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Evidence-based practice and the professionalization of dental hygiene

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Abstract: The application of knowledge is fundamental to human problem solving. In health disciplines, knowledge utilization commonly manifests through evidence-based decision making in practice. The purpose of this paper is to explore the development of the evidence-based practice (EBP) movement in health professions in general, and dental hygiene in particular, and to examine its relationship to the professionalization agenda of dental hygiene in Canada. EBP means integrating practitioner expertise with the best available external evidence from research. Proponents of EBP believe that it holds promise for reducing a research–practice gap by encouraging clinicians to seek current research results. Both the Canadian and American Dental Hygienists Associations support practice based on current research evidence, yet recent studies show variation in practice. Professionalization refers to the developmental stages through which an organized occupation passes as it develops traits that characterize it as a profession. The status conferred by professionalization privileges a group to make and monitor its own decisions relative to practice. Dental hygiene's success in acquiring attributes of a profession suggests that transformation to a profession is occurring. This paper compares the assumptions and challenges of both movements, and argues the need for a principal focus on the development of a culture of evidence-based dental hygiene practice.

Key words: dental hygienist; evidence-based practice; professionalization

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Introduction

The application of knowledge is fundamental to human problem solving. Knowledge utilization includes research, scholarly and

programme or policy intervention activities that intend to increase the use of knowledge to solve human problems (1). As a field, knowledge utilization includes a number of subfields: research utilization, innovation diffusion, technology transfer, information dissemination, organizational change, sociology of knowledge, policy research, and interpersonal and mass communication.

In health disciplines, knowledge utilization commonly manifests through the application of evidence-based decision making in professional practice. The purpose of this paper is to explore the emergence of the evidence-based practice (EBP) movement in health professions in general, and dental hygiene in particular, and to examine its relationship to the current professionalization movement in dental hygiene in Canada. It argues that a shift in dental hygiene's focus from the professionalization project to the creation of a culture that supports evidence-based dental hygiene practice will better serve dental hygiene and the recipients of oral health care services.

Evidence-based practice

Evidence-based medicine (EBM) has been defined as 'the collection, interpretation, and integration of valid, important and applicable patient-reported, clinician-observed, and research-derived evidence. The best available evidence, moderated by patient circumstances and preferences, is applied to improve the quality of clinical judgements and facilitate cost-effective health care' (2). The National Forum on Health, an advisory body that reviewed the health system in Canada, looked beyond medical practice in its consideration of evidence-based decision making as the 'systematic application of the best available evidence to the evaluation of options and to decision making in clinical, management and policy settings' (ref. 3; p. 6). The intent of EBP is to improve health outcomes.

The Evidence Based Medicine Working Group suggested that EBM is a new paradigm for medical practice. The Evidence Based Medicine Working Group points to Kuhn's description of 'scientific paradigms as ways of looking at the world that define both the problems that can legitimately be addressed and the range of admissible evidence that may bear on their solution' (ref. 4; p. 2420). The Evidence Based Medicine Working Group saw the increased and more effective use of research results to guide practice decisions as profound enough to be perceived as a paradigm shift. Contributing to that paradigm shift was the increased availability of randomized clinical trials, coupled with the increased use of clinical epidemiology, or systematic or integrative reviews, as methods of summarizing the results of these randomized trials. While the suggestion that EBP was a new paradigm would carry with it an implication that the 'old paradigm' or previous method of practicing was not based on science, which was certainly not the case, it did increase the reliance on and prominence of research evidence during decision making.

The National Forum on Health in Canada identified a need to create a culture of evidence-based decision making in health care. The dynamic nature of health and health care, and the continually changing nature of the evidence used in decision making suggested a need for a culture that would continually adapt and progress with the system and the evidence. The National Forum on Health's document 'Creating a Culture of Evidence-based Decision Making in Health' suggested that tools and incentives to encourage understanding and use of the best available information in the decision-making process would be necessary for such a culture to evolve (3). The National Forum identified that 'Applying the best available evidence in the decision-making process does not in itself guarantee good decisions or outcomes, but it does improve the odds of both' (p. 4).

The Evidence Based Medicine Working Group identified skills necessary to practice evidence-based medicine, including the ability to define a patient problem and the information needed to resolve the problem, to conduct an efficient search of the literature, to identify, retrieve and evaluate relevant studies (4). The Evidence-Based Medicine Working Group reported studies confirming that skills for the practice of EBM could be taught to medical students and residents, and that clinicians skilled in the ability to interpret current literature and differentiate stronger from weaker evidence were apt to be more cautious in their selection of therapy.

Practitioners have had increased access to large databases such as Medline through University or hospital libraries, and to PubMed, a publicly available online database from the National Library of Medicine. There has been increased use of practice guidelines that have been developed by consensus panels of content experts through rigorous methodological review of available evidence. Journal articles and seminars have been increasingly available to provide opportunities for clinicians to develop or enhance essential skills in locating and appraising medical literature.

While the work in EBM initially focussed on the prominence of evidence derived from external sources based on methodological criteria (4), such as systematic reviews and meta-analyses of randomized controlled trials, the relative roles of clinical expertise and patient choice were later clarified (5). Other professions such as nursing have expanded consideration of sources of evidence. Goode (6) and Goode and

Piedalue (7) described the University of Colorado Hospital's multidisciplinary EBP model, which included research evidence as the core of the model, and linked evidence from other sources to support the research core. Their sources of non-research-based evidence included benchmarking data, cost-effectiveness analysis, pathophysiology, chart reviews, quality improvement and risk data, international, national, and local standards, infection control, patient preferences and clinical expertise. Estabrooks believes that evidence-based nursing practice is much broader than research utilization and incorporates other forms of nursing knowledge as well as research findings (8). Buetow and Kenealy have also expanded the dimensions of evidence (9).

When the Canadian Dental Hygienists Association (CDHA) released their Policy Framework for Dental Hygiene Education in Canada in 1998, this policy document acknowledged the need to respond to the expanding body of dental hygiene literature, changing disease patterns, and an increased need for quality oral health services (10). Among the guiding principles, this policy document identified that 'It is essential that dental hygiene services are evidence-based…' (p. 105) and among the specified graduate outcomes was the ability to 'manage and use large volumes of scientific, technological and client information' (p. 106). This policy document recognized the role that education would play in the emerging culture of EBP in health-care delivery.

Forrest and Miller, highlighting key points of a white paper prepared in 1999 for the American Dental Hygienists Association (ADHA) Institute for Oral Health on Evidence-based Decision Making and its Application to Dental Hygiene Education, Practice, and Research, called for evidence-based decision making to support contemporary dental hygiene practice and education, and identified strategies for incorporating evidence-based decision making into dental hygiene education, practice and research (11). Strategies for education included development of faculty skills in EBP and use of teaching techniques that support development of problem-solving skills. Strategies for practice included professional development programmes that taught basic concepts and skills for EBP. Strategies for dental hygiene research included recognition of several levels of research activities such as consuming and applying research, valuing research activity as a basis for practice, investigating clinically relevant questions, and conducting systematic reviews of primary research studies. Forrest and Miller commented that the use of evidence in practice was not new, but what was new were the methods for gathering the clinical evidence – the increased reliance on synthesis and statistical approaches for analysing the evidence, such as systematic reviews and meta-analyses.

Assumptions

Underlying EBP are assumptions that it is efficient, up-to-date and based on sound evidence of effectiveness; all of which are appealing notions for practitioners, recipients of care, and providers of health care services. EBP is seen as a means of enabling practitioners to manage large volumes of literature and information about new technologies, enabling administrators to address strategies for burgeoning medical costs, all the while paying attention to the quality and outcomes of medical care (4).

Evidence-based practice relies heavily on the availability of evidence from research for decision making. Dissemination of research results as a method of communicating current evidence, most often through journals, is a passive process with uptake often slow, leading to what some have called a research–practice gap. Proponents of EBP believe that it holds promise for reducing that gap by encouraging clinicians to seek current research results on a regular basis to answer their clinical questions.

Some debate exists around evidence-based versus non-EBP, or trial-based versus non-trial-based practice (12), yet there has been little dispute that including evidence from scientific studies is essential for clinical decision making and improved health outcomes. Indeed, much of the argument seems to focus on the nature of the evidence used for decision making and what constitutes legitimate evidence for various types of decisions (8, 9, 13). Hierarchies of evidence listing systematic reviews of randomized controlled trials as a form of 'gold standard' of evidence do not discuss that these methods typically address interventions, and other research methods, such as qualitative studies, are more likely to address patient or client preferences or feelings about various forms of treatment.

A further assumption is that research evidence will be accessible and available to the practitioner, and that the practitioner will have the skills to interpret it and select the appropriate context for application. This is not always the case in dental hygiene practice, and examples of practice variation have been documented (14–18).

An important philosophical aspect of EBP is its emphasis on placing the information in the public domain for all decision makers, including clients, to access. This is in contrast to traditional assumptions of knowledge being held by the professionals. A culture of EBP suggests that knowledge in the public domain is available for clients to access, enabling them to collaborate to make informed choices.

Evidence-based practice is an approach to practice with enhanced skill sets for practitioners and improved outcomes

for patients and clients. It seems illogical and perhaps unethical to not fully embrace such an approach, yet there have been challenges to its implementation.

Challenges

The National Forum on Health pragmatically pointed out that the best available information is worthless if it is not being used (3). Backer reviewed the knowledge utilization literature to identify four critical challenges to incorporating evidence into practice (1). These challenges include the need for individual and organizational change, resources, a conviction that the innovation will work in their particular setting, and an awareness of the programme or practice. An understanding of the challenges that dental hygiene practitioners may encounter as they try to implement an evidence-based approach to their practice will be critical to selecting strategies for change.

Both the CDHA and ADHA support practice based on current research evidence, yet recent studies show that this is not happening at the individual level in practice. Forrest *et al.* found that practicing hygienists were not well informed about the benefits of fluorides relative to other methods of caries prevention, or did they understand currently accepted theories of the mechanisms of action of fluoride (14). Respondents in their study used methods of application that were not supported by clinical trials. They concluded that, in many cases, practitioners' knowledge was not consistent with current scientific findings, and when knowledge was current, practices were not necessarily consistent with that knowledge. Syme *et al.* studied behaviours of Maryland dental hygienists related to assessment of patients' risk for oral cancer, and found that while the majority probed for present tobacco use, fewer probed for past tobacco use and fewer still probed for present or past alcohol use (15). Those who provided more comprehensive screenings were more likely to feel adequately prepared to provide tobacco cessation education. Horowitz *et al.* found perceptions of a lack of time and lack of expectation on the part of their employer dentists to conduct oral cancer examinations (16). They also found discomfort and uncertainty in techniques for providing comprehensive oral cancer examinations. Forrest and Miller pointed to inconsistency between knowledge and practitioner behaviour with regard to oral cancer screening (11). Clovis *et al.* found inconsistency between knowledge and the application of that knowledge, in the provision of oral cancer examinations, by Canadian dental hygienists in Nova Scotia and British Columbia (17). Murphree and her colleagues found knowledge of elder abuse to be generally poor among Texas dental hygienists, with respondents scoring particularly low on items about mandatory reporting and location of most cases of abuse (18).

Knowledge and practices related to the aetiology and prevention of caries, aetiology and screening for oral cancer, and screening and reporting signs of abuse are central to the practice of dental hygiene, yet these studies demonstrate examples of inconsistency within dental hygiene practice. Could a culture of evidence-based decision making contribute to reducing the variation in practice? What would it take to foster development of such a culture? Particularly in the case of oral cancer, early detection and treatment are associated with better outcomes, so reducing variation in screening practices seems critical for this population. Studies of variation in the provision of periodontal therapies were not located, which is not to say that they may not exist but were not readily identifiable in the dental hygiene literature.

Little data exists to identify the utilization of research evidence in practice beyond that found in studies of information-seeking practices of dental hygienists. In earlier studies, Gravois *et al.* found the main sources of information for practice were discussions with colleagues and 'browsing journals, books, and newsletters', while conducting or having someone else conduct a database search was used infrequently (refs 19, 20; p. 448). Professional development and job-related information retrieval sources were most frequently continuing education (CE) courses, discussions with colleagues and journals. Similarly, Covington and Craig found the most frequently utilized information sources to be discussions with colleagues, journal articles, mailings from professional associations and the licensing body, textbooks and CE courses (21, 22). They also found low usage of computerized information sources. It is important to note that these studies had small sample sizes and geographical limitations.

More recently, Finley-Zarse *et al.* found an increase in the use of computer-based information sources among dental hygienists, including the internet and computer databases (23, 24), possibly consistent with the increase in computer use by the North American population in general. Finley-Zarse compared information sources used by dental hygiene educators with those of practitioners, and found educators most frequently used, in descending order, journals, CE courses, professional meetings, textbooks and asking a dental hygiene colleague, whereas practitioners most frequently used, in descending order, CE courses, journals, asking a dentist, newsletters and asking a dental hygiene colleague. She also found statistically significant differences between educators and practitioners regarding their use of computer-based sources. Using Rogers's diffusion of innovations theory (25), she classified the majority

of educators as early adopters and early majority, and the majority of practitioners as late adopters and laggards, based on their frequency of use of computer-based information seeking behaviours.

