth, B.Sc., M.H.A., C.H.E.

L'intégrité sans la connaissance est faible et inutile; quant à la connaissance sans l'intégrité, elle est dangereuse et redoutable.
– Samuel Johnson (1709–1784)

IL EST GÉNÉRALEMENT RECONNU QUE L'UN DES TRAITS distinctifs d'une profession est son corpus de connaissances spécialisées. Une profession se distingue d'une activité ou d'un métier par l'application de ces connaissances. « Abbott soutient que les **professions** modernes ont la haute main sur leurs **activités** grâce à leur maîtrise des connaissances abstraites. En d'autres termes, les **professions** ont la maîtrise des connaissances qui n'engendrent pas seulement la technique mais aussi les définitions des problèmes et la découverte de ceux-ci dans un premier temps* ».

Vous êtes des professionnels disposant d'un corpus de connaissances spécialisées, fondé sur des croyances vraies justifiées.

Mais qu'entend-on par connaissance? Platon est sans doute le premier philosophe à avoir défini la connaissance, et la définition que donne ce philosophe grec de l'Antiquité – une *croyance vraie justifiée* – est toujours pertinente de nos jours. Selon cette définition, pour que l'on puisse parler de connaissance plutôt que d'information, il faut que la connaissance soit vraie et que cette vérité soit étayée par des raisons, des explications ou, dans le contexte d'aujourd'hui, des preuves. Mille ans plus tard, Samuel Johnson, dans la citation ci-dessus, établit aussi un lien entre la notion d'intégrité et la connaissance. Pas plus tard qu'en 2004, Becerra-Fernandez et Sabherwal définissaient la connaissance dans un domaine comme « des croyances justifiées au sujet des relations entre les concepts pertinents au domaine en question† ».

Pourquoi les deux paragraphes qui précèdent sont-ils pertinents pour vous, en tant qu'hygiénistes dentaires? Ils

La connaissance *…suite page 166*

* R.J Yinger et A.L. Nolen, « Surviving the legitimacy challenge », *Phi Delta Kappan*, vol. 84, nº 5 (2003), p. 386.
† I. Becerra-Fernandez, A. Gonzalez et R. Sabherwal, *Knowledge management: challenges, solutions, and technologies*, Upper Saddle River (N.J.), Pearson/Prentice Hall, 2004, p. 12.

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Bonnie Blank (Dental Hygiene Educators of Canada)

Bonnie received an Associate Degree from Marymount College in Arlington, Virginia; graduated from Columbia University, New York, with a Bachelor of Science in Dental Hygiene (1969); and from Gonzaga University, Spokane, Washington, with a Master of Arts in Administration and Curriculum (1998). She has practised for 35 years, either full- or part-time, in general, periodontal, and public health in both Canada and the United States. She has taught dental hygiene for 10 years on a full-time basis to undergraduates at Camosun College, Victoria, British Columbia. She has continued practising on a summer relief basis in a general dental office for the last 7 years. She has been a member of the American Dental Educators Association (ADEA) and has been a poster presenter at their annual session. She is currently a new member to the DHEC board. She is married with four daughters and one granddaughter. Her spare time interests include a passion for running, yoga, and hiking. She looks forward to her term with CDHA as the representative for DHEC.

Anna Maria Cuzzolini (Quebec)

Anna Maria graduated from CEGEP John Abbott in 1992. Upon completing a Multidisciplinary Dental Hygiene Residency Program at the Jewish General Hospital (1993) in Montreal, she immersed herself in general practice where she still practises full time. Anna Maria got a taste for administrative work when she was a "dental hygiene representative" for four years in a large dental office, acting as liaison between a staff of eight dental hygienists and the administrative office of that clinic. A future dream for Anna Maria includes the possibility of either teaching dental hygiene or perhaps working for the professional Order of Dental Hygienists of Quebec. In their free time, Anna Maria and her husband Sal enjoy travelling, biking, gardening, baking, as well as taking nature walks.

Dominque Derome (Federation of Dental Hygiene Regulatory Authorities)

Dominique is a graduate of the UQAM (University of Quebec in Montreal) who obtained the title of CMA (Certified Management Accountant) in 1994. From 1994 to 1999, she acted as controller for the Quebec Chamber of Commerce. In 1999, she also was closely associated with the *International Mosaïcultures*, held in Montreal in 2000. Since 2001, she has been the Executive Director of the Ordre des hygiénistes dentaires du Québec (OHDQ). She was also a member of the Board of CMA Quebec from 1999 to 2004 and now sits on the Board of CMA Canada. She has a passion for dental hygiene. Dominique is very proud of her six- and 9-year old daughters, Marie-Eve and Sophie. She also enjoys travelling and relaxing weekends with the family.

Wanda Fedora (Nova Scotia)

Wanda Fedora lives on Cape Breton Island and has practised most of her 25 years there, with a husband and wife dental team. Wanda graduated from Dalhousie University in 1980 and both her son and daughter graduated from Dalhousie this spring while she celebrates her 25th anniversary of her graduation. She loves to travel with her husband and has hosted exchange students over the last nine years. She has a passion for sewing and among her many hobbies, she has a reputation for making chocolates, which she considers her dental hygiene alter ego! She is very involved in her Catholic church and she chairs a local youth ministry board as well as a local

endeavour that has financed a boarding school/orphanage in Honduras. She is currently working with a few local dentists to bring an oral health mission to that country. She has been actively involved in organized dental hygiene since graduation and has served many terms as chair of her Cape Breton Component of the NSDHA. She has also served two terms as President of the NSDHA and is in her third year as provincial newsletter editor. She is a member of the legislative committee of the NSDHA and is actively involved in pursuing self governance for Nova Scotia dental hygienists.

Evie Jesin (Ontario)

Evie Jesin graduated in 1974 from the University of Toronto with a diploma in Dental Hygiene and in 1978 with a Bachelor of Science degree. She holds a certificate in Pedagogy and in 1982 completed the restorative dental hygiene program at George Brown College. Since 1976, Evie has been employed by George Brown College as a professor to dental assistants, dental hygienists, restorative dental hygienists, and denturists. She has lectured extensively in Canada, United States, and England in histology, periodontics, and ethics as well as being a consultant to various organizations. She has served as a dental hygiene official observer to the Royal College of Dental Surgeons and was a member of the transitional council for the College of Dental Hygienists of Ontario. From 1993–2003, she was a council member on the College of Dental Hygienists of Ontario and has served as vice-president and president. Evie has had extensive media training and has been featured in newspaper articles, on radio, and on television dealing with oral health issues and access to dental hygiene services. She has worked for 30 years in the field of periodontics.

Alison MacDougall (Prince Edward Island)

Alison graduated from Dalhousie in 1990 with a Diploma in Dental Hygiene. In 1997, she completed her Certificate in Adult Education from Henson College and most recently earned her Human Resource Management Certificate from Holland College. Over the past 14 years, she has practised in both private practice and Public Health. She has also been president of the Nova Scotia Dental Hygienists Association and the Prince Edward Island Dental Hygienists Association. At present, she is working three days a week in a two-dentist practice and spends her leisure time with her husband renovating their house and chasing their two-year-old son Aidan.

Palmer Nelson (Newfoundland and Labrador)

Palmer Nelson was born and raised in Halifax, Nova Scotia, and is a graduate of Queen's University, BA Biology (1982). She received her Diploma in Dental Hygiene from Dalhousie University (1989). She has practised both full- and part-time in general dentistry practices in Halifax, Nova Scotia, and St. John's, Newfoundland and Labrador, for 16 years. An active member of her provincial dental hygiene associations, she has been secretary for the NSDHA (1989–91) and has held committee positions with the NLDHA over the past 14 years. Her most recent responsibility was as committee coordinator for the removal of direct supervision of dental hygienists and related legislative issues. A commitment to quality continuing education and chairing a Scholarship and Awards Committee were past commitments. Palmer especially enjoys developing community and public health presentations and relating the role of the dental hygienist to the media. She is very involved with School Councils in her children's schools and serves as the Gown Convener for 150 children for the internationally renowned Newfoundland Symphony Youth Choir. She lives in colourful St. John's with her husband, Richard, and three daughters and was a dedicated volunteer at the June 2004 CDHA Conference in that city. Hiking, kayaking, skiing, and swimming with her family and dog are a few of her active pursuits.

Lynn Smith (British Columbia)

Lynn Smith received her Diploma in Dental Hygiene from the University of British Columbia in 1978 and her Provincial Instructor's Diploma in 1994. After graduation, Lynn has worked in general and periodontal clinical practice settings and has been working in dental hygiene education since 1985. Lynn is a full-time faculty member at Vancouver Community College and was the Department Head of the Dental Hygiene Program from 1994 to 2001. Her teaching focus is on the clinical practice courses, client care, and radiology. Lynn continues to practise clinically in a general practice one day a month. Lynn has been involved previously with local and provincial dental hygienists' association as treasurer, secretary, board member at large, and as a member of various committees. She is currently a full member of the Board for the BCDHA. Lynn has been an accreditation surveyor for dental hygiene programs for the Commission on Dental Accreditation of Canada and an item writer and reviewer for the National Dental Hygiene Certification Board examination. She is the Local Anesthesia course assessor for the College of Dental Hygienists of British Columbia. Lynn lives in Langley, B.C., on a hobby farm with her husband, Greg, three horses, two dogs, and a cat. Her spare time involves helping to train and ride the racehorses, playing with the other pets, gardening, cooking, and spending time with friends and family. The Smiths love to travel and try to have a foreign holiday as often as possible.

Diane Thériault (New Brunswick)

Diane has been a practising dental hygienist in Moncton, New Brunswick, since 1987. Her professional career has spanned the scope of a small pediatric practice to a very busy general practice that includes six dentists and seven dental hygienists. She embarked on a career in dental hygiene after receiving her diploma in Dental Hygiene from Collège de Maisonneuve in Montréal. Prior to her studies in dental hygiene, she spent one year in each of the science and business administration programs at the Université de Moncton. Diane's dedication to the profession of dental hygiene has been marked by her vol-

unteer participation on various boards and committees, which include the following: member of the organizing committee for the 2nd Annual CDHA Professional Conference held in Moncton; Treasurer of the New Brunswick Dental Hygiene Association for eight consecutive years, starting in 1992; representative of New Brunswick dental hygienists on the board of CDHA for the past three and a half years; President of CDHA since March 2005.

Patty Wickstrom (Junior International Federation of Dental Hygienists Representative; Alberta)

Patty received a diploma in Dental Therapy in 1982 from Wascana Institute of Applied Arts and Sciences, now known as SIAST. After working with the Saskatchewan Dental Plan for four years, Patty returned to Wascana Institute to pursue Dental Hygiene in which she received a diploma in 1987. Directly following, Patty moved to Edmonton, Alberta, to practise for two years in private practice and then moved to Vancouver where she practised for three years. Patty currently resides in Calgary with her dog and cat where she has been practising dental hygiene for the past 13 years. She has served in many capacities regarding dental hygiene, including volunteering for the organizing committee of the 1996 CDHA Annual Professional Conference, eight years as a councillor with the Alberta Dental Hygienists Association, and as ADHA President. Patty first served as a CDHA Board of Director in 1999 and has been elected to represent Canada as Junior Representative of the International Federation of Dental Hygiene. Patty is CDHA's Past President. In her spare time, she also runs the odd marathon.

Susan Vogt (Saskatchewan)

Susan is a graduate of Wascana Institute of Applied Arts and Sciences of Saskatchewan with a diploma in Dental Therapy (1985) and Dental Hygiene (1987). She spent most of her clinical career working full-time in a periodontal office in her home city Regina. In the last few years, she has had the opportunity to slow down and experience part-time employment as a clinician in general dentistry. Susan is the past president/chair of the Saskatchewan Dental Hygienists' Association where she served two terms of 3 years, the last term as president. She has been active in her provincial association since graduation. She has been happily married for 18 years and enjoys numerous hobbies, travel, pets, family, and friends.

Carol-Ann Yakiwchuk (Manitoba)

Carol Yakiwchuk graduated in 1992 from the University of Manitoba with a diploma in Dental Hygiene. Following eight years of practice in general dentistry, she joined the Health Promotion Unit of the University of Manitoba's Centre for Community Oral Health. In addition to health promotion programming and delivery for numerous underserved populations, Carol works closely with undergraduate dental and dental hygiene students as an instructor, lecturer, facilitator, and mentor. She provides clinical care one day a week in long-term care and has been actively involved in the development of mouth care policies, educational resource materials, and in-services for caregivers and health professionals. Carol is a member of the International Association of Dental Researchers and presented a scientific poster at the 2003 conference in Sweden. She continues to serve on the MDHA executive and is actively involved in pursuing self-regulation in Manitoba. Committed to life-long learning, Carol has completed the requirements for the pending University of Manitoba BScDH degree and looks forward to undertaking graduate studies in the near future. She spends her leisure time enjoying life with her husband Terry, and children Ben and Amanda. Along with her passion for gardening, she loves to hike, swim, and boat at their family cabin in Lake of the Woods.

Volunteering for a Brighter Future *(continued from page 147)*

members. We search for a diversity of opinions. Again, your comments or opinions could create a swarm of ideas that, in the end, will improve the profession of dental hygiene.

There is also a tremendous potential for all our members to act as volunteers simply by promoting the crucial role professional dental hygienists play in fostering good oral health and in helping to prevent diseases. This important service can be performed during your daily activities through your conversations with your patients and your acquaintances. We often forget that a central role of volunteering is as a promoter of public awareness. In this respect, your personal contacts constitute a key value of volunteering because human interaction is a much more powerful medium for sharing information, and building understanding and cooperation with various segments of the community.

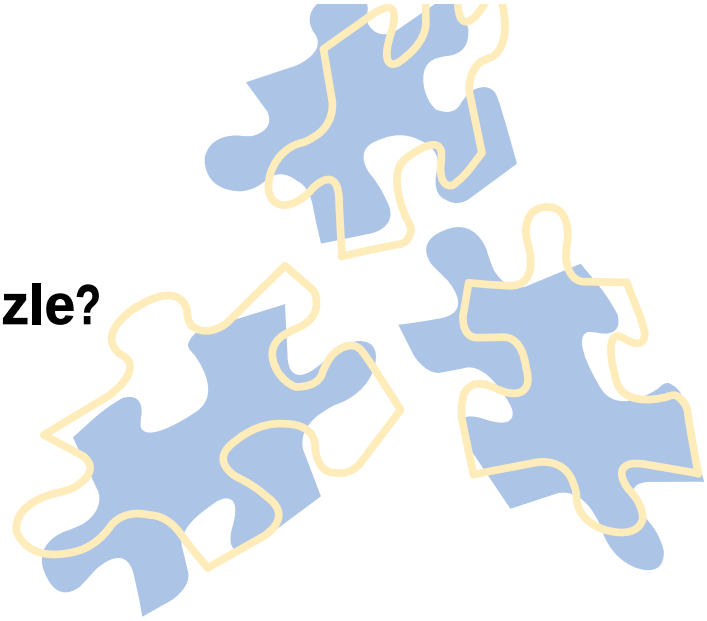
The inherent power of volunteers lies in their nature and spirit. Volunteering is based on non-financial motivations; they are more personal and social in nature. This can often open doors to a different and closer level of relationship and trust with co-workers and local communities, bringing increased potential for greater awareness of the value professional dental hygienist bring to the oral health of our citizens.

Finally, I want to express my gratitude to our past and present volunteers and urge all of you to do your part in fashioning your vision of the ideal profession of dental hygiene. We must be the builders of the profession we want to work in and that we will pass on to future generations. So please share your ingenuity, your skills, and your dreams for the betterment of our profession.

You can contact Diane Thériault at <president@cdha.ca>.

Practice-Based Research: One More Piece of the Puzzle?

by Susanne Sunell, DipDH, BA, MA, EdD
Scientific Editor of CJDH



IN DENTISTRY, CLINICAL TRIALS ARE OFTEN CITED AS EVIdence of our practice research. The idea of research in practice is not a new idea. However, the term "practice-based research" is now being shaped into a new concept, one that pertains to research conducted by clinicians in their own practice settings with involvement of multiple clinicians in multiple practice settings (http://grants.nih.gov/grants/guide/rfa-files/rfa-hs-00-004.html). In some ways, this discussion is similar to those surrounding action research strategies where the participants in the study are involved in the ongoing shaping of the research. While the inclusion characteristic is similar, the clinicians in practice-based research (not the study participants) are included. This approach involves practitioners within the research process in deliberate and systematic ways.

