Evidence Based Dentistry

Implementing evidence-based teaching / thinking

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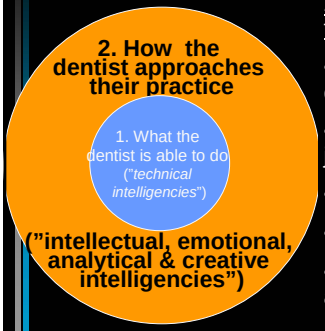
Education of health care providers - a three-circle model*

1. "Practical skills":

- Clinical information gathering
- Treatment planning
- Treatment procedures

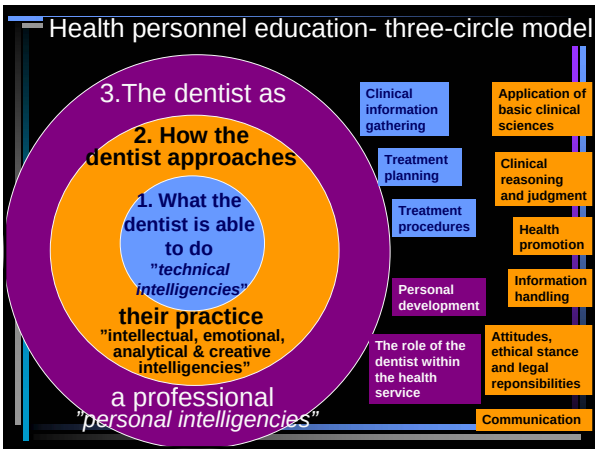
*RM Harden, 1999

Health personnel education- three-circle model



2. "What they bring to the treatment of each patient"

- Application of basic clinical sciences
- Clinical reasoning and judgment
- Communication
- Health promotion
- Attitudes, ethical stance and legal responsibilities
- Information handling



However…
Our responsibilities as educators is also to generate an ambition of life long learning and prepare them accordingly

Do we today prepare our future colleagues to change behavior, attitude and methods in the lights of new knowledge?

How quickly do dentists change in accordance with new research?

Impacted wisdom teeth?

TMD management?

Restoration replacement needs?

Caries and remineralization potential

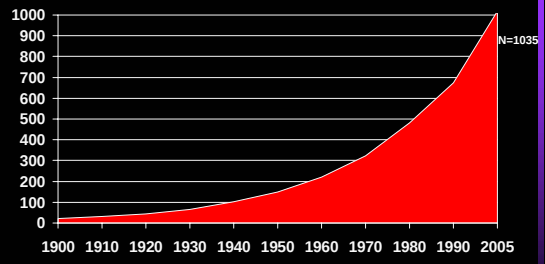
....

Science transfer to dentists seems to be ineffective

Science transfer to dentists seems ineffective ..is the problem that...

...research is difficult to access?

Dental Journals in circulation



700 active
200 ceased
100 merged

Source: Ulrich's International Periodicals Directory

Science transfer to dentists seems ineffective ..is the problem that...

....research is difficult to access ...or understand?

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Effect of selected literature on dentists' decisions to remove asymptomatic, impacted lower third molars

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van der Sanden WJM, Mettes DG, Plasschaert AJM, Grol RPGM, van't Hof MA, Knutsson K, Verdonschot EH. Effect of selected literature on dentists' decisions to remove asymptomatic, impacted lower third molars. Eur J Oral Sci 2002; 110: 2–7.
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The aim of this study was to assess the effect of studying selected literature on dentists' decisions to remove asymptomatic, impacