Which Evidence has an Impact on Dentists' Willingness to Change Their Behavior?

Inger Wårdh, PhD, DDS[1], Susanna Axelsson, PhD, DDS[2], Åke Tegelberg, PhD, DDS[3]

[1]Department of Dental Medicine, Karolinska Institute, Huddinge, Sweden
[2]Swedish Council on Technology Assessment in Health Care, Stockholm, Sweden
[3]Centre for Clinical Research, Uppsala University, Central Hospital, Västerås, Sweden, Faculty of Odontology, Malmö University, Malmö, Sweden

There is some literature on how to find the best evidence for clinical practice but little is known about which evidence clinicians actually seek when they look for scientific support in changing behavior. The aim of this study was to explore which evidence has an impact on dentists' willingness to change their behavior by investigating the requirements for seeking and understanding new knowledge, as well as perceived barriers or motives for doing this.

A postal questionnaire was analyzed according to demographic information, access to and use of a personal computer, postgraduate education activity, knowledge about evidence-based medicine and scientific terms, and seeking and grasping new and actual knowledge from 177 dentists. Fifteen of these dentists formed 3 focus groups that were interviewed about the areas in the questionnaire. First-order information, that was required in a short time, was sought by the nearest colleagues. Literature and Internet-based technology were second-order information, mainly sought by younger dentists. The people that were interviewed claimed that the real point of issue was to find new knowledge that could be transferred into practice. Many studies pointing to sometimes diverging results only seem to create confused professionals. To include some qualitative aspects in evidence-based reports could be a way of improving understanding and changing behavior in a favorable direction and perhaps also increase interest for new knowledge.

Keywords: Behavior, Evidence, Knowledge, Qualitative Methodology, Questionnaire.

INTRODUCTION

How do you seek new knowledge in your dental profession and what are the chances that you change your behavior according to new data or evidence? If you, like most dental professionals,[1] want to be familiar with the latest in science or evidence to give your patients good (reliable) treatments, how do you find it? And then, what will you do with it? Being up to date with the latest regarding the most common diagnoses in daily practice is different from seeking support for the treatment of a rare affliction. There is some literature on where to find and how to find the best evidence for clinical practice.[2-4] It is (usually) recommended to start your search in one of the databases with already critically assessed information, such as the Cochrane Library.[5,6] The first information source you will be looking for would

Corresponding author: Inger Wårdh, Institute of Odontology, Karolinska Institutet, Box 4064, SE-141 04 Huddinge, Sweden, Business: +46 8 524 882 26; E-mail: inger.wardh@ki.se.
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be a systematic review, ie, compiled and synthesized information from relevant primary studies. In broad databases for medical literature, such as PubMed, there could be a lot of irrelevant and invalid data. There are certain journals that bring together "secondary" information on relevant topics. Clinically useful papers from other journals are here critically assessed and commented on. One example is the journal *Evidence-based Dentistry*, which began publishing in 1998.[7]

Little is known about what clinicians actually do when they look for scientific support in changing behavior. Which is the most appropriate way of gaining new and relevant professional knowledge to be translated into practice? Will dentists or groups of dentists, as well as other professionals, seek other ways for information and knowledge? A quantitatively oriented scientist would probably prefer looking at valued randomized clinical trials (RCT), but for clinicians other sources may be as well or even more attractive. To answer these questions we performed a study with both quantitative and qualitative data collections, to grasp several perspectives of the phenomenon.

The aim was to explore which evidence has an impact on dentists' willingness to change their behavior by investigating the requirements for seeking and understanding new knowledge, as well as their perceived barriers or motives for doing this.

MATERIAL AND METHODS

The study consisted of 2 parts: a quantitative analysis performed through a postal questionnaire to all 177 dentists with more than 50% of full-time employment in a local area, the county of Västmanland, Sweden. Västmanland is a county situated in the middle of Sweden with about 250,000 inhabitants and a mixture of urban and rural areas. It is often considered to be representative of Sweden as a whole owing to comparable values in, eg, age distribution, ethnicity, and various socioeconomic factors.[8]

The participants were 154 general practicing dentists (GPD) and 23 senior consultants (SC) with competence in one of the approved dental specialities in Sweden (none with a PhD degree). The response rate was 85%. A nonrespondent analysis was not performed.

The questionnaire was validated by testing it among 6 experienced dentists from another county and not active in responding to the questionnaire in the actual study. They assessed the relevance against the aim of the study and understanding of each question and offered useful suggestions for the final questionnaire. The questionnaire comprised 39 questions or statements concerning 5 areas:

- Demographic information (gender, the number of years in the profession, type of employment)
- Access to and use of a personal computer
- Postgraduate education activity
- Knowledge about evidence-based medicine and scientific terms
- Seeking and implementing new and actual knowledge

The questions had a character of multiple choice answers or were answered by marking on a 100-mm line with predetermined anchor definitions. See Appendix A.

When the results of the questionnaire were analyzed, a request about their interest in participating in a focus group interview[9] was sent to the respondents. From those who accepted this request a strategic sample was made to compose 3 groups, each with 5 dental professionals with different backgrounds of knowledge and experiences. A strategic sample is the preferred sampling in qualitative research and is suited to obtain as rich information as possible. Besides having different professional experiences, our focus group members were of different genders and ages and worked in different parts of the studied county.

The interviews were performed during the evening in a neutral place in the hospital area. They started with an introduction where the participants were able to ask about the study aim, secrecy, publication, and other relevant topics according to previously received written information. Each group interview lasted approximately 1 to 2 hours and was led by a moderator (one of the authors; I.W.), who created an environment in which the participants felt encouraged to engage and express their views. The interview data were collected with help from an interview guide, consisting of the same 5 areas as the questionnaire. Apart from the moderator, a note taker was present to observe nonverbal interactions and to enable fuller analysis of the data (another author; Å.T.). All data were tape recorded and verbally transcribed by a trained secretary. At the end of each focus group interview, a summary of the interview was presented to the participants and opportunity was given to add important aspects.

STATISTICS AND ANALYSIS

Descriptive statistics were used to describe the quantitative data. Chi-squared and Fischer's exact tests were used for nonparametric data and for parametric data Student t test, analysis of variance (ANOVA), Wilcoxon rank sum test, and Mann Whitney U test were used to test for significance with P less than .05 as a marginal value. The statistical software SPSS, version 13.0, was used for the analyses.

The qualitative analysis of the transcribed focus group interviews was inspired by the method of Grounded Theory,[10] which consists of 3 parts:

1. Open coding where data are verbally read through and concepts are identified and compared. Similar concepts are gouped together in more abstract categories.
2. Axial coding, where each category is developed and described.
3. Selective coding where the core category is identified.