We need to look toward our practice settings for data to substantiate the outcomes of our services.

The impetus for this approach arose in the medical area. Practitioners noted that medical research often occurred in academic areas and often involved urban populations. They noted a gap in the research and their experiences as practitioners providing care for diverse populations. Underserved populations such as those in low socioeconomic groups and ethnically diverse groups, as well as those living in rural areas, were not commonly represented in the research samples. A group of doctors who were concerned about this gap formed a network of practitioners who started to conduct research within their diverse practice settings. This network is credited with the birth of Practice Based Research Networks (PBRNs) in the United States (http://hsc.unm.edu/rios/pbrns.htm). These are designed to bring researchers and practitioners together in exploring issues with the goal of making research more relevant and applicable to diverse clients. These networks have grown across the country and are now the recipients of research grants.

Another factor that has influenced this approach is the pervasive influence on public policy of the accountability movement, as shown in the connection to outcomes. This discussion is also linked to the concentration on evidence-based practice that permeates medicine and dentistry. The focus on outcomes research related to health care has altered the culture of health care practice and research. Research is no longer just in the domain of a few specialized individuals. From a dental hygiene perspective, Wilder (www.adha.org/publications/nrc/wilder.htm) suggests that we need to look toward our practice settings for data to substantiate the outcomes of our services. Practitioners need to understand the strategies for standardized data collection to help implement evidence-based interventions.

How do we interpret these different approaches to research? Obviously, conducting research in practice contexts involves many challenges compared with clinical trials that are commonly viewed as the most rigorous and credible sources of knowledge. Concerns are numerous and include the areas of sampling, measurement, and calibration, and the issue of bias, to name just a few. However, proponents suggest that health care professionals bring their professional expertise to the data collection phase and that these professionals are well prepared and able to manage this aspect. Those who look for opportunities to generalize to larger populations may be disappointed in this approach. This type of research tends to be highly contextualized, just like case studies. While it may be challenging to generalize to other populations, such research can provide us with a better understanding of similar types of groups and can perhaps help us understand our own contexts better. We can learn from the experience of others, even if our contexts differ.

In this issue is a practice-based study that involved dental hygienists from across Canada. The author has written a preamble that makes a case for practice-based research having a place in the vertical integration of evidence. The evidence-based approach as commonly discussed in dentistry tends to direct our attention to clinical trials and the number of clinical trials; the meta-analysis of these studies directs our attention toward a horizontal perspective. However, one can also build a case by using different types of research as supporting evidence.

I am optimistic that the practice-based article will initiate a discussion about clinical research and the place of clinical practitioners and private dental practices within the context of clinical research. Perhaps this approach will provide us with one more piece of the puzzle that will help us to better understand our practice contexts and to build the capacity of our profession for research.

The Sonic Toothbrush in Practice – Canadian Findings

by Marilyn Goulding, RDH, BSc, MOS

ABSTRACT

This study is the Canadian arm of a practice-based survey conducted in North America by full-time dental hygienists on their clients in need of improved oral hygiene. The objective was to determine if the power toothbrush Sonicare Elite® could be used to improve intra-oral conditions and increase compliance and user satisfaction when presented to clients in the dental office by their own hygienists. The study design was single group, pre-test, post-test with a total (final) study panel of 913 dental hygienists and 1,760 clients. The Canadian section was 152 clinicians and 281 clients. Conditions and beliefs were recorded for both dental hygienists and clients at baseline and after 90 days of Sonicare Elite® use. The results indicated 97% of clients felt they had improved oral hygiene and 84% indicated they had increased their toothbrushing habits to twice per day. Periodontal status was reported to have improved in 96% of the clients with roughly half of the clients experiencing a reduction in gingival inflammation, bleeding, and overall plaque accumulation. Additionally, one-third of the clients had diminished extrinsic stains while 41% showed a reduction in re-formed supragingival calculus deposits. Dental hygienists experienced improvements in their own oral health and 99% indicated they were satisfied with the Sonicare Elite®. After the 90-day trial period, dental hygienists demonstrated a shift in their recommendation patterns away from other power brushes, with 98% stating they would recommend the Sonicare Elite® to those clients in need of improved oral hygiene.

RÉSUMÉ

La présente étude constitue le volet canadien d'une enquête nord-américaine reposant sur la pratique. Celle-ci a été effectuée par des hygiénistes dentaires à temps plein, auprès de leurs clients qui avaient besoin d'améliorer leur hygiène bucco-dentaire. Elle avait pour objectif de déterminer si l'on peut se servir de la brosse à dents électrique Sonicare Elite® pour améliorer les conditions à l'intérieur de la bouche et accroître le respect des règles à suivre et la satisfaction des utilisateurs, si cette brosse à dents est présentée aux clients par leur propre hygiéniste, dans le cabinet dentaire. L'étude a porté sur un seul groupe et a fait appel à la méthode prétest post-test, appliquée à un échantillon (final) permanent de 913 hygiénistes dentaires et de 1 760 clients. Le volet canadien comprenait 152 cliniciens et 281 clients. Les conditions et les convictions ont été consignées tant pour les hygiénistes dentaires que pour les clients, au départ et après 90 jours d'utilisation de la brosse à dents Sonicare Elite®. Selon les résultats, 97 % des clients estiment avoir amélioré leur hygiène bucco-dentaire et 84 % ont indiqué qu'ils se brossaient désormais les dents deux fois par jour, ce qui constitue un progrès. On rapporte que la situation parodontale s'est améliorée chez 96 % des clients, la moitié d'entre eux environ ayant connu une réduction de l'inflammation des gencives, des saignements et de l'accumulation globale de plaque. De plus, on observe une réduction des taches externes chez un tiers des clients et une réduction de la reformation de dépôts de tartre sus-gingival chez 41 % d'entre eux. Les hygiénistes dentaires ont senti une amélioration de leur propre santé bucco-dentaire, et 99 % de ces personnes ont fait part de la satisfaction que leur procurait la brosse à dents Sonicare Elite®. Après la période initiale d'essai de 90 jours, les hygiénistes dentaires ont montré qu'ils et elles avaient tendance à recommander cette brosse à dents électrique plutôt que d'autres, 98 % déclarant qu'elles et ils en recommanderaient l'utilisation aux clients ayant besoin d'améliorer leur hygiène bucco-dentaire.

AUTHOR'S PREAMBLE: MAKING SENSE OF RESEARCH

In the interest of understanding how to "judge" the value of a clinical study, this preamble "places" the following paper on dealing with practice-based research in its proper place in the continuum of research.

We begin any quest with laboratory or basic science; it is next taken to animal studies and then onto controlled human clinical trials. These controlled trials go through Phases I, II, and III before a new product is brought to market. Following its introduction to the public, Phase IV real-life studies bring added information to the clinician. These final studies should be evaluated with the knowledge that they are *not* controlled clinical trials. They must be viewed in the context of how the product will be used in the market place, with each professional and each dental client interpreting the use and results in his or her own way. Read on to get the background information; then go on to read the actual study. Perhaps you were even one of the clinicians involved!

Have you ever, as a clinician, tried to make clinical decisions about a new product or therapy on the market? Ever

done your own "comparison studies" in practice to see which direction to take with clients? Would a client respond better to one type of therapy versus another? And does this sound familiar: just when you begin to think you have a feel for what works best, you get a client who responds just the opposite way and your "theory" is lost to indecision once again!

Here is where you see the power that a formal clinical study can have in the decision-making process. Having a group of similar subjects, half on one therapy and half on the other, can give you the answers that take years to get in clinical practice. This is why clinical comparisons in your practice are known as anecdotal evidence and formal clinical trials on large numbers of subjects are able to be added to other similar studies to form a true evidence base for decision making.

Although research is aimed at eventually finding answers, its first steps identify many additional questions in response to each small step gained. That is the nature of research: to sort the conundrum into manageable parts so that each may be investigated fully, eventually leading to a further understanding of a concept that is likely much larger than you could have envisioned to start. Picture Galileo discovering a whole universe when all he was looking for was the relationship of the earth to the sun…. You get the idea!

Clinical trials for diagnostics, therapeutics, and medical/dental devices is considered applied or practical-use science. This is a follow-up from a test, formulation, or technology, formerly developed in basic science laboratories. When this happens, government agencies (the Food and Drug Administration in the United States or Health Canada's Therapeutic Products Directorate) get involved. They have strict guidelines that take these human-subject trials through the various phases before the item in question can be approved for sale in the marketplace.

Phase I studies focus on the *safety* of a proposed product. The studies are usually small and all aspects are very controlled. The subjects are carefully screened to select those who qualify for the study. If, for instance a new mouthwash is being tested that claims to reduce plaque and gingivitis, then subjects with certain levels of plaque and gingivitis must be selected. In this way, the two groups being compared are so alike that any differences must be attributed to the test vs. control substance.

Phase II studies go on to test *efficacy* or how well the product works. The study group gets progressively larger as each phase is completed. The trials are still very controlled in order to see any differences in the groups more easily.

The best design is when the subjects are randomly assigned to either the test or the control group. Other features that make a good clinical trial include blinding the examiners who are measuring the effects of the test and the control. They are not aware to which group each subject is assigned. Double-blinding is achieved when neither the subjects nor the examiners know if the subject is in the test group or the control group. Other desirable factors in a well-designed clinical study may include calibration of the examiners. This means that they have been tested to see that their measurements (for example, pocket depths or tissue evaluation) are similar. Keeping the number of examiners down to one or two, if possible, is also considered a factor in collecting the most accurate of information.

Phase III studies are targeted at *dosage* questions to determine if the test substance is best used at a certain concentration, volume, and time frame or if another approach is better. The groups of subjects continue to get larger and the studies often get longer. It is usually sometime during Phase III studies that the market approval is given for the product and it becomes available to consumers.

The government agencies do not assume a hands-off approach once a product is on the market. Long-term use in a population is the very best clinical trial. Once a product is on the market, then the control in a trial is loosened. The developers of the product, and the government agencies that approves it, are looking for continued data from usage in real life. Granted, the safety, efficacy, and dosage issues are now sorted out but all of these studies were conducted under very controlled conditions in order that the cause for any differences in the groups can be identified.

Phase IV studies are purposefully less controlled trials conducted under actual usage conditions to do a final check on any possible interactions a new product may have when all aspects of life impact on it in actual use. Clinical groups are often recruited to supply feedback on a product by evaluating patients who are using the drug, device or new technology. Although there may be a specific form with standard questions to answer, measurements to take or tests to apply, there is no division of groups by random assignment and usually no calibration of examiners to make sure they are collecting the data in the same way. It is understood that these are real-life conditions and if the doctors, dentists, dental hygienists and/or nurses are conducting treatment, they are qualified to make professional judgments and take measurements appropriately. For instance, if probing pocket depths (PPDs) and gingival index (GI) are requested of a volunteer office to measure the effects of a new mouthwash, then the dental hygienist collecting this data is licensed to practise and therefore knows how to measure a pocket and determine a measure for inflammation in the tissue. For this reason, Phase IV studies are usually quite large to allow for slightly different measurements from a variety of clinicians. The clinicians provide data from clients who agree to allow the observations and/or measurements of their own case to be submitted. There is no division of groups assigned to a test substance or a control. The product is in actual use and its effect in actual use conditions is being tracked.

The following study is a new approach on a Phase IV study. It was initiated by a dental manufacturer and conducted by a market research group. The product they were seeking information on is a new sonic toothbrush. Although there are many studies leading up to the release of this particular product (or any product), there are often few, if any conducted in the actual clinical setting after the product has become well known and well used in the marketplace. This particular study solicited volunteer, practising dental hygienists and their dental clients. It is meant to be a reflection of real perceptions, usage, and opinion. Although the collection of data was standardized by sending out set forms, giving explicit instructions, and providing guidance to the clinicians,

they were all volunteering to conduct this trial on their own as their first foray into research. The exercise has been termed "practice-based research" and it is one more source from which the clinician can gain information.

Each level of information is good information. Research may start with test tubes in the laboratory and progress through animal studies to the Phase I, II, III studies on human subjects, but all products are eventually used in the population. Granted, there is much more room for error when the controls are not there, but that is ultimately how our clients use these products—without control. They brush with their own styles, they rinse for the amount of time they wish, they floss (or don't floss) according to their own personal choices.

Practice-based research has its own place in the study design continuum. If we understand the progression of how studies are conducted, then this type of study can be read and taken in the proper context. If we evaluate it based on what is considered a good design for controlled phase studies, then we may discount its value too readily. Anything tried once readies the way for new and improved methods. Here is an example of practice-based research. We can take from it, in proper context, what we will. There are design flaws, things which may have been done better, but this information came from licensed, practising dental hygienists just like you. Their information is here to be shared.

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INTRODUCTION

ORAL HYGIENE PRODUCTS ARE CONTINUOUSLY evolving to meet the ever-increasing demands of our population; consumers seek products that are easier, faster, and better.[1] Dental professionals have long recognized that when the dental client finds a product that simplifies the task, compliance with oral hygiene regimens improves.[2] The dental professional also has the ethical responsibility to make recommendations for oral health care from "evidence-based" conclusions.[3] What constitutes evidence-based decision making (EBDM)? It is defined as "the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients."[4] We can glean this information from many and varied resources, the most rigorous of which is scientific evidence from the randomized, controlled clinical trial (RCCT), applied mainly to the evaluation of new treatments and/or devices.[5] However, it is how an approved new treatment or device is accepted and utilized by the dental client that really determines the overall benefit to the client and thus the improvement in the oral health of the population from its use. This type of research must be gathered "in the field," surveying from the many practices across the country to ascertain the outcome of a new regimen. This is determined by comparing the oral health of users prior to its introduction to improvements or declines in oral health after a designated period. This "real world" approach, although less rigorous in design and more subjective in nature, is also encouraged in the process of evidence-based decision making. It accounts for the fact that even the best of therapies, if underutilized, will be of little use. Therefore, a combination of clinical research, professional evaluation, and consumer response is a recognized tri-level evaluative model for arriving at treatment decisions.[6,7]

The following methodology details such a survey, conducted across North America, in actual offices with grassroots dental hygienists and their clients. You will note that the professionals interpreted the survey and collected data as they would in their private practices. Subjectivity has been built into the study to determine product use, effect, and satisfaction. Because of this, the study panel was large.

This paper presents the Canadian results of this study, designed to determine the intra-oral effects of the Sonicare Elite® power toothbrush, compliance results, and satisfaction status after a 90-day trial period.

METHODS

Study panel

Dental hygienists responded to an invitation to volunteer for the study, published in *RDH* magazine, or via direct random mail. The dental hygienists who took part work full-time in major metropolitan practices. They agreed to use the Sonicare Elite® themselves, enroll two of their clients, and record baseline and 90-day data on both themselves and their clients on a standard survey form. Although any participant could have been a previous power toothbrush user, none in the study had previously used the Sonicare Elite". However, all subjects had a consistent recall history, had a need for further improvement in oral hygiene regardless of whether they currently used a manual or a power toothbrush. The total study population consisted of 1,100 dental hygienists and 2,200 dental clients; the Canadian contingent being 152 dental hygienists paired with 281 of their clients.

Figure 1. Study kit for Sonicare study

Study design

Each dental hygienist received a study kit (see figure 1) that included the following:

a. Baseline data forms:
   i. Initial patient evaluation: information on the clients' demographics, oral health, current type of brush used and satisfaction level, adjunctive oral hygiene aids and compliance levels (oral health evaluation to be completed by the dental hygienist according to his/her professional examination)
   ii. Registered Dental Hygienist (RDH) initial self-assessment: information on the dental hygienists' demographics, own oral health, current type of brush used and satisfaction level, the type of brush most often recommended and for which client conditions

b. 90-day data forms
   i. Recall patient evaluation: repeat of the baseline data for comparative purposes (professional evaluation by the dental hygienist)
   ii. Patient self-assessment: more detailed questions on demographics, compliance with the recommended study regimen, perceived changes in intra-oral conditions, and satisfaction evaluations (client's opinion)
   iii. RDH final self-assessment: compliance with the recommended study regimen, perceived changes in intra-oral conditions, satisfaction evaluations, and changes in future client recommendation patterns
c. Sonicare Elite® for each dental hygienist and client
d. Appointment reminder cards
e. Study log
f. Pre-addressed, postage-paid return envelopes
g. Detailed instruction sheet
h. Three educational CD-ROMs (for one RDH and two clients)

All dental hygienist participants were provided with a toll-free help line and an email address to access assistance or clarification with study requirements if needed.