Yet to be documented in dental hygiene is the type of research utilization that has occurred. Three types of research utilization have been described in the literature – instrumental, conceptual and symbolic (26–28). Instrumental use is direct action resulting from research findings, conceptual use involves using research for general enlightenment – a more indirect use of research, and symbolic or persuasive (8) use involves using research to justify or support a pre-established position.

Recent studies on incorporation of evidence-based principles in US dental hygiene curricula (29, 30) suggest that dental hygiene educational programmes are incorporating some strategies for learning skills necessary for an EBP approach, but found that many were not taking 'this information to the final step – making recommendations to patients based on current evidence, or applying EB [sic] findings to the clinical setting when making decisions' (ref. 30; p. 65). Instructional strategies used most frequently included evaluation of research findings, library orientation, use of library indices and databases and use of the internet for searches. The most frequently cited barriers to implementing an evidence-based philosophy were lack of faculty skills and time (29). Baccalaureate programmes were more likely to include a research course, made more extensive use of computer-based information sources, and 'placed a greater emphasis on having students transfer the critically appraised evidence into practice' (ref. 30; p. 64). Many respondents identified the need for faculty professional development and time.

A critical question dental hygiene must address is what will we as a field of dental hygiene practice sanction as legitimate evidence? If we consider a somewhat narrow interpretation focusing on systematic reviews of randomized controlled trials and rigid methodological hierarchies, we may find ourselves frustrated by inadequate access to external evidence considered strong enough to make routine practice decisions, and questions remaining that cannot be answered with these methods. The present knowledge base in dental hygiene is underdeveloped, with very little understanding of clinical dental hygiene decision making. Currently, there appears to be much rhetoric about EBP but there remains much work still to be done in Canadian dental hygiene to articulate parameters for evidence.

Backer suggests strategies for knowledge utilization, and one strategy calls for translating what is known into language that is readily acceptable to the user (1). The CDHA and ADHA publish policy statements for practice on an irregular basis, but these documents do not cover all aspects of dental hygiene therapy. Few Cochrane reviews address dental hygiene interventions, and Clovis has pointed out that 'of the literally hundreds of posters and papers presented at Canadian dental hygiene conferences and meetings in the past decade, relatively few seem to achieve publication in peer reviewed journals' (ref. 31; p. 188). She goes on to note that there are so few dental hygienists in Canada working in positions in which time and resources are available for theory and research development that 'knowledge production and dissemination in Canadian dental hygiene is virtually accomplished by extraordinary effort on the part of relatively few committed individuals' (p. 188). Are Canadian dental hygienists adequately prepared by their educational programmes to read research reports critically, and to consider the implications for their practice setting? Can improvements to dental hygiene educational preparation improve knowledge translation in dental hygiene practice? Chichester and others examined curricular content in the US to determine incorporation of EBP principles, and found that some evidence-based concepts and skills are taught to varying degrees in most programmes, and that major barriers included lack of faculty skills and time (29, 30). A similar examination of curriculum in Canada has not yet been carried out.

Finally, Estabrooks has raised the question – is good science enough for good practice? (8) Will EBP, as it has been described by the Evidence Based Medicine Working Group (4) and by Forrest and Miller (11) be enough to improve dental hygiene practice and its outcomes for our patients and clients?

Professionalization

Professionalization refers to the developmental stages through which an organized occupation passes as it develops the traits or attributes that characterize it as a profession. The status conferred by professionalization, and in some cases legislation, privileges a group that possesses specialized knowledge to enable this group to make and monitor its own decisions relative to its practice. Contributions to society by a profession are based on the quality of its knowledge base and the productivity of its community of scholars (32). In Canada, barriers to access to dental hygiene education beyond the diploma level have detrimentally influenced both the knowledge base and the productivity of a developing community of scholars (31–37). Since the 1970s, there have been increasing calls for educators and those in leadership positions to move dental hygiene into the arena of the 'developing professions', and to

move education from the technical realm of skill development to a more comprehensive educational programme with curricular emphasis on acquisition of basic or foundational knowledge (32). Lautar (38, 39), Brownstone (40) and Clovis (31, 33, 34) have written extended characterizations of professionalization process of dental hygiene in Canada.