RESULTS

Baseline client evaluation by RDHs

The typical client lived in an urban setting and was from a high socioeconomic level (average annual household income being upward of $69,000) with 70% having a post-secondary education. They were 52% female and 48% male with a mean age of 46 years (see figure 2). Nearly three-quarters (71%) of the clients were exclusively manual toothbrush users. Only one in ten clients was a power toothbrush user only, while 16% used both power and manual brushes in their daily oral care regimen (see figure 3). The oral health profile of the clients consisted of the following: 27% were rated by their dental hygienist as either "excellent" (3%) or "good" (24%); 67% exhibited "gingivitis"; 54% had "periodontitis"; and 33% were categorized as having "poor oral hygiene"(see figure 4). These categories were based on professional clinical examination. Their compliance measured at 43% was "excellent" (11%) or "good" (33%) with 97% brushing at least once a day and 60% brushing twice a day. The population tended not to use oral hygiene adjunctive aids with the exception of the 40% who flossed and the 17% who used mouthrinse.

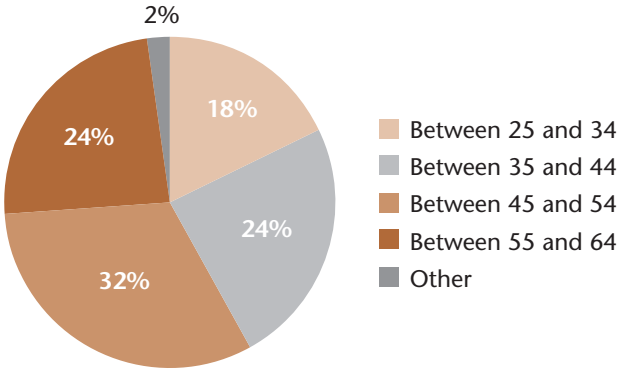

Figure 2. Distribution of patients by age

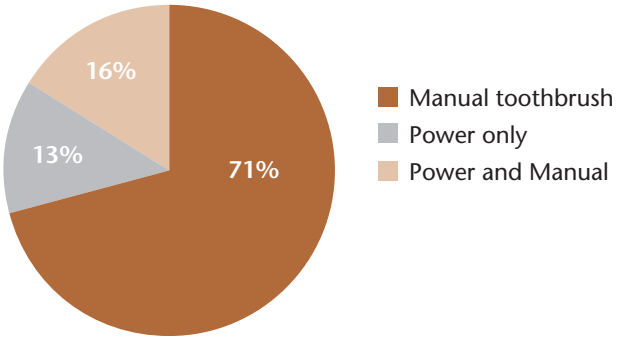

Figure 3. Types of toothbrushes used

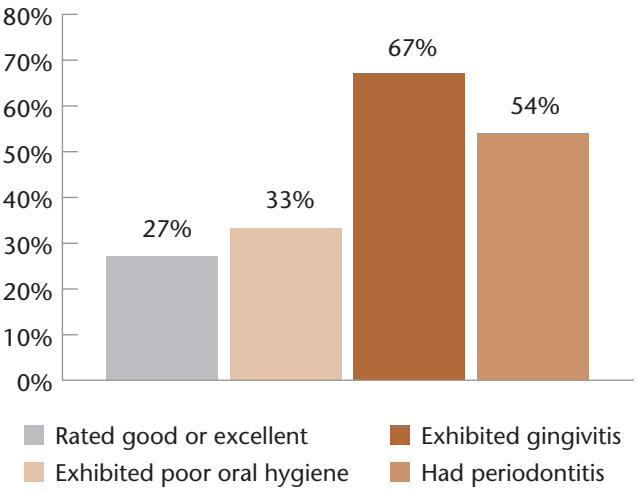

Figure 4. Baseline oral health profile of patients

Condition	Pre-study (%)	Post-study (%)	Improvement (%)
Extrinsic stains	56	23	33
Bleeding	79	30	49
Gingival inflammation	81	30	51
Plaque accumulation	79	26	53
Reformed supra-calculus	69	28	41
Xerostomia	16	9	7
Halitosis	40	14	26

Table 1. Improvement in conditions (from "heavy" and "moderate")

90-day client evaluation by RDHs

At the end of the 90-day Sonicare Elite® trial (60–90 days accepted), the dental-hygienist–reported results were as follows:

- 97% of clients had improved their overall oral hygiene after using the Sonicare Elite® for 90 days.
- 84% were using the brush twice per day (up from 60%) (see figure 5).
- 96% had improved periodontal status (39% were "significantly better" and with 57% "better").
- Nearly one-third (33%) of the dental clients experienced a reduction in extrinsic stains, from "moderate/heavy" to "none" after using the Sonicare Elite®.
- Nearly half (49%) of the population experienced a reduction in bleeding, from "moderate/heavy" to "none" at the completion of the study.
- More than half (51%) of the clients reduced their gingival inflammation and plaque accumulation from "moderate/heavy" to "none."
- Complaints of xerostomia improved by 7% at study's end.
- The tendency to re-form supragingival calculus shifted from "moderate/heavy" to "none" in 41% of the study panel.
- Halitosis shifted by 26% from "moderate/heavy" to "none" (see table 1).

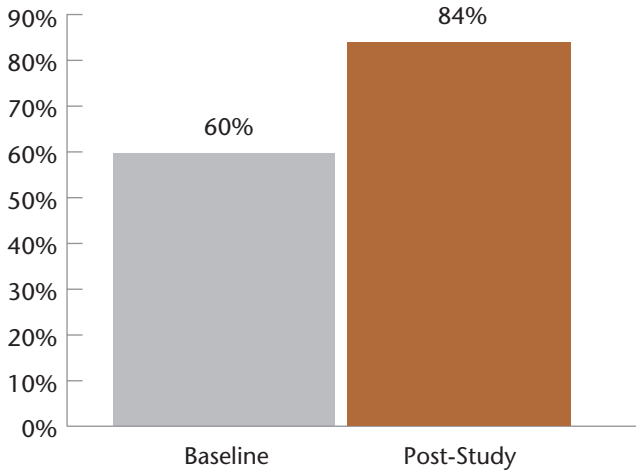

Figure 5. Compliance with recommended oral hygiene program

90-day client self-assessment

Self-observations and perceptions by the dental client were as follows:

- 85% believed their overall oral health had improved during the course of the study.
- 80% of clients indicated they had "smoother, cleaner teeth" after using the Sonicare Elite® for 90 days.
- 80% reported brushing longer than previously normal for them, while nearly half (47%) reported brushing more often.
- 97% were "satisfied" with the Sonicare Elite® after 90 days; 80%, "completely satisfied."
- 96% of the client study population rated the Sonicare Elite® better than the brush they had been using, with 97% intending to replace their current brush with the Sonicare Elite®.
- 90% of the clients would recommend the Sonicare Elite® (see figure 6).

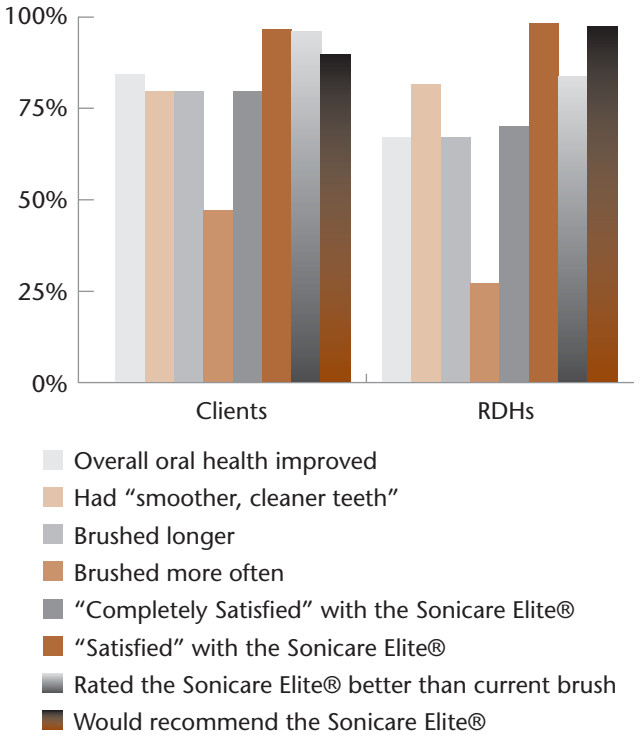

Figure 6. Post-test perceptions of clients and RDHs

Baseline RDH self-assessment

The participating RDH panel consisted of 96% females who had an average age of 40 years. Moreover, eight in ten (80%) had been dental hygienists for five or more years. More than half (60%) practise in a single office configuration and two-thirds see an average of 36 dental clients per week. The majority of RDHs (92%) selected clients from their general practice settings. Personally, one-third (33%) of the dental hygienists use both a manual and a power toothbrush with 43% being exclusively manual users and 24% being exclusively power brush users. Most RDHs (98%) rated their overall personal oral health at the beginning of the study as either "excellent" (60%) or "good" (39%).

90-day RDH self-assessment

After using the Sonicare Elite® for 90 days, the self observations were as follows:

- Over two-thirds (67%) of the RDHs noticed an improvement in their own overall oral health.
- Over three-quarters (82%) indicated they had "smoother cleaner teeth."
- 67% claimed they brushed longer than with their previous brush, while 27% believed they actually brushed more often.
- 99% of the clinicians were satisfied with the Sonicare Elite® after 90 days, with over 70% as "completely satisfied."
- 84% rated the Sonicare Elite® as "better than their previous brush," while 98% would recommend it to their clients (see figure 6).

RDHs were also asked to indicate what type of toothbrush they would recommend for various client conditions. A "check" chart on recommendation patterns was filled out both before and after personal use of the Sonicare Elite® for 90 days. Recommendations increased in all categories of client condition. Over 90% indicated they would encourage the use of the Sonicare Elite® for clients with poor oral hygiene, gingivitis, and periodontitis. It was noted that recommendations for other power brushes and/or the leading oscillating brushes were generally reduced over the course of the study.

DISCUSSION

It is well supported that beliefs influence compliance and thus health outcomes.[8,9] It is expected that dental clients involved in an exclusive study for a short period of time might increase compliance and thus improve health outcomes merely due to the Hawthorne effect.[10] However, beliefs themselves are internal and tend to influence the client as a decision maker in any self-administered health care routine.[9] In randomized controlled clinical trials comparing the Sonicare Advance® to manual toothbrushing, it was shown that 88% of the study panel was still using the sonic brush after 3 years.[11] Although this study employed the Sonicare Elite®, the design and technology differences are targeted at user-friendly improvements only. Additionally, since beliefs in this study were improved in all measurement categories, for both RDHs and dental clients, it is reasonable to expect that the effects of this study may continue beyond the finalization of the data collection.

The results from this study are "field results," all of which have been shown previously to be clinically relevant in more rigorous trials.

It is acknowledged that beliefs are subjective in nature and measurement instruments for beliefs are traditionally ordinal scales, numeric ranges (1 to 10), or descriptive escalations (worse, same, better). So, although this study relies on data that are subjective in nature, acceptable scales are used. Additionally, the Registered Dental Hygienists doing the baseline data are the same clinicians collecting the 90-day data on the same clients. It has been shown that clinicians are able to measure against themselves in a reliably duplicable manner (intra-examiner error is low when performing intra-oral measurements).[12]

Intra-oral conditions of stain, bleeding, gingival inflammation, plaque accumulation, and supragingival calculus accumulation were recorded for four areas of the mouth (posterior, both buccal and lingual; anterior, both buccal and lingual). The conditions were rated in these areas as "severe/heavy," "moderate," or "none." The category of "light" is noticeably absent as the subjective nature of the data is stronger when clients have been able to go from the definitive categories of heavy/severe and moderate, to none. Roughly 50% of the clients in this study were rated by professional dental hygienists as having reduced parameters from the "heavy/severe" and "moderate" categories down to "none" for gingival inflammation, bleeding, and plaque.

The Canadian Dental Association requires a true reduction in disease parameters when issuing the CDA seal of recognition. This is also true for the Health Canada's Therapeutic Products Directorate, which is the Canadian federal authority that regulates pharmaceutical drugs and medical devices for human use. Although this study was not designed for purposes of securing this recognition or approval, the categories of measurement (including both gingival evaluation and plaque reduction) are in concordance with the requirements.

Note that the results from this study are "field results," all of which have been shown previously to be clinically relevant in more rigorous trials. (To review these studies using the Sonicare Advance® or Sonicare Elite®, please see references 13–16.) In a single-blind crossover study evaluating soft tissue safety and supragingival plaque removal, the Sonicare® brand brushes were shown to be both safe and effective.[1]

In another single-blind crossover comparison study between Sonicare Elite® and a manual toothbrush, the sonic brush was shown to remove significantly more plaque.[14] Gingival health was assessed in a parallel single-blind study comparing Sonicare Elite® with another power brush over a 12-week period. The test group demon-

There has also been evidence that sonic brushing actually has a negative effect on the bacteria's ability to attach to a surface.

strated significant reductions in gingival indices and fewer bleeding sites compared with baseline.[15]

In another practice-based study on dental clients with Class II and Class III periodontal disease, two RDH researchers evaluated subjects who were shown to present with an average of 18–20% pocket depth reduction after brushing for three months with the Sonicare Advance®.[16]

Considering that RDH investigators in this practice-based study increased their recommendations to various specialty groups, one might examine some of the more traditionally designed studies done previously, that support this decision.[17-20] In a random study comparing Sonicare Advance® with manual brushing, 31 randomly assigned implant clients had significantly lower plaque and bleeding scores after 24 weeks of using the Sonicare Advance®, with no implant problems attributed to brushing.[17]

The same types of brushes were evaluated in adolescent orthodontic clients over a 4-week period. Gingival health improved with the power brush over the manual brush and additionally, a significant decrease in gram-negative bacteria was noted in the Sonicare Advance® group.[18]

In treatment-resistant conditions, such as xerostomia associated with Sjögren's syndrome, the Sonicare® was documented as increasing salivary flow 130– 230% over a manual toothbrush.[19] All of these conditions and their improvements associated with sonic power brushing are further reviewed and confirmed in other publications.[20]

We are in an age of accelerated oral health investigation. There has been considerable intrigue over the recent connections between oral infection and systemic diseases such as diabetes, certain respiratory and coronary diseases, and also pre-term low birth weight babies.[21-26] As bacterial plaque (now known as oral biofilm) is associated with periodontal diseases, it becomes increasingly critical for dental professionals to offer clients acceptable and manageable alternatives to disrupt biofilm in the mouth.

Manual dexterity problems in general, especially those found in the arthritic aging population, make plaque removal difficult and incomplete. *In vitro* studies have shown the Sonicare® technology capable of removing biofilm beyond the reach of the bristles.[27] There has also been evidence that sonic brushing actually has a negative effect on the bacteria's ability to attach to a surface.[28] Without attachment via virulence factors such as fimbria (sticky hairs that allow bacteria to take up residence on a surface after which they begin to multiply), bacteria are rendered harmless.

There is much to consider when determining treatment-planning decisions for our clients. We need to examine all aspects of the dental literature, reviewing results from laboratory *in vitro* studies, animal studies and controlled human trials. We must also take into consideration the data compiled through practice-based trials and surveys. Several research groups have gained a considerable reputation for their practicality and application through this method of research, one example being the Clinical Research Associates of Utah. Although there are limitations to field trial studies, such as lack of controls, examiner calibration and study panel attrition, this is offset by the large numbers in real-life settings. We are able to see, without all the controls of the more rigorous trials, just how the product functions when clients use it in their own manner and how the products are rated intra-orally by a variety of clinicians.

The findings from this study do indicate improvements in compliance, satisfaction, and overall oral health status from the majority of clinicians in this large group of clients.

CONCLUSIONS

- The Sonicare Elite® was the preferred method of toothbrushing, over manual brushing, for both dental clients and dental hygienists.
- Users reported greater compliance, satisfaction, and duration of brushing.
- Clinical evaluations of gingival inflammation, bleeding, plaque accumulation, re-formed supragingival calculus, and extrinsic stain were improved.
- Additionally, RDHs reported improved conditions of xerostomia and halitosis for their clients.
- Both clients and RDHs would recommend this sonic brush to others.
- Dental hygienists increased their recommendations to clients overall and also to those with specific conditions.

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Le bénévolat pour un avenir meilleur *(suite de la page 147)*

sion; cela nous aidera à mettre tous vos rêves en perspective et à travailler à l'extension du champ de pratique et à l'amélioration du cadre de travail de tous les hygiénistes dentaires au Canada. Voilà la raison pour laquelle nous vous demandons de participer à nos sondages, à nos groupes d'entretien en profondeur et à nos rencontres de discussion ouverte. Abraham Lincoln déclarait un jour : « C'est l'opinion de l'homme qui ne veut pas exprimer la sienne que je veux avoir. » Toutes les opinions et observations de nos membres nous importent. Nous cherchons à recueillir une diversité d'opinions. Encore une fois, vos commentaires ou vos opinions pourraient engendrer un fourmillement d'idées qui, en fin de compte, amélioreront la profession d'hygiéniste dentaire.

Par ailleurs, nos membres ont tous et toutes énormément de possibilités d'agir comme bénévoles simplement en faisant la promotion du rôle crucial que jouent les hygiénistes dentaires professionnels dans la promotion de la bonne santé bucco-dentaire et la prévention de la maladie. Ce service important, vous pouvez le fournir au cours de vos activités quotidiennes, dans vos conversations avec vos patients et vos connaissances. Nous oublions souvent qu'un des rôles principaux du bénévolat consiste à promouvoir la sensibilisation du public. À cet égard, vos contacts personnels constituent une valeur clé du bénévolat parce que l'interaction humaine est un moyen très puissant de communiquer l'information et de favoriser la compréhension ainsi que la coopération avec divers éléments de la collectivité.

Le pouvoir inhérent des bénévoles se trouve dans leur nature et leur esprit. Le bénévolat repose sur des motivations autres que financières; celles-ci sont davantage à caractère personnel et social. Ce fait peut souvent ouvrir la porte à un resserrement des relations avec les collègues de travail et les collectivités locales et à un accroissement de la confiance mutuelle. Voilà qui multiplie les possibilités de sensibiliser les gens à la valeur de la contribution des hygiénistes dentaires professionnels à la santé bucco-dentaire de leurs concitoyens.

Finalement, je tiens à exprimer ma gratitude envers nos bénévoles d'hier et d'aujourd'hui et je vous prie tous et toutes de faire votre part pour donner corps à votre vision de la profession d'hygiéniste dentaire dans l'idéal. Il faut que nous soyons les créatrices et les créateurs de la profession dans laquelle nous voulons travailler et que nous transmettrons aux générations futures. Alors, s'il vous plaît, mettez votre ingéniosité, vos compétences et vos rêves au service de l'amélioration de notre profession.

On peut communiquer avec Diane Thériault à l'adresse <president@cdha.ca>.

Knowledge *(continued from page 151)*

In this particular issue, we see a non-traditional evidence-based article to inform your practice. Marilyn Goulding and Susanne Sunell each introduce the nature of the research and a suggestion as to the context in which to place it. Continuing the theme of knowledge, the article on quality assurance programming in Canada examines the manner in which knowledge translates into quality public service.

In addition to the journal, CDHA facilitates the transfer of knowledge among its members through its annual professional conference, our DVD journal partnership, as well as many web-based tools including on-line continuing education. We have an exciting new searchable database ready to launch as well as new continuing education courses coming on-line. Watch for your member benefit guide coming soon to see how CDHA can help you with building your own knowledge reservoir.

La connaissance *(suite de la page 151)*

le sont parce que vous êtes des professionnels disposant d'un corpus de connaissances spécialisées, fondé sur des croyances vraies justifiées. Ils le sont pour l'ACHD parce que l'un des rôles de l'Association consiste à gérer les connaissances au profit de ses membres. Ce journal constitue d'ailleurs l'une des premières formes d'expression de ce rôle. Dans ses pages, il présente des articles évalués par des pairs, qui témoignent des connaissances actuelles à leur meilleur.

Dans le présent numéro, nous voyons un article reposant sur des preuves non classiques destiné à éclairer votre pratique. Marilyn Goulding et Susanne Sunell présentent chacune la nature de la recherche et font une suggestion à propos du contexte dans lequel elle s'inscrit. Poursuivant sur le thème de la connaissance, l'article sur les programmes d'assurance de la qualité au Canada traite de la manière dont la connaissance se traduit par un service public de qualité.

En plus du journal, l'ACHD a d'autres moyens de faciliter le transfert de connaissances entre ses membres : la conférence professionnelle annuelle, le partenariat avec les producteurs du *DVD Journal* et de nombreux outils accessibles sur le Web, dont la formation professionnelle continue en ligne. Nous avons une nouvelle base de données interrogeable, passionnante, qui est prête à être lancée, ainsi que de nouveaux cours de formation professionnelle continue qui seront bientôt en ligne. Soyez à l'affût de votre guide des avantages des membres qui paraîtra bientôt pour voir comment l'ACHD peut vous aider à constituer votre propre réservoir de connaissances.

Incorporation of a Dental Hygiene Practice

by John D. Peart, BSc, LLB, CFP*

SOME PROVINCIAL JURISDICTIONS ALLOW DENTAL hygienists to incorporate their dental hygiene practices and to contract their corporate dental hygiene services to dental offices in that jurisdiction. For dental hygienists in that situation, you should be aware that incorporation brings with it the benefits of flexibility in tax planning and income splitting but the burden of increased bureaucracy and government filings. Here are some things to consider:

1. Does your provincial legislation allow dental hygienists to be independent contractors and to incorporate their dental hygiene practices? If so, will the dental hygiene malpractice insurance cover the dental hygienist employee of the dental hygiene corporation?
2. There is a cost to incorporate: government incorporation fees, legal fees and, in some jurisdictions, an annual government filing and filing fees. If there is an annual filing requirement, that jurisdiction may automatically cancel your incorporation if filings are not made and/or any annual filing fees are not paid for several consecutive years.
3. A corporation is considered a separate legal entity capable of contracting with third parties and being sued. Applicable provincial and federal statutes will often hold corporate directors liable as well for any wrong committed by a corporation. This will apply both to negligence that is covered by malpractice insurance as well as failure by the corporation to make statutory filings or CPP and employee remittances to the Receiver General for Canada.
4. As a separate entity, a dental hygiene corporation will receive fees for the dental hygiene services performed by its dental hygienist employee(s). In turn, the employee/dental hygienist will be paid a salary by the corporation. The dental hygiene corporation will have to make regular Canada Pension Plan and Income Tax Act filings and remittances on behalf of the employee. Canada Revenue Agency (formerly Revenue Canada) as well as the province in which the dental hygiene corporation is created will require annual income tax returns including a financial statement and balance sheet for the dental hygiene corporation. Any corporate income that is not paid to the corporation's employees or expensed by the corporation in any year will be subject to corporate income taxes levied by both the federal and provincial taxing authorities.
5. Unless there is a restriction in applicable provincial legislation, a dental hygiene corporation can be used for income splitting between spouses and/or adult children. This is a technical area that requires accounting and legal advice beforehand and very careful attention to the amount of services provided and share structure in place before any corporate assets can be paid or transferred to spouses or adult children.
6. Depending on provincial restrictions, a dental hygiene corporation may also operate other family businesses (e.g. rental property(ies), spousal businesses) under the same corporate structure. Again, specific legal and accounting advice should be obtained before a dental hygiene corporation begins to operate other businesses as there are many factors, including liability issues, to consider.
7. In some circumstances, the Canada Revenue Agency (CRA) may consider a dental hygiene corporation that provides services to only one dentist as simply a "corporate employee." If this is the case, CRA will ignore the corporation as an entity, will consider the dentist as the dental hygienist's employer, and will require the dentist to remit Canada Pension Plan, Employment Insurance, and employee deductions on behalf of the dental hygienist directly to the Receive General for Canada. It is therefore very important that the dental hygiene corporation have as much independence as possible from the dentist office(s) for which that it performs dental hygiene services. Some examples of corporate independence are the following:
   - a dental hygiene corporation that has its head office at a different location from the dental office;
   - a dental hygiene corporation that does its own accounting and billing separate from the dental office;
   - a dental hygiene corporation that supplies the dental hygienist's clothing and, to the extent possible, the dental hygienist's equipment;
   - a dental hygiene corporation that provides dental hygiene services to more than one dental office;
   - a dental hygiene corporation that operates two or more different businesses.

A properly structured dental hygiene corporation can provide flexibility in income splitting and deferred income taxes that cannot be matched without the corporate structure. It may also allow other family businesses to shelter within the corporate structure. Before incorporating a dental hygiene practice, obtain accounting and legal advice. Even though there are many self-help books and software, nothing can replace personal interaction with a knowledge professional.

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Quality Assurance Programming in Canada: An Investigation into the Fulfillment of Dental Hygiene Requirements in British Columbia and Ontario

by Joanna Asadoorian,[*] AAS(DH), BScD(DH), MSc and David Locker,[†] BDS, PhD

ABSTRACT

Background: Various quality assurance (QA) programs exist to ensure an acceptable level of competence of Canadian health care providers, but it is unknown which program methods are most likely to achieve this goal. The aim of this study is to examine two distinct Canadian dental hygiene QA programs and their impact on quality delivery of care. British Columbia and Ontario were compared because the former mandates continuing education (CE) time requirements whereas the latter administers a self-directed learning approach with no formal CE requirements. This part of the study will determine if study subjects adhere to their respective provincial program requirements and whether respondents participate in requirements of the other jurisdiction as an innate activity. A second paper will report on the impact of these two QA programs on practice behaviour change. **Methods:** A two-group comparison survey design employing a self-administered questionnaire was used with randomly selected samples from the two jurisdictions. The survey was validated, and standardized procedures were followed based on accepted methods. **Results:** The results indicate that most study subjects adhere to their jurisdiction's respective QA program requirements, and that the respondents do participate, albeit to a lesser extent, in activities particular to the other jurisdiction. Study participants show similar levels of learning activity when all forms of learning are considered. All study subjects select learning activities based primarily on personal interest or convenience rather than on identified professional weaknesses. **Conclusions:** The results support removal of arbitrary formal CE time requirements, but future QA efforts should concentrate on methods to ensure learning activities are directed towards personally relevant needs.

Keywords: quality assurance, health care; education, continuing; professional competence; self-directed learning

INTRODUCTION

PARTICIPATION IN QUALITY ASSURANCE (QA) PROgrams is now widely expected of most Canadian health care professionals. However, the structure of these programs and the specific requirements for registrants vary considerably. This is evident in Canadian provincial requirements for dental hygiene QA programs.[1] These requirements range from more traditional mandatory continuing education-based programming (CE) to ensure continuing competency, as in British Columbia and other provinces, to the unique portfolio-based schemes such as those implemented in Ontario. A full review of each of the dental hygiene QA programs in Canada and their requirements was conducted previously.[1] The purpose of this study is to examine the impact of two different QA programs on dental hygiene practice behaviours.

BACKGROUND AND RATIONALE

Ideally, the primary function of QA programming at the individual provider level is to ensure that a continued level of competence is available to the public. This makes sure there is a safe, technically adequate, and appropriate provision of care.[2-4] Because of the rapid influx of research findings having the potential to improve the provision of health care, changes in providers' practice behaviours are required over time.[5,6] Evidence indicates that there is a considerable time lag between new research findings and their general application in the majority of practice settings.[4,7-10] This has generated debate over what is the best way to encourage new research to find its way expeditiously into practice.

As continued competence (CC) and quality delivery of care requires not only awareness of new knowledge and skills, but also its application into practice, the measurement of change in practice behaviours has been used to measure quality and improvement.[5,11,12] Mandatory CE as a QA mechanism has been investigated as to its impact on provider behaviour and more specifically, changes in practice. However, the outcomes of this research have not supported traditional CE as the sole mechanism to ensure quality care.[3,7,11,13-15] Learning has been shown to lead to changes in practice when these activities are based on individual needs and the practice environment.[3,11,14,16]

The regulatory body for dental hygienists in Ontario, the College of Dental Hygienists of Ontario (CDHO), developed and implemented an innovative QA program that was a substantial departure from traditional QA programming, which is the current norm for self-regulated

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dental hygienists in Canada.[1] The Ontario program requires registrants to develop professional portfolios and self-direct their learning guided by a self-assessment (SA) component.[17] Here registrants compare their practice behaviour to the College of Dental Hygienists of Ontario Standards of Practice.[17] Through this assessment, individuals are able to establish personally relevant learning goals and develop a plan to address these goals. Regardless of the learning resources selected, the critical element is that activities are based on the pre-determined learning goals as previously identified. After the plan is implemented, this self-directed learning (SDL) process has to be evaluated to determine if the quality improvement activities address the learning goals.[17]

Dental hygienists in British Columbia, in contrast, are required to participate in a continuing competency program to a minimum of 75 credit hours within a three-year period, (At the time of the study, one day received a maximum of 7 credits; one-half day, 4 credits; evening, 4 credits.). Two-thirds of these credits must be directly related to the practice of dental hygiene.[1,18] Alternatively, registrants have the option of successfully completing the Board-approved examination or refresher course.[18]

This paper reflects the results of a large survey study conducted with dental hygienists in British Columbia and Ontario. These two self-regulated jurisdictions were selected for the study because their QA program requirements are dissimilar and because they both have a sufficiently large population of dental hygienists to allow for statistical analysis. The authors will report specifically whether the study participants meet the individual requirements of their respective QA program and if study subjects naturally participate in activities not mandated in their own QA program but required in the other jurisdiction's.

A second paper will be published later to report on findings from the study examining the impact of these two programs on positive practice behaviour change.

MATERIALS AND METHODS

The study design was an observational, cross-sectional, two-group comparison survey utilizing a self-administered, mailed questionnaire. The validity of the research proposal and survey instrument was based on face, content, consensual, criterion, and construct validity.[19,20] The survey instrument was developed in four steps. First, the knowledge gained from a previous research study was applied.[1] Second, an extensive literature review was conducted in the domains of QA, CE, quality improvement, CC, behaviour change theory, adult learning theory, and the principles of health survey design. Third, consultations with experts in the fields of QA, dental hygiene, survey methods and design, behavioural sciences, and psychometrics were carried out. Finally, pre-testing of the survey instrument was done with a convenience sample and appropriate revisions were made.

While the investigators recognized a potential for the Ontario respondents to over-report participation in the self-directed learning (SDL) process, as it is a requirement of their QA program, this did not appear to occur in the convenience sample. Social desirability bias occurs when an individual does not adhere to a social norm but reports doing so when questioned.[21] The authors believe the bias to be minimal because the questions surrounding the SDL process were in the unfamiliar context of the survey. However, modifications were required to improve the clarity of some questions and in particular to improve the utility of the third part of the survey. The sample size was calculated based on a formula for two-group comparisons

RÉSUMÉ

Contexte : Il existe divers programmes d'assurance de la qualité (AQ) visant à garantir un niveau acceptable de compétence de la part des fournisseurs canadiens de soins de santé, mais on ne sait pas quelles méthodes employées dans ces programmes sont le plus susceptibles d'atteindre cet objectif. La présente étude a pour but d'examiner deux programmes canadiens distincts d'AQ en hygiène dentaire et leurs répercussions sur la prestation de soins de qualité. Nous avons comparé la Colombie-Britannique et l'Ontario parce que la première pose des exigences quant au temps consacré à la formation continue, tandis que la seconde administre une méthode d'apprentissage autodirigé sans exigences en bonne et due forme en matière de formation continue. La présente partie de l'étude déterminera si les sujets de l'étude se plient aux exigences de leur programme provincial respectif et si c'est une activité normale pour les répondants que de remplir les exigences de l'autre province. Un deuxième article montrera comment ces deux programmes d'AQ ont modifié les comportements dans la pratique. **Méthodes :** Nous avons eu recours à un sondage comparatif entre deux groupes, mené auprès d'échantillons choisis au hasard dans les deux provinces et faisant appel à un questionnaire autoadministré. Le sondage a été validé, et nous avons suivi des façons de procéder standardisées, reposant sur des méthodes acceptées. **Résultats :** Les résultats indiquent que la plupart des sujets de l'étude satisfont aux exigences du programme d'AQ respectif de leur province et que les répondants participent, quoiqu'à un moindre degré, aux activités propres à l'autre province. Lorsqu'on prend toutes les formes d'apprentissage en considération, on constate que les participants à l'étude affichent des niveaux semblables d'activité d'apprentissage. Tous les sujets de l'étude choisissent leurs activités d'apprentissage d'abord en fonction de leur intérêt personnel ou de la commodité plutôt qu'en fonction de faiblesses professionnelles qu'ils auront décelées. **Conclusions :** Les résultats favorisent l'élimination des exigences officielles arbitraires quant au temps de formation continue, mais à l'avenir, les efforts en matière d'AQ devraient se concentrer sur des méthodes visant à faire en sorte que l'apprentissage soit orienté vers la satisfaction de besoins pertinents sur le plan personnel.

with necessary adjustments being made.[19] The authors calculated that 860 cases were needed in each group to detect an estimated 50% difference between group proportions of the main outcome variable: implementation of appropriate behaviour change in professional practice. (The estimate of 50% was made because no comparable research was available within this target population on which to base predicted values.) The investigators used a 95% level of precision. In less-complicated study designs, such as in systematic random sampling as used in this investigation, Aday states that it is not necessary to estimate and adjust for an anticipated design effect.[19] The investigators did adjust for expected response rated of 75%.