Lautar used Greenwood's attribute model to characterize dental hygiene as a semi-profession, using a range of basic criteria that include systemic theory, authority, community sanction, ethical codes, and a culture (38, 39). She suggested that professional judgment was based on a synthesis of specialized knowledge and skill of dental hygiene, and saw professional authority arising from the client–professional relationship, despite the lack of complete authority restricted by supervision requirements under existing practice regulations in most parts of Canada. Lautar saw Greenwood's attribute of community sanction limited as well, given that dental hygiene is supervised, and in some cases regulated, by another profession – dentistry. Lautar saw Greenwood's attribute of an ethical code as well developed in dental hygiene with a Code of Ethics since the inception of their formal national organization. The final attribute was that of a professional culture, and Lautar identified that a dental hygiene culture exists, as do opportunities for students to be socialized into that culture. To these attributes, Clovis, working with Pavalko's eight categories or dimensions of professionalization, has added relevance to social values which include science, technology and promotion of quality of life; specialized post-secondary education with a trend towards increasing pre-admission and curriculum requirements; specialization in dental hygiene being high and directly related to the prevention of oral disease; and a strong service orientation (31). Clovis placed these attributes along a profession–non-profession continuum, as suggested by Pavalko, and examined the evidence for the presence of each.

Brownstone, studying the culture of dental hygiene, found that 'participants identified a developing ideology in dental hygiene by way of their descriptions of a changing knowledge base, one that was moving from a technical foundation to research oriented and evidence-based knowledge' (ref. 40; p. 247). Further, she found participants saw the new knowledge 'would be utilized in an advanced process of care that would emphasize a holistic approach to treating clients' (p. 247). She did note as significant that dental hygiene appeared to be a subdivided culture of two types of dental hygienists: professional and technical (p. 267).

Brownstone described dimensions of a 'professional project' of dental hygiene, essentially the work of dental hygiene to advance from an occupation to recognition as a profession. She saw dental hygiene in Canada as relatively young and virtually unstudied. She found that participants in her study 'did not appear to have a clearly defined or consistent notion of what the attainment of professional status for hygienists or the occupation would mean' (p. 258), and that at this time dental hygiene does not seem to have established a market for its services outside of the traditional venue of dentists' practices. She also found that participants saw development of dental hygiene as a 'modern-day' profession, conceptualizing it as something different than the established professions. Her respondents saw dental hygiene in transition, as an 'emerging profession'. Intriguingly, Brownstone noted, 'Professional hygienists were described as those who applied research findings to their practice decisions…' (p. 181), perhaps suggesting that dental hygienists saw a link between professionalization and research utilization.

Assumptions

Dental hygienists have used attribute theory to examine the professionalization of dental hygiene in Canada, suggesting support for its use for this purpose. The analyses of Lautar, Brownstone and Clovis demonstrate considerable progress along the continuum towards the status of a profession. Dental hygiene's success in acquiring many of the attributes of a profession has led to the assumption that the transformation of dental hygiene from an occupation to a profession is occurring, and that full recognition of dental hygiene as a profession will occur with complete attainment of all attributes over time. Dental hygiene in Canada demonstrates a high degree of all traits attributed to professions, as suggested by attribute theory, with most attributes developed and supported within dental hygiene.

Challenges

Despite the significant progress of organized dental hygiene in Canada, the anticipated public recognition as a profession has not become evident. Clovis questions at what point in the acquisition of the desired attributes could dental hygiene expect to be considered a profession (33)? Attribute theory does not adequately answer this question. Clovis has looked to the work of Abbott and a consideration of jurisdiction, the link between a profession and its work. She has suggested 'aspiring professions such as dental hygiene may question whether their knowledge base has the requisite properties and whether it is applied appropriately to the everyday problems of practice'

(p. 103). She concludes that one of the impediments to the achievement of professional status is the underdeveloped articulation of dental hygiene's professional work. Hygienists must also question what impact will acquiring the status of a profession have on the health outcomes of recipients of dental hygiene care?

What are the epistemological assumptions that underlie dental hygiene practice? Dental hygiene could look to more well-developed professions, such as nursing, and examples of their efforts to articulate the knowledge that is used for nursing practice. Carper has looked at four fundamental patterns of knowing in nursing: the empirics or science of nursing; the aesthetics or art of nursing; the component of personal knowledge in nursing; and ethics or the component of moral knowledge in nursing (41). Johnson put forward the opinion that nursing must resolve the issue regarding the nature of nursing science, and whether it is a basic science, an applied science, or a practical science, or whether it consists of all three types of science (42). Johnson and Ratner examined different kinds of nursing knowledge, and how these are used in nursing practice (43). Dental hygiene would do well to pursue similar examination of its knowledge base. Clovis has urged that work should be pursued on knowledge development of dental hygiene as this 'will define even more precisely the professional work of the dental hygienist and distinguish it from that of the dentist' (ref. 33; p. 103).