The survey procedure was based, where feasible, on the Total Design Method as described by Dillman and criteria from Designing and Conducting Health Surveys by Aday.[19,22] Standardized survey procedures were strictly followed to ensure reliability of the survey. The study underwent ethical and scientific review by the University of Toronto and the Faculty of Dentistry respectively. Strict privacy and confidentiality were ensured throughout the study and no risks to participants were expected. The sample subjects were disproportionately drawn from the two jurisdictions, British Columbia and Ontario, of active, registered dental hygienists. Criteria for exclusion included registrants with fewer than two years' registration in either province, those registered in more than one province, and those not actively registered in either British Columbia or Ontario at the time of the survey.

The survey is divided into three components: Part I. Demographic data; Part II. Professional work and continuing education activity; and Part III. Appropriate professional behaviour change. This paper presents the results of Parts I and II. The survey instrument is available by contacting the corresponding author.

RESULTS

Part I. Demographic data

A total of 1750 study subjects was drawn randomly from the two provincial registries (n_{BC} = 875, n_{ON} = 875). A response rate of 49.5% of eligible subjects was achieved through two mailings. Of the eligible respondents, 46.6% (n_{ON} = 404) were from Ontario and 53.4% (n_{BC} = 463) from British Columbia.

To ensure the study sample was representative of the population, the collected demographic data from this survey were compared with the Canadian data collected in March 2001 as part of a national study, *Dental Hygiene Practice in Canada 2001,* commissioned by the Canadian Dental Hygienists Association (CDHA).[23] The 2001 study had an impressive response rate of nearly 80%. No statistically significant differences were demonstrated between the provincial data in the two studies, with one exception. Chi-square testing showed a statistically larger proportion of Ontario respondents in the present study (13.4%) whose dental hygiene education source was in a university setting as compared to the Ontario study subjects in the 2001 study (7.1%) (p = 0.005).

In the present study, demographic data including age, experience, education, number of hours working as a dental hygienist, practice setting, and access to CE, were analyzed and several differences were detected through t-tests. First, a statistically significant—and the authors believe meaningful—difference in access to physical learning resources was identified where B.C. respondents reported a three-fold greater distance needed to travel to a major population centre than those subjects in Ontario (p<0.05). A second variable that differed significantly was the number of years estimated until retirement from the profession. Ontario respondents reported that they expected to work as a dental hygienist for 1.38 years longer than the subjects in British Columbia (p=0.71). Third, primary practice settings were found to be similar for both provinces with the exception of a larger proportion of Ontario respondents working in specialty practice (p=0.016) and those performing restorative functions (p=0.0007).

Two other variables revealing differences between the two groups were in the highest education level achieved and the educational source. Chi-square testing demonstrated statistically significant differences for the highest level of education achieved, specifically with the Ontario group having a greater proportion of respondents who had achieved a college diploma (p<0.0001). However, the B.C. sample had a greater proportion who had completed some university (p=0.007), earned a bachelors degree (p=0.008), or completed some graduate school or higher (p=0.032). Finally, in Ontario, significantly more dental hygienists received their dental hygiene education through a one-

No. of days	Ontario (%)	British Columbia (%)	Cumulative	
			Ontario (%)	British Columbia (%)
0 days	1.2	0.6	1.2	0.6
> 0 to 1 full day	4.0	0.2	5.2	0.8
> 1 to 3 full days	39.4	12.3	44.6	13.1
Threshhold				
> 3 to 6 full days	38.6	63.7	83.2	76.8
> 6 full days	16.8	22.7	100.0	99.5

Table 1. Participation in formal continuing education – average days per year

year college program (p<0.0001); in British Columbia, significantly more participants were educated in two-year college programs (p<0.0001), three or more year college programs (p<0.0001), and university diploma programs (p<0.0001).

Part II. Professional work and continuing education activity

Formal continuing education

Formal CE was defined for study subjects with examples including lectures, courses, home study, and study clubs. Respondents were asked to report the number of days they participate in these activities in one average year. The Ontario sample was split with almost 40% reporting in both the "greater than 1 day to 3 full days" per year of formal activity and the "greater than 3 full days to 6 days" categories. The majority (63.7%) of B.C. respondents reported the latter level of activity. Although this question asked about one average year, the results imply that some dental hygienists in British Columbia may not be meeting their QA requirement as one full day was defined as 7 hours of CE activity; thus "greater than 3 full days" of activity per year would be required to meet the provincial requirement. A proportion of 13.1% of B.C. respondents indicated that they participated in "3 full days or less" activity, as indicated by the threshold in table 1.

Informal continuing education

This survey question was aimed at capturing the amount of time the study subjects participate in CE activities that are not formally organized. This would include reading journals, referring to textbooks, consultations with colleagues or other professionals, electronic web searches, among others. It was anticipated that Ontario participants would report a higher level of this type of activity compared with the B.C. subjects because the Ontario QA program recognizes all types of learning provided it is connected to one's self-assessed needs. As table 2 demonstrates, this was indeed the case: almost half of the Ontario respondents indicated participation of more than 2 hours and up to 8 hours per month of informal activity compared with almost 30% in British Columbia reporting this level of informal activity. The majority of B.C. study subjects (60%) reported 0–2 hours per month of these activities.

No. of hours	Ontario (%)	British Columbia (%)
0 hours	1.7	6.7
> 0 to 2	48.8	60.0
> 2 to 8	44.6	27.4
> 8 hours	4.7	5.2
Missing	0.2	0.6

Table 2. Participation in informal continuing education – hours per month

Deciding on continuing education

Study participants were asked how they determine what CE activities they will participate in. It was anticipated that Ontario dental hygienists would select the category "addresses a professional weakness" more than respondents from British Columbia because this response is most representative of the process relating to the Ontario QA program in which they are required to link identified professional learning needs with subsequent learning activity. However, as figure 1 shows, study subjects from both provinces responded very similarly. The vast majority of respondents, almost 65% in Ontario and 69.1% in British Columbia, selected "personal interest" as the main determining factor with "convenience" as the second most common response for both provinces. Only 11.6% of the Ontario respondents and 8.2% of those in British Columbia selected "addresses a professional weakness." For all of these selectors, chi-square testing revealed no statistical significance between the two provinces except that a significantly larger proportion (p=0.039) of Ontario subjects selected "employer suggestion." It was noted that the larger proportion of respondents reporting "professional weakness" in Ontario did approach statistical significance.

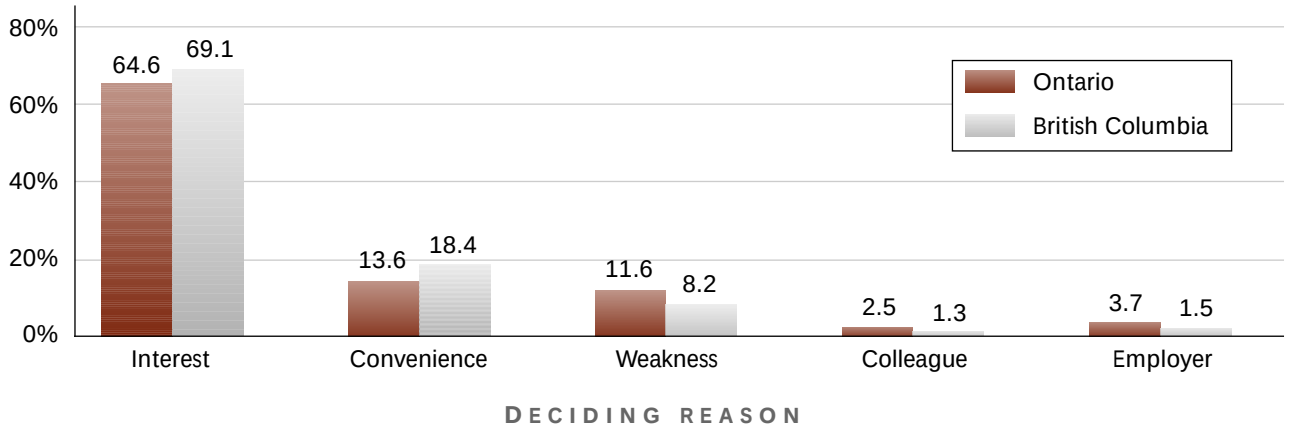

Figure 1. Deciding on continuing education activity (proportions)

SDL components	Yes, always		Sometimes		No, never		Cumulative (yes + sometimes)	
	Ont. (%)	BC (%)	Ont. (%)	BC (%)	Ont. (%)	BC (%)	Ont. (%)	BC (%)
Self-assessment	48.3	57.0	48.3	37.8	3.0	5.0	96.6	94.8
Goals	40.8	32.2	55.7	54.4	3.5	13.4	96.5	86.6
Action plan	38.6	25.1	48.8	46.4	9.2	15.1	87.4	71.5
Implementation	54.2	46.4	32.4	24.6	0.5	0.4	86.6	71.0
Re-evaluation	54.7	43.8	39.1	39.3	2.7	28.0	93.8	83.1

**Note:* "Yes," "sometimes," and "no" do not necessarily equal 100% because respondents are required to "skip" some questions.

Table 3. Self-directed learning: breakdown of score

Self-directed learning (SDL) score

A SDL score was calculated for each study subject based on the degree of reported implementation of the five individual components of SDL:

- self-assessment to identify personal professional weaknesses
- establishment of personally relevant learning goals
- development of a learning plan
- implementation of that plan
- evaluation to determine if goals have been achieved

Respondents were asked if they always, sometimes/occasionally, or never performed these SDL steps and were allocated 2, 1, or 0 points respectively for a possible score out of 10. It was expected that the respondents from Ontario would score higher SDL scores compared with those subjects from British Columbia because the Ontario QA program requirements are focused on a similar process. Interestingly, the "yes, always" responses were higher in Ontario for all of the components of the SDL score except for self-assessment, which was almost 10% greater in British Columbia than in Ontario (table 3). The cumulative proportions for "yes, always" and "sometimes, occasionally" were lower in British Columbia than in Ontario for each step of the SDL process, but the pattern was similar for both groups (table 3).

The frequency distribution graph (figure 2) shows the proportions of respondents from the two jurisdictions and their SDL scores. The mean SDL score in Ontario was 6.98 (s=2.40) and in BC was 6.14 (s=2.89) out of 10. A statistically significant difference was demonstrated through a t-test ($p<0.05$). Measures of central tendency showed very high mode scores in both provinces—10 in Ontario and 8 in British Columbia—with medians of 7 in both jurisdictions.

Almost one-third (27.7%) of Ontario respondents and 36.6% of B.C. respondents had SDL scores of 5 or less. While there is no accepted standard SDL score, these data reveal that a substantial proportion (approximately one-third) of Ontario dental hygienists are not moving discernibly through the SDL process as shown by SDL scores of less than 5.

The participants were also asked if they record SDL activities formally or if they mentally reflect on these steps as a more casual process. A score was calculated ("How Score") based on three of the five SDL steps (conducting a self-assessment, establishing goals, and developing an action plan), and on whether these steps were conducted informally or formally. "Casual reflection" was allotted 1 point; "formally recorded" garnered 2 points; and no points were given for those who reported that they did not

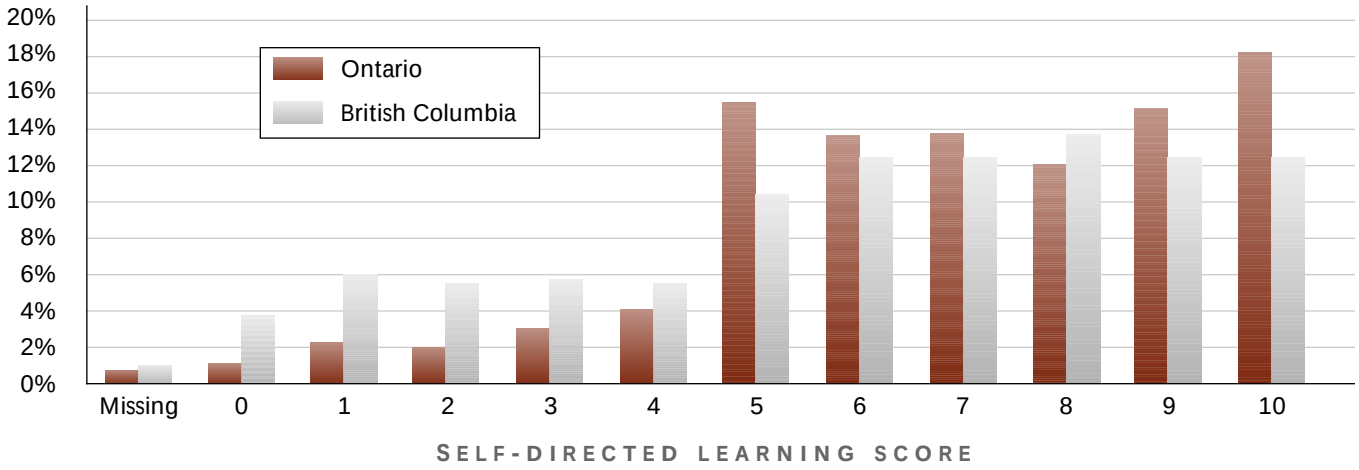

Figure 2. Self-directed learning (SDL) scores: frequencies in proportions

perform the function at all. A range of scores between 0 (lowest) and 6 (highest) was possible.

A mode "How Score" of 3 is evident for both provincial samples with 43.3% in Ontario and 56.2% in British Columbia (figure 3). A t-test demonstrated that the mean "How Score" in Ontario of 3.65 (s=1.45) was significantly higher than that in British Columbia where the mean was 2.80 (s=1.17) ($p<0.05$). It is hypothesized that formal recording versus casual reflection reflects a higher degree of operationalizing the SDL process.

DISCUSSION

This survey study yielded a satisfactory response rate with two balanced samples that proved to be largely representative of the dental hygiene populations in Ontario and British Columbia. The B.C. cohort is believed to be more challenged in accessing on-site learning activities compared with the Ontario subjects as evidenced by the significantly greater distance that the B.C. subjects need to travel to major population centres. The authors believe this may present barriers to accessing appropriate learning activities in light of the more traditional formal learning activities required by the B.C. QA program. This is surmised because B.C. registrants may be motivated primarily to fulfill CE time requirements, possibly to the detriment of seeking out activities that are truly relevant to their learning needs. In other words, formal credit may be an overwhelmingly motivating factor in selecting learning activities rather than relevance. This may be exacerbated by a lack of access to formal learning activities.

As expected, this study shows that B.C. dental hygiene subjects reported greater participation in formal CE with more than 60% reporting greater than 3 to 6 days of activity per year compared with almost 40% in Ontario. The authors believe this to be attributable to the QA requirements imposed by the B.C. regulatory body as part of the QA program. It is evident that even in the absence of required formal CE hours, the Ontario subjects did participate in a substantial amount of this type of activity. With almost another 40% of Ontario respondents reporting that they participated in 1 to 3 days of formal activity per year, close to 80% of the Ontario subjects take part in 1 to 6 days of this type of activity in a typical year. An interesting finding was that a small proportion of the B.C. respondents appeared not to be meeting the minimal provincial CE requirements. This may mean that some B.C. study subjects do not meet the provincial requirements, that these respondents have other atypical years of activity when they "catch up"; or that some other unknown factor is occurring.

With regard to informal learning methods, as was suspected, the Ontario subjects showed a greater degree of participation than those in British Columbia. This suggests similar amounts, albeit different types, of overall learning when formal and informal entities are considered. In light of these findings and our assertion that there may be reduced access to traditional CE activity in British Columbia, the authors recommend that recognition of all learning activities be included when developing or revising QA programming in order to reduce barriers to registrants in seeking out relevant learning strategies.

Respondents in both jurisdictions reported that the overwhelming stimuli for selecting specific learning activities were based on personal interest. This phenomenon has been reported previously in other health professions where selection of learning activity focuses on areas in which the individual feels most comfortable and "fits in" with her/his current knowledge,[3] rather than on areas where professional weaknesses exist. In the present study, this finding was particularly striking with the Ontario study subjects where the emphasis of the QA program requires registrants to link their learning activities to identified professional weaknesses. The investigators recommend that QA program developments and new initiatives focus on facilitating registrants' ability to conduct meaningful self-assessments in order to drive relevant and intrinsically motivated selection of learning activities.

Ontario dental hygienists are required, as part of their QA program, to self-assess their practice behaviours against the Ontario Dental Hygiene Standards of

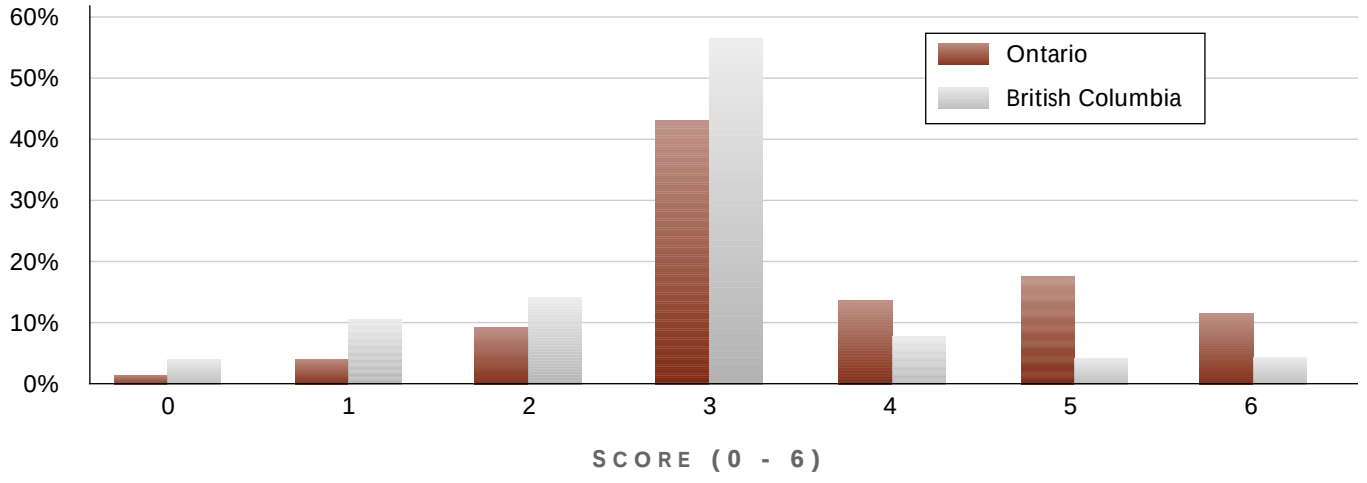

Figure 3. "How Score" – proportions

Practice.[17] This is carried out in order to identify individual learning needs and to concentrate subsequent learning activities on these relevant needs. Thus it was not surprising the study results indicated that the Ontario sample did participate in the SDL process to a greater degree. While this study design is unable to establish causation, the requirements of the Ontario QA program may be associated with this finding. The mean SDL score, out of 10, was significantly higher for Ontario respondents than for those in British Columbia. However, B.C. respondents did have a mean SDL score of 6.14, indicating that SDL is somewhat of an innate process within their own QA activities.

Dental hygienists in Ontario tend to go through the SDL process in a more formal manner, which may reflect a more sophisticated use of the SDL process. While the mean SDL score in Ontario was almost 7, intuitively indicating a "good" level of SDL, it also shows incomplete participation in the process. Further, almost one-third of the Ontario respondents scored 5 or less. This suggests that a substantial proportion of registrants are not realizing the full potential of the SDL process and may be deriving minimal, if any, benefit from it.

Two important limitations are identified within this part of the study. First, the study was based on the utility of self-reported versus observed data and is therefore subject to reporting inaccuracies. However, despite a suspected over-reporting of learning activity and SDL, there is no reason to assume that these influences are not fairly balanced between these two homogeneous groups. This means that comparisons between the groups can be drawn and conclusions can be made. However, caution must be emphasized, particularly when examining the SDL scores because these results are based on subjective and individual interpretation of each of the individual elements of SDL. If, when, and how dental hygienists move through the SDL process warrants further, more objective investigation.

The second limitation is that generalizations made from the literature review may be somewhat unjustified because most of the research conducted on change and learning interventions has been directed toward physicians. Bero and co-workers remark that the generalizability of the findings from the physician studies to other settings is uncertain, primarily because of the differences in education, both undergraduate and post-graduate, the organization of the health care systems, and the different barriers to change.[15]

CONCLUSIONS

This study has produced data that demonstrate study subjects largely adhere to their own QA program requirements and also appear to participate innately in non-required activities that are representative of other QA programs. A major finding from this study is that innovative QA programs, such as that in Ontario, do result in similar overall levels of learning activities. Further, the unique QA program in Ontario was associated with greater levels of SDL overall. However, all the study subjects are attracted to learning activities of personal interest that they are comfortable with rather than to areas of professional weakness, which may be sources of discomfort. This poses a substantial challenge in QA programming and requires further examination.

It is the authors' opinion that the removal of unsubstantiated, arbitrary CE credit hour requirements may lessen the barriers to more relevant learning activities and not have a negative affect on overall participation in learning endeavours.

ACKNOWLEDGEMENTS

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Quality Assurance Programming *...continued on page 187*

HIV/AIDS and the Dental Hygienist

by the Canadian Dental Hygienists Association

ABSTRACT

This article explores oral health care for persons with HIV/AIDS from both clients' and clinicians' standpoints. It offers some insight into clients' fears about disclosing their health status, raises awareness of their right not to disclose this information, and explains how disclosure can enhance the quality of care. Research shows that although dental hygienists' bias toward persons with HIV/AIDS has decreased over time, a minimal bias remains.

Universal precautions are discussed as a means for protecting everyone—the dental hygienist and the client. The risk of infection from a needlestick injury causing exposure to HIV infected blood is estimated at about 0.3%, compared with 10% for hepatitis C and 30% for hepatitis B virus. Some of the conditions commonly associated with HIV/AIDS are highlighted, including oral candidiasis, gingivitis and periodontal disease, hairy leukoplakia, and Kaposi's sarcoma.

Keywords: HIV; Acquired Immunodeficiency Syndrome; dental hygienists

Test your knowledge:

1. Some people with HIV/AIDS do not seek out oral health care due to fear of discrimination. Yes / No
2. Clients with HIV/AIDS must disclose their medical status to a dental hygienist. Yes / No
3. The following is the degree of risk (from highest risk to lowest risk) from a needlestick injury causing exposure to the following viruses:

   a. HIV; Hepatitis B; Hepatitis C b. Hepatitis B; Hepatitis C; HIV c. Hepatitis C; HIV; Hepatitis B
4. Some conditions commonly associated with HIV/AIDS include the following:

   a. Candidiasis b. Sialodochitis c. Hairy leukoplakia d. a and c

Please see the end of the article for the answers to the quiz.

JANE, A MOTHER OF TWO YOUNG CHILDREN, IS HIV POSITIVE and wants to keep her condition confidential. Living in a small town, she wants to protect herself and her children from the reaction and rejection of others. Jane's mouth has been hurting her for weeks, but she is afraid to make an appointment with her dental hygienist. She is afraid that if she tells her dental hygienist about her HIV diagnosis, she will be refused treatment or worse, that other people will find out.

Oral health care is vitally important for people living with HIV/AIDS and yet some, like Jane, do not seek out oral health care for fear of discrimination. What many people in Jane's position don't know is that the perception of people living with HIV/AIDS has changed among oral health professionals.

EDUCATION HELPS TO REDUCE STIGMA

Dental hygiene educational institutions have included HIV/AIDS information in their curriculum for many years and have recently made great strides when it comes to removing the stigma associated with HIV/AIDS. "Today's students are much more informed on the subject of HIV/AIDS," says Bonnie Blank, Dental Hygiene Program Instructor at Camosun College in Victoria, British Columbia. "Because their understanding has improved so much over the years, the fear associated with treating clients with HIV/AIDS has minimized significantly."

Courses are teaching students about the social and emotional challenges faced by people living with HIV/AIDS...

Positive perceptions are also influenced by the subject matter that is taught in dental hygiene classrooms across the country. Many schools have incorporated a "special needs" or "care for exceptional clients" component to their curriculum. More than just science, these courses are teaching students about the social and emotional challenges faced by people living with HIV/AIDS and or other infectious or communicable disease. As a result, students are developing greater sensitivity and empathy for their clients' personal situations.

Educational institutions are proactive in addressing potential bias toward persons with HIV/AIDS. Instructors are discussing discrimination issues and some have student handbooks that state: "No dental personnel may eth-

RÉSUMÉ

L'article qui suit traite des soins de santé buccodentaire destinés aux personnes vivant avec le VIH/sida, tant du point de vue des clients que de celui des cliniciens. Il permet de comprendre un peu les craintes des clients au sujet de la divulgation de leur état de santé, sensibilise les lecteurs au droit des clients de ne pas divulguer ce renseignement et explique comment la divulgation peut améliorer la qualité des soins. D'après les recherches, les préjugés des hygiénistes dentaires à propos des personnes vivant avec le VIH/sida ont diminué avec le temps, mais ils n'ont pas complètement disparu.

Il y est question des précautions universelles comme moyen de protection, tant de l'hygiéniste dentaire que du client. On estime à environ 0,3 % le risque d'infection en raison d'une exposition au sang infecté par le VIH, par suite d'une piqûre accidentelle avec une aiguille; par comparaison, ce taux est de 10 % dans le cas du virus de l'hépatite C et de 30 % dans celui de l'hépatite B. Nous mettons en relief certains états généralement associés au VIH/sida, notamment la candidose buccale, la gingivite et la parodontopathie, la leucoplasie chevelue et le sarcome de Kaposi.

Many people wonder if they have to disclose their HIV/AIDS status to their oral health care provider. The answer is no.

ically refuse to treat a patient solely because the patient has an infectious disease, such as HIV, AIDS or hepatitis B infection, or is perceived to be a member of a high risk group. These patients must not be subjected to discrimination."[2] Addressing this topic during the educational process may contribute to a recent shift in students' attitudes. Cohen, Romberg, Dixon, and Grace[3] reviewed the literature on this topic and found six studies conducted between 1988 and 1997[4-9] indicating that dental hygiene students exhibited bias toward persons with AIDS. However, a study in 2000 found a diminished level of bias and more recently a 2004 study[3] shows a very minimal bias toward persons with AIDS.

Dental hygienists are at the forefront of the oral health professional team providing oral health promotion and disease prevention services. The professional relationship that dental hygienists maintain with their clients may lead to disclosure of health status, which may include HIV/AIDS. Medical history forms frequently include a question such as "Have you been tested for HIV/AIDS and if so, were the results positive or negative?" Knowing the answer to this question can result in improved quality of service, since it allows the dental hygienist to design a treatment program to meet the specific needs of the HIV/AIDS client. Dental hygienists may suggest a saliva substitute to make eating more comfortable, or they may make a referral to another health professional if they see an abnormality in the mouth. They are important members of the team of health care providers for people living with HIV/AIDS and their clinical practice helps to make people living with HIV/AIDS not only more comfortable, but also healthier.

DISCLOSURE

Many people wonder if they have to disclose their HIV/AIDS status to their oral health care provider. The answer is no. When you present your client with a health questionnaire, they do not have to check the box that says HIV/AIDS. Disclosure is a difficult issue for many people living with HIV/AIDS. According to a paper published by the Canadian HIV/AIDS Legal Network:

> HIV status is intensely personal information and the act of disclosure can lead to both positive and negative results. This is why people living with HIV/AIDS are entitled to control over this crucial decision. People living with HIV/AIDS are entitled to the information they need to decide if, when and how they will tell other people about their HIV status.[10]

While disclosure may be difficult for clients, it is important that they consider the benefits of sharing their HIV/AIDS status with their oral health care provider. The more knowledge you have of their medical history, the easier it is to develop specialized services that meet their individual needs. There are various oral health conditions that are unique, or more common, to people living with HIV/AIDS. Knowing that a client is living with HIV/AIDS can be of great assistance to the oral health care provider when diagnosing these conditions and determining the best treatment.

Among the many rights listed in the Canadian Dental Hygienists Association's *Dental Hygiene Client's Bill of Rights*[11] is the right to be treated with respect and the right to care that meets the client's needs. These two fundamental entitlements apply to everyone. Clients also have a right to confidentiality. Information that is shared between an oral health care provider and his or her client must remain between the two of them to ensure confidentiality. Certain narrowly defined exceptions exist[12] such as instances where disclosure on the part of the dental hygienist is necessary to prevent serious harm to others.

INFECTION CONTROL PROTECTS EVERYONE

Universal precautions are a set of routine safety standards established for the purpose of infection control. They protect everyone, the client and the oral health professional. From washing hands and protecting eyes to wearing gloves and sterilizing instruments, universal precautions are strictly adhered to by oral health care professionals across Canada. Just because someone may have a communicable condition such as HIV does not mean these standards are practised any more rigorously. In fact, one of the main reasons universal precautions exist is because not everyone knows they are infected with a communicable condition and not everyone discloses their status.

Examining some of the studies on transmission of HIV/AIDS to health care professionals may help to reduce the fears that dental hygienists might have in providing services to persons with HIV/AIDS. A report by the American Dental Association concludes that epidemiological studies demonstrate that "the risk of HIV transmission in the dental office (from provider to patient, patient to provider and patient to patient) is so low as to be virtually undetectable."[13]

Exposure to blood-borne pathogens can take place through aerosols; blood splashes to the eyes, nose or mouth; mucous membrane exposure; and percutaneous injuries, such as a needlestick injury. This highlights the importance of universal precautions, wearing protective eye wear and masks; and preventing needlestick injuries. There may be a concern that powered scaling devices generate aerosols that place a dental hygienist at risk for transmission. However, there are no documented cases of HIV infection through aerosols.[14] Compared with some other blood-borne pathogens, the risk of infection from a needlestick injury causing exposure to HIV infected blood is estimated at about 0.3%, compared with 10% for hepatitis C, and 30% for hepatitis B virus.[15] In other words, 99.7% of exposures do not lead to infection. The Canadian Needle Stick Surveillance Network (CNSSN) has recently started collecting data on needlestick injuries in a number of different health professionals. The Network reports that between the years 2000 and 2001, approximately 18 dental hygienists were surveyed and no exposures were reported.[15] While this preliminary data may be re-assuring there is a need for other studies in this area.

THE MOUTH AS A HOTBED FOR INFECTION

Studies have proven that oral health has a significant influence on our overall health. Periodontal disease is linked to several conditions[16] including diabetes, heart disease, premature and low-weight babies, as well as respiratory disease. Armed with this knowledge, it is essential that all Canadians have access to regular oral health care, including people living with HIV/AIDS.

In July 2004, representatives from 27 countries issued the Phuket Declaration on Oral Health in HIV/AIDS 2004 —A commitment to action. This declaration calls on national and international health authorities; oral health associations, and research institutions to strengthen their efforts in controlling HIV/AIDS related oral disease.[17] For most Canadians, a trip to the dental office is almost as routine as brushing their teeth. But for some, oral health care isn't as easy to come by. People living on low incomes, seniors, persons with disabilities, and those who live in rural or remote areas are just a few of the groups that may not be getting the oral health care they need.[18] One of these groups is people living with HIV/AIDS.

Good oral health care begins by maintaining a healthy mouth by brushing and flossing and maintaining a nutritional diet. However, people living with HIV/AIDS often experience additional health issues that have a negative impact on their oral health. According to Project Inform, about 90% of people with HIV/AIDS develop at least one oral condition associated with HIV/AIDS,[19] making the elimination of discrimination in oral health care all the more important. Persons with HIV/AIDS often experience protein and vitamin deficiencies that can have adverse effects on all parts of their bodies, including the mouth, and oral and perioral lesions are commonly seen in this population. Abnormal cell growth, gingivitis, and fungal infections are just a few of the more than 40 oral health disorders associated with HIV/AIDS.

People living with HIV/AIDS often experience additional health issues that have a negative impact on their oral health.