An important philosophical aspect of professionalization is that its intent is to privilege that body's right to make decisions, placing decision making within the private domain of the professional. This is in contrast to goals for shared decision making between health-care providers and recipients of that care.

The professional dominance of dentistry affects dental hygiene through its influence on legislation and practice regulations, accreditation processes for educational programmes, curriculum committees for dental hygiene educational programmes, and their influence as employers of the majority of dental hygienists in Canada. The professional dominance of dentistry and the underdeveloped knowledge base may both have contributed to the lack of societal recognition of dental hygiene as a profession, despite the high degree of development of traits attributed to a profession.

Discussion

Dental hygiene in Canada has devoted considerable attention and energy to the pursuit of professionalization, and may even be distracted by the professionalization project. Ironically, pursuing a culture of EBP could assist dental hygiene with the redistribution of power through a well-articulated knowledge base and consistent high standards of practice, and could help move the professionalization project forward, but that should not be the main purpose for EBP. Conversely, pursuing professionalization will not facilitate moving dental hygiene towards an evidence-based culture of practice and the desired improvements in health outcomes for those clients and patients we are privileged to serve. No one writing in Canadian dental hygiene today has attempted to answer the question of whether professionalization is enough for good dental hygiene practice, or indeed whether an evidence-based culture of decision making is enough for good dental hygiene practice.

There also needs to be consideration of the distinction between the philosophical notions of the public domain versus the private domain of the knowledge for decision making, and the roles that the EBP movement and the professionalization movement play in defining these domains.

The professional dominance of dentistry may contribute to contextual barriers to implementation of research evidence in dental hygiene practice, and Horowitz *et al.* and Clovis *et al.* found some perceptions of this in their examination of oral cancer prevention and early detection (16, 17). This does not excuse a lack of use of research findings in practice, but may inhibit implementation of change. While acknowledging the inherent influence of professional politics and the sometimes illogical processes of change, it seems highly likely that strong research evidence would be used to support changes to practice within a culture that values EBP. The CDHA has recently released its Dental Hygiene Research Agenda (44) to identify priorities for research to continue building the body of knowledge that underpins the practice of dental hygiene in this country.

Dental hygiene must determine what it will sanction as legitimate evidence. Currently, the literature seems inconsistent. The work of Forrest and Miller advocates a fairly narrow approach of using systematic reviews of randomized controlled trials and individual trials, with a fairly structured hierarchy of evidence based on methods (11). Brownstone's finding that dental hygienists perceived an 'advanced process of care that would emphasize a holistic approach to treating clients' may have implications for a broader conception of evidence for dental hygiene practice (ref. 40; p. 247). Information seeking practices of dental hygienists suggest they choose to access their information from many sources. Articulation of the epistemological assumptions that underlie dental hygiene practice is essential to the process of determining legitimate sources of evidence.

Conclusion

Evidence-based practice uses the best external sources of evidence, coupled with practitioner expertise, patient and client preferences, and contextual knowledge, to provide the best possible care for optimal health outcomes. In a supportive culture, practitioners will have developed the appropriate skills, and will have access to the necessary patient/client and evidentiary information to make and monitor well-informed clinical judgments about diagnosis and interventions. The knowledge base and sources of evidence must be articulated for such a culture to emerge. This work and creation of such a culture are critical for dental hygiene, and long overdue.

Evidence-based practice can serve health needs of clients well; the same argument cannot be made for the professionalization movement. With the exception of an ethical code and specialized knowledge and skills, traits associated with professionalization contribute little to improvement of oral health status for a patient or client. Autonomy or professional authority may facilitate EBP but does not guarantee it. It can be argued that professionalization serves organized dental hygiene more than it serves the patient or client, as its primary emphasis is not about improved health outcomes, and further that it distracts dental hygiene from pursuing necessary work of knowledge production and dissemination.

At this time of increasing emphasis on the health outcomes of all interventions, the development of a culture of EBP should take priority over the professionalization movement. Societal expectations of those who provide health care are that we will 'practice as well as we can with the intent of making it better in some way for the patient or client' (ref. 8; p. 32). To properly serve the oral health needs of the public, it is this author's opinion that there must be a principal focus on the creation and implementation of a culture of evidence-based dental hygiene practice.

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