SOME ORAL HEALTH CONDITIONS ASSOCIATED WITH HIV/AIDS

Oral candidiasis

Commonly known as thrush, oral candidiasis is a fungal infection that usually results from a compromised immune system, prolonged stress, and/or use of antibiotics. It is said to be one of the most common oral conditions among people living with HIV/AIDS.[20] Regular symptoms include white patches with a cottage cheese-like texture. When scraped away, they may be left red and sore. There is also the potential for spreading to the throat. Topical and systemic antifungal treatment may control oral candidiasis; however, recurrence is common.[20] Candidiasis may also be associated with other health conditions, such as uncontrolled diabetes, other immunodeficiency diseases, antibiotic treatment, and xerostomia.

Gingivitis and periodontal disease

People with HIV/AIDS are more susceptible to gingivitis and severe forms of periodontitis than the general population. Persons with HIV/AIDS may experience more severe or unusual forms of gingivitis and periodontal disease, including linear gingival erythema (LGE) and necrotizing ulcerative periodontitis (NUP).[7] LGE differs from typical gingivitis in that it is characterized by spontaneous bleeding and does not respond to therapy. NUP is characterized by pain, spontaneous gingival bleeding, interproximal necrosis and cratering, intense erythema, and attachment and bone loss.

Hairy Leukoplakia

It is believed that oral hairy leukoplakia (OHL) has a link with the same viruses that cause mononucleosis and Epstein Barr Syndrome. It is also one of the most common HIV/AIDS–related viral infections. Characterized by corrugated white patches with hair-like particles, it often occurs in the early stages of HIV disease. While it is not painful and doesn't pose any actual harm, it can represent an increased risk of more serious illnesses in the future. It is not generally treated but may respond to antiviral medication.

Kaposi's sarcoma

Kaposi's sarcoma (KS) is a rare condition and occurs during the later phases of the disease. In Canada, most persons living with HIV/AIDS will not develop this condition because of easy access to treatments. KS is the most common form of AIDS-related cancer and while it is most commonly found on the skin, many people with KS also report the presence of oral lesions. Oral lesions appear as red or purplish patches or swellings. While they can appear anywhere in the oral cavity, they are most commonly found on the palate and gingival. While oral KS is generally not painful, it can become so with ulceration or infection.

CONCLUSION

Although dental hygienists' bias toward persons with HIV/AIDS has decreased over time, some residual bias remains, indicating a need for further reflection and education on this topic. Armed with increased knowledge and sensitivity to the needs and rights of persons with HIV/AIDS, dental hygienists will increase the quality of service they provide.

Some responsibility for change also lies within Canadian research and surveillance institutions. Although it is encouraging to see that the Canadian Needle Stick Surveillance Network is now collecting information specifically on dental hygienists, an increase in the survey sample from 18 to at least 700 dental hygienists would provide statistics that better reflect the 14,000 dental hygienists across Canada. With more comprehensive Canadian exposure data, including larger sample sizes and inclusion of other methods of transmission, the dental hygiene profession can make better risk management decisions.

ACKNOWLEDGEMENTS

We wish to thank Bonnie Blank, RDH, and Mara Sand, RDH, for their assistance in the development of this article.

Answers to the quiz:
1. Yes 2. No 3. b 4. d

RELATED READINGS

Canadian Public Health Association. Canadian HIV/AIDS Information Centre. www.aidssida.cpha.ca/

Canadian HIV/AIDS Legal Network. www.aidslaw.ca

Canadian AIDS Treatment Information Exchange (CATIE). www.catie.ca

A Practical Guide to Nutrition for Persons Living with HIV Disease. www.catie.ca/ng_e.nsf/toc/

Nutrition and Other HIV Related Conditions: Oral Conditions. www.catie.ca/ng.nsf/aae080959e9eda66852566430053520b/d3cfa2bcb8eb5fd18525667f0075bc40?OpenDocument

Info Sheets on HIV/AIDS and the Privacy of Health Information. www.aidslaw.ca/Maincontent/infosheets.htm #isopohi

Canadian Centre for Occupational Health and Safety. Needlestick injuries. www.ccohs.ca/oshanswers/diseases/needlestick_injuries.html

Centers for Disease Control. Guidelines for Infection Control in Dental Health Care Settings—2003. www.cdc.gov/mmwr/preview/mmwrhtml/rr5217a1.htm

Organization for Safety and Asepsis Procedures. Frequently Asked Questions on Dental Infection Control. www.osap.org/resources/FAQ/index.php? name=28

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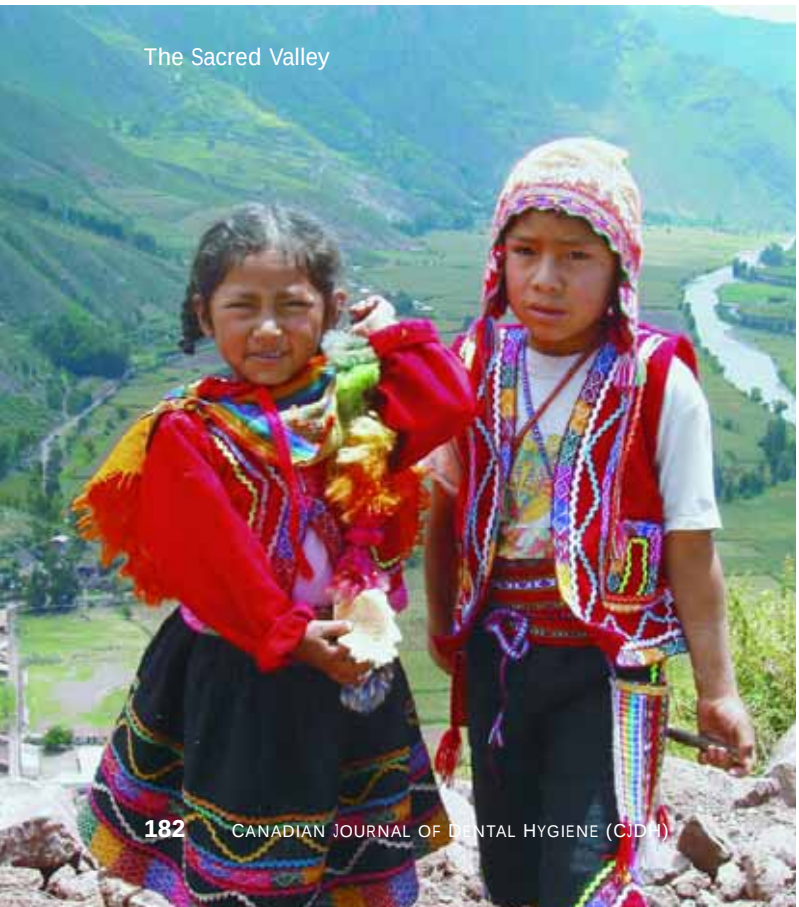
Chicken Soup for the RDH Soul

*by Donna Kittle, RDH, BSc**

"NO LYING, NO STEALING, NO BEING LAZY. THESE ARE the laws of the very proud Inca people," said a stoic Washington Gibaja Tapii, our special tour guide for the 6:30 a.m. tour of the local ruins in Ollantaytambo, Peru. "Unfortunately, from circumstance some of these people may need to steal to survive," said Linda Oocho, our local volunteer contact. Linda was instrumental in making sure that three of the four dental missions went smoothly in Peru.

Kindness in Action, or KIA, is a Canadian non-profit service organization consisting of dental professionals and other non-dental volunteers who desire to help those with less in the developing world. KIA is based on neither religion nor politics. Each volunteer is united by the belief in the dignity of all people and their right to basic human needs. The volunteers work without compensation and are responsible for their own airfare and accommodation.

This year KIA sent over 260 volunteers to 14 different dental mission locations and gave treatment to almost 6,000 patients. The selected countries for this past year included Honduras, Guatemala, Nicaragua, Peru, Mexico, Thailand, Philippines, and India. "Daily, other villages were brought in by the cattle truck. With the help of a young peace corps worker (who served as ground support and translator), we were able to work out of the school in Chisek, Guatemala. Chisek is very poor Mayan village burned down in the 1980's revolution. Women and children were raped and killed. KIA was able to give a small lift to these demoralized people," said Cheryl Cann, Team I Guatemala.



The Sacred Valley

Qetchwa girl waiting for her turn

"We worked hard, we played hard...and the view was spectacular," said Cheri Neville, RDA, Team II Peru. Our team of 26 members included six dentists, seven assistants, three hygienists, with the rest being "go-fers." The amazing statistics included: 668 patients who received treatment, 825 extractions, 355 fillings, 129 cleans, 365 fluoride varnishes, 180 brush-ins, 65 "momma and totto" dental education seminars, and finally 15 hand-washing demonstrations, all completed in just four days.

Each dental mission has its own unique challenges. Sleep deprivation and surprises were the words mumbled frequently by Team II Peru (in Ollantatambo). The loud ring of the telephone would herald the start of another wonderful day in paradise. Leave your expectations at home. Sometimes in a multilingual situation, miscommunication is common. For example, it was 11:45 a.m. and I had completed brush-ins and fluoride varnishes for the first half of the school. I was completely surprised to find that the whole school would be dismissed at noon! This is a daily ritual since it takes the children 1½ hours to walk back to their mountain homes. To make matters worse, it was the start of the Easter holiday and all school kids were dismissed until the next week. Carlos, our host, had failed to mention the school schedule. As a result, only half of the school kids received oral hygiene instruction and fluo-

* Veteran KIA volunteer and fundraiser as well as a veteran dental hygienist (1976 graduate from the University of Louisville, Kentucky, USA)


Cesar teaches basic hand-washing to street children

ride varnishes. Luckily, Linda and Carlos came to the rescue by rounding up the whole town and having a Qetchwa (*pronounced* ket-ch-wa) village of about 50 people bused in. Our time was not wasted.

"There are no problems—only solutions," said Dr Amil Shapka, el Presidente of Kindness IN Action. "It is all about love and commitment. It is amazing to see what has grown out of a challenge over a cup of tea at the kitchen table in 1993!"

Many volunteers, young and old alike, have found the one-week KIA dental missions a life-altering experience. "What made me laugh was watching how well everyone got along. Last week we were strangers. What surprised me most was that the average Peruvian is far poorer than our poor at home. And finally, what saddened me most was that the kids in our village will never have the opportunity or time to be just kids; they must work for the family to survive. At home, kids can just sit down and eat popsicles," said Josh Reith, age 17, a first-time go-fer on Team II Peru.

Often resembling a MASH unit, all KIA missions are similar in that they are self-contained and each one has a team leader. Basic dentistry, immediate pain-relief, and dental education are the priorities.

"It is always a rewarding trip. This was our second time to this location. The people are so warm and appreciative. Sugar cane has destroyed so many of the kids' front teeth. We started a hygiene program last year and expanded it this year. We hope to see results in the next couple of years. We are now planting the seeds to set up a mobile unit here in Northern Honduras. Any unused equipment would be greatly appreciated," said Lori Palmer, Team I Honduras. In Team II Peru, we discovered the rampant decay in one out of five children was not caused by Inca Cola or sugar cane but rather by the constant chewing of hard buns without any contact of a toothbrush. Often, a perplexing look was given to our toothbrush as we gave it to the patients at the end of treatment.

Each of us can help in a small way. At the last minute, I needed gifts for the kids. Ralph Green, a patient of mine, brought to the office 120 soccer jerseys and 24 almost-new soccer balls. Once again, dental hygienist Belinda Perrin came to the rescue with two large garbage bags stuffed with Beanie Babies and precise information how to vacuum-pack them tightly into my suitcase. I was now ready for Peru.

When life gets dull, meaningless, and predictable, it is time to get out of your comfort zone. Try something new—reach out and touch your brothers and sisters in the developing world. This experience is good for the soul.

For further information about KIA contact our website, <www.kindness in action.com>, or Dr. Amil Shapka at <docdoc1@hotmail.com>.


Our new "professors" in action—planting the seeds for self-sufficiency


Qetchwa boy learning to brush

MEMBERSHIP RENEWAL NOTICE

Those lazy, hazy, crazy days of summer can mean only one thing...

THE CANADIAN DENTAL HYGIENISTS ASSOCIATION
L'ASSOCIATION CANADIENNE DES HYGIÉNISTES DENTAIRES

...that CDHA is gearing up for the 2005–06 membership campaign, getting set to present you with our best member benefits package ever!

Take a moment to read all about what's in it for you and we're sure you'll agree that renewing your membership in the Canadian Dental Hygienists Association is one smart career move and, with the incredible value we've packed into your membership, your best choice for keeping on top of your profession. Keep an eye on your mailbox later this summer and you'll find out exactly what we mean.

We are constantly looking for new ways to enhance the benefits of your membership in the CDHA. If you have any suggestions, let's hear them! Contact Monica Helgoth anytime at <mlh@CDHA.ca> and let us know how we can continue to meet your needs.

So, what kinds of benefits are we talking about, anyway?

Tell us what you think!

Want to have your say? This year's membership renewal package will contain a questionnaire, an opportunity for you to tell us what you think. Don't miss it!

Stay in touch with your colleagues, access CE Courses in the comfort of your own home, and much more...

Our Members Only section of the website puts all kinds of tools at your disposal. Whether you want to learn more about just-introduced dental hygiene products, find a friend from school, get a position paper, or find out the latest research findings or practice standards, it's all there with a simple click of your mouse. You just can't find better career-enhancing information anywhere else.

This past year, CDHA launched its first online continuing-education (CE) course. After much positive feedback, we will be launching even more great new courses for the 2005–2006 membership year. And remember, all CDHA members who renew their memberships for the coming year will receive one complimentary course.

Also new, and attracting much positive feedback, is the CDHA Professional Development Manager Tool, an online tool that lets you track your CE activity and archive it for future use. When it's needed, you simply print off your records—available 24 hours per day—send them to your provincial regulatory body along with your regular forms, and you're done. No more hunting for lost records that you promised yourself you wouldn't lose.

Also new this year, the CDHA launched a partnership with the *DVD Journal of Dental Hygiene.* This exciting new project will offer members an affordable and hassle-free way to obtain continuing-education credits.

"Liability (Malpractice) Insurance — you are covered for up to $3 million in damages"

Cover me, I'm goin' in

As a practising dental hygienist, you can't afford to take chances. As a member of CDHA, you get (at *no extra charge*):

- **Liability (Malpractice) Insurance** — you are covered for up to $3 million in damages with additional funds to cover legal expenses; *and*
- **Disciplinary/Sexual Abuse Defence-Cost Insurance** — this covers civil litigation costs relating to disciplinary matters and claims related to sexual abuse.

This coverage is *absolutely free* and included as a benefit of your membership. Even more, members-only group insurance — coverage designed specifically for dental hygienists — is also available for purchase.

Information you need

From newsletters, e-mail bulletins, and online resources such as career listings, research articles and practice standards, to the *Canadian Journal of Dental Hygiene*, dental hygiene's only national professional journal, you get the information you need to stay informed.

But remember, all of these benefits are available to *members only*.

And that's not all!

In the past year, we have also developed a host of new discount programs for CDHA members, For example, we have a hotel discount program with CHIP Hospitality, a program with Hewlett-Packard that will give you affordable access to the latest technology, discounts with Indigo–Chapters, access to specialized mortgage products, and discounted rates with David Benson & Associates Inc., a Mortgage Intelligence Broker, and great savings with Wright Dental Canada Limited on stylish Dickies Medical Uniforms.

Members also have access to sample products and fun prizes all year long.

And every day we are working to develop for you even more and better discount programs and member benefits — so stay tuned!

Keep an eye on your mailbox

Very shortly, a personalized membership-renewal package will be sent to you unless you practise in Alberta and Saskatchewan. (Membership renewals in Alberta and Saskatchewan are administered through the regulatory bodies. Please contact Saskatchewan Dental Hygienists Association at 306-931-7342 or the Alberta Dental Hygienists' Association at 780-465-1756 for more information on membership renewal in your province.)

To ensure you receive your package with the least possible delay, please make sure the CDHA has your current mailing address. You may check this by logging on to the Members Only section of our website at <www.cdha.ca>. There, you can check your personal file and make changes, if necessary. If you do not have Internet access, the CDHA membership team would be pleased to assist you. Simply call us toll-free at 1-800-267-5235, Monday to Friday, 8:30 a.m. to 5 p.m. (ET).

Renew online — now!

It's easy, it's fast, and it's *completely secure*. You can now visit us on the Web at <www.cdha.ca> to complete the form and pay for your membership renewal.

You can also renew by regular post, of course. Bear in mind, however, that because we are processing several thousand membership forms over a few short weeks, you should allow four to six weeks for your mailed membership renewal to be processed after we receive your completed forms.

Once your renewal forms have been processed, you will be sent a membership package that contains an acknowledgement letter, your membership card, your insurance certificate, and a tax receipt.

Important note to members in Nova Scotia and Newfoundland: The membership renewal processing timeline is especially important for you because membership is mandatory for practising dental hygienists in your province. Your registrars require proof of membership by November 30, 2005, so please do not delay in sending us your membership renewal.

Renewal Dates for Regulatory Bodies

ALBERTA:	November 1, 2005
MANITOBA:	January 15, 2006
NEWFOUNDLAND:	November 30, 2005
SASKATCHEWAN:	January 15, 2006
NOVA SCOTIA:	November 30, 2005
BRITISH COLUMBIA:	March 1, 2006
NEW BRUNSWICK:	January 1, 2006
PRINCE EDWARD ISLAND:	April 1, 2006
ONTARIO:	January 1, 2006
QUEBEC:	April 1, 2006

This is your association

As the only national association for dental hygiene in Canada, the CDHA represents the voice and vision of more than 14,000 dental hygienists in Canada and is dedicated to advancing the profession and protecting the interests of all its members. Truly invaluable to dental hygiene professionals, your CDHA membership is your best choice for information, career tools, and as a source of mandatory insurance coverage.

As a member of the CDHA, you are an important partner in the dental hygiene community; you are part of the collective voice and vision of dental hygiene in Canada. So, get those renewal forms in early and stay connected!

"As a member of the CDHA, you are an important partner in the dental hygiene community"

What's New for You

by CDHA Staff

WELCOME TO THE SECOND INSTALMENT OF THIS column. This time we would like to feature new acquisitions and also items from our collection that complement the papers presented in this issue.

If you have any suggestions for books you would like in CDHA's collection or for topics you would like discussed in this column, please send them to Nancy Roberts, Information Consultant, CDHA Library at <library@cdha.ca> or by calling 613-224-5515, ext. 22. These will be given every consideration when we add to our collection development list.

Remember that CDHA members can borrow library material for three weeks with one renewal allowed. All you have to do is provide us with a credit card number for security and pay the return postage (we pay the cost of getting the material to you).

INTERESTING NEW ACQUISITIONS

Canadian Centre for Occupational Health and Safety. Office ergonomics safety guide. Hamilton (ON): CCOHS; 2002. [WA 400 C353 2002]

Canadian Centre for Occupational Health and Safety. Violence in the workplace: prevention guide. Hamilton (ON): CCOHS; 2001. [WA 420 C353 2001]

Canadian Healthcare Association. Excellence in Canada's health system – principles for governance, management, accountability and shared responsibility. Ottawa (ON): CHA; 2004. [WA 540 DC2 E92 2004]

Canadian Institute for Health Information. You say "to-may-to(e)" and I say "to-mah-to(e)": bridging the gap between researchers and policy-makers. Canadian Public Health Initiative report on moving from research to policy: improving the health of Canada's youth. Workshop held in Toronto, Ontario, February 19–20, 2004. Ottawa (ON): CIHI; 2004. [WA 330 Y67 2004]

Cooper MD. Essentials of dental hygiene: preclinical skills [text + CD-ROM]. Upper Saddle River (NJ): Prentice-Hall; Pearson Education; 2005. [WU 18.2 C66 2005]

Davis JR, Stegeman CA. The dental hygienist's guide to nutritional care. Philadelphia (PA): W.B. Saunders; 1998. [WU 113 D262 1998]

Health Canada. On the road to quitting: guide to becoming a non-smoker. / Sur la voie de la réussite: guide pour devenir un non-fumer. Ottawa (ON): Health Canada, Tobacco Control Programme; 2003. [WM 290 O58 2003]

Health Canada. Towards a healthier workplace: a guidebook on tobacco control policies. [n.p.]: Health Canada; 2003. [WM 290 T68 2003]

Ibsen, OAC, Phelan JA. Oral pathology for the dental hygienist [text + CD-ROM]. St. Louis (MI): W.B. Saunders; 2000. [WU 140 I14 2000]

Mason J. Concepts in dental public health. Baltimore (MD): Lippincott Williams & Wilkins; 2005. [WU 113 M38 2005]

MATERIAL RELEVANT TO THIS ISSUE

Canadian HIV/AIDS Legal Network**.** Privacy protection and the disclosure of health information: legal issues for people living with HIV/AIDS in Canada. / La protection de la vie privée et la communication de renseignements personnels sur la santé : Questions juridiques pour les personnes vivant avec le VIH/sida au Canada. [n.p.]: Canadian HIV/AIDS Legal Network; 2004. [WD 308 P74 2004] Website: www.aidslaw.ca

Canadian Institute for Health Information. An environmental scan of research transfer strategies. Ottawa (ON): CIHI; 2001. [W 84.3 C35 2001]

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Health Canada. Canada's report on HIV/AIDS: HIV/AIDS lessons learned. Reframing the response. Ottawa (ON): Health Canada; 2002. [WD 308 C351 2002]

Public Health Agency of Canada. The federal initiative to address HIV/AIDS in Canada: strengthening federal action in the Canadian response to HIV/AIDS. / L'initiative fédérale de lutte contre le VIH/sida au Canada: renforcer l'intervention fédérale dans la réponse du Canada au VIH/sida. Ottawa (ON): The Agency; 2004. [WD 308 F43 2004] Also available from: www.phac-aspc.gc.ca/aids-sida/hiv_aids/index.html.

Quality Assurance Programming *(continued from page 174)*

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A Medley of Sources

by CDHA Staff

THIS ISSUE'S SITES PROVIDE MORE INFORMATION on some of article contents: quality assurance, HIV/AIDS, incorporation, as well as an excellent downloadable guide to help you counsel clients about tobacco cessation. But the first entry is a brand-new site research tool, still in its Beta version.

ScienceResearch.com
http://scienceresearch.com/search/index.php

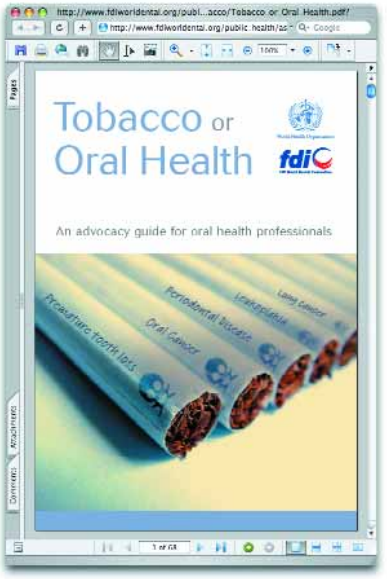
This site was just launched in early June 2005 and is a Beta version. From the website, a description of this valuable research tool: "ScienceResearch.com is a free, publicly available Internet web portal allowing access to numerous scientific journals and public science databases... A single query will search thousands of high quality journals and databases, effectively millions of documents, in real-time." It covers major publishers: Elsevier, Highwire, IEEE, Nature, Taylor & Francis, etc. and free journal sources like DOAJ. Full text access to commercial journals requires a subscription or payment."

Quality Assurance Program – College of Dental Hygienists of Ontario
www.cdho.org/quality.htm
Continuing Competency – College of Dental Hygienists of British Columbia
www.cdhbc.com/resources/continuing_competency.php

Here you will be able to learn about the Quality Assurance Program of CDHO and the Continuing Competency Program of CDHBC. The site for Ontario contains the regulations on quality assurance, a members' policy and procedures manual, the standards of practice, a clinical self-assessment package, a section that discusses the professional portfolio. You can download all the forms or you can maintain your portfolio on the computer. On the BC site are the key points of the Continuing Competency Program and information if you are selected for a review.

CATIE (Canadian AIDS Treatment Information Exchange)
www.catie.ca/e/index.html

This national, non-profit organization is "committed to improving the health and quality of life of all Canadians living with HIV/AIDS. CATIE provides treatment information not only for people living with the virus but also for their families, care providers, AIDS Service Organizations and Health Care Intermediaries." Under the section, For Caregivers, are downloadable publications such as fact sheets on treatment options and strategies. This site provides credible information about all the latest drugs and about living with HIV/AIDS.



Tobacco or Oral Health: An Advocacy Guide for Oral Health Professionals
www.fdiworldental.org/public_health/assets/Tobacco/Tobacco_or_Oral_Health.pdf

The World Health Organization and the FDI World Dental Federation have developed an advocacy guide that gives tangible advice to oral health professionals and their organizations to help clients stop using tobacco. The Guide looks at tobacco control initiatives, the role of oral health professionals, and what associations of oral health professionals can do to advocate for tobacco control and cessation programs.

It's Your Health – HIV/AIDS
www.hc-sc.gc.ca/english/iyh/diseases/hiv.html

This Health Canada site provides a good introduction to HIV/AIDS with clear, succinct information on the disease's background, transmission, treatment, and on minimizing one's risk. There are references to Canadian sites dealing with the same topic as well as links to international bodies such as the World Health Organization and the United Nations.

HIVdent
www.hivdent.org/main.htm

This site is provided through grants from Colgate Oral Pharmaceuticals, Bristol-Myers Squibb Immunology, and the Grady Health System. There is a wealth of information, arranged by categories such as Oral Manifestations of HIV Infection; Public Policy and News Updates; Dental Treatment Considerations; Center for Disease Control's HIV/AIDS MMWRs (Morbidity and Mortality Weekly Report); Infection Control (including "Guidelines for infection control in dental health care settings").

Incorporation Guide – College of Dental Hygienists of Ontario
www.cdho.org/images/Incorporation.pdf
How to Incorporate – College of Dental Hygienists of British Columbia
http://www.cdhbc.com/registration/incorporate.php

The Ontario site contains a "A Step-by-Step Guide to Professional Incorporation for Registrants of the College of Dental Hygienists of Ontario." It goes over the steps, gives advice how to obtain a Certificate of Authorization, gives pertinent sections of legislation and regulations, and the necessary forms. The British Columbia site gives a good summary of the incorporation process with links to forms and relevant legislation.

CLASSIFIED ADVERTISING

CDHA and *CJDH* take no responsibility for ads or their compliance with any federal or provincial/territorial legislation.

YUKON

WHITEHORSE Come and enjoy the beauty of the North. A part-time dental hygienist required for busy practice. Great staff and wonderful atmosphere. Please call **867-668-2273** or fax **867-668-5121**.

BRITISH COLUMBIA

KAMLOOPS Full-time hygienist position available in a modern practice with friendly and professional staff and excellent patients. We offer uniform allowance and help with CE credits. Kamloops is a city of 80,000+ people on the banks of the Thompson River and home to some of the best skiing and mountain biking in B.C. Dr. Benjamin Bell, 307–444 Victoria St., Kamloops, BC V2C 2A7. Tel: **250-372-1237**; fax: **250-372-1266**.

VANCOUVER Vancouver Coastal Health provides a comprehensive range of health services in Vancouver, North Shore/Coast Garbaldi, and Richmond. Recruiting a regular part-time (60%) dental hygienist at Vancouver General Hospital (8 a.m. to 4 p.m., Mondays to Wednesdays). Graduation from a recognized certificate program; two years' recent experience in general practice including one year working with hospitalized patients; or an equivalent combination of education, training, and experience. Current licensing with CDSBC. Salary from $24.44 to $30.47 per hour. Great benefit and vacation packages. Relocation assistance may be offered. Tel: **604-875-4028** or **1-800-565-1727** or **Brigitte.Relova@vch.ca**. For further information and to apply on-line, visit **www.vch.ca** and click on "Careers," Reference #04A.HS.4096.W.

VICTORIA Position available immediately in our well-established, busy, growing family practice in beautiful Victoria. Work with five dentists and three hygienists in providing preventive and periodontal programs in our six-operatory office. Excellent patients and staff. Relaxed atmosphere, flexible hours, and vacation times. For further information, contact Dr. Justin McInnis or Dr. Rob Muir at Cresta Dental Centre (Tillicum Mall). Tel: **250-384-7711** or fax: **250-384-2045**.

ALBERTA

SLAVE LAKE DENTAL HYGIENIST WANTED for fun, well-established, team-oriented dental practice: 6 operatories, 2 dentists, 4 assistants. Experience the "Alberta Advantage"! Slave Lake (pop. 7000), 2.5 hours north of Edmonton, provides many outdoor opportunities. Looking for a motivated, ambitious person with strong leadership skills to set up and head our dental hygiene department. $45–$48/hr based on experience. Fax résumés to **780-849-3322**, Attn: Terri. For more information, call Terri at **780-849-2233**. **slavelakedentalclinic@snipercom.net**.

SPRUCE GROVE We are a busy office and currently have positions open that can be filled by full- or part-time hygienists. We have a great work environment and are looking for someone who wants to be a part of our team. Our hygiene department is second to none; our patients are used to thorough but gentle treatment. Spruce Grove is only 15 minutes from West Edmonton Mall and is an easy commute from Edmonton. If you are interested in being a part of our team, fax résumé to **780-962-1651**.

VEGREVILLE Lucrative benefits available for RDH in awesome rural dental practice. Our office is seeking a highly motivated, fun-loving, and energetic RDH to join our hygiene team in a progressive dental practice only 45 minutes east of Edmonton. You will work independently on periodontic and implant patients. Our community offers many social and recreational opportunities. P/T or F/T position available. No evenings or weekends. Please contact Sherilynn at **780-632-3368** or fax résumé to **780-632-6611**.

MANITOBA

WINKLER Need a new outlook on life? Cornerstone Dental Centre is hiring a full-time dental hygienist, five days a week (no evenings), Monday to Friday. Come join our dental team in a new state-of-the-art dental practice in Manitoba's fastest growing city with great recreational facilities and shopping centres. Requirements: Certified Dental Hygienist; team player; some computer knowledge an asset; excellent people skills. Cornerstone Dental Centre, Box 1930, Winkler, MB R6W 4B7. Tel: **204-325-7625**; fax: **204-325-5279**; e-mail: **corock@mts.net**.

ONTARIO

RICHMOND HILL General practice dental hygienist required 3 days/week; progressive, perio-oriented, general practice; one hour recall appointments; non-surgical philosophy; intraoral cameras; detailed patient education. Appleday Dental Care, Dr. Lawrence Tobis, 8865 Yonge St. Unit B2, Richmond Hill, Ontario L4C 6Z1. Tel: **905-882-7753**; fax: **905-882-7748**; e-mail: **info@appledaydentalcare.com**.

CONTINUING EDUCATION

UNIVERSITY OF MANITOBA, SCHOOL OF DENTAL HYGIENE will be offering a Local Anesthesia Continuing Education Program for Licensed Dental Hygienists on November 25–27, 2005, at the Faculty of Dentistry. Self-study portion six weeks in advance. **Registration deadline is October 8, 2005**. If you are interested in participating, you can obtain further information by contacting Lisa Chrusch, Administrative Assistant for the School of Dental Hygiene at **204-789-3683** or **lisa_chrusch@umanitoba.ca**.

INTERNATIONAL

GERMANY WORK ABROAD as a dental hygienist in Germany. Positions available in state-of-the-art dental offices in Frankfurt, Stuttgart, and the Black Forest. Periodontally aware, U.S.-trained multi-specialist practice. Full-time positions. Respond to EMCdent, Neue Strasse 54, 70186 Stuttgart, Germany. Tel. **(49) 711-2 73 87 87**; fax **(49) 711-2 73 87 88**. **info@emcdent.de**

NEW ZEALAND Full-time dental hygienist wanted for a large dental office in Auckland. General and orthodontic services patients. Opportunity to assist in orthodontic treatment, including expanded duties, if desired. We can put you in contact with two Canadian hygienists we currently work with who could describe our practice and life in New Zealand. Alpers Dental Group, Nicolas Anderson, PO Box 99039, Newmarket Auckland 1031, New Zealand. E-mail: **nic@anderson.gen.nz**; tel: **+6495245056**; fax: **+6495245057**.

Advertisers' Index

CDHA CLASSIFIED ADS

Classified job ads appear primarily on the CDHA's website (www.cdha.ca) in the Career Centre (*Members' Only* section). On-line advertisers may also have their ad (maximum of 70 words) listed in the journal *CJDH* for an additional $50. If an advertiser wishes to advertise only in the print journal, the cost will be the same as an on-line ad. These classified ads reach over 11,000 CDHA members across Canada, ensuring that your message gets to the target audience promptly. Contact CDHA at **info@cdha.ca** or **613-224-5515** for more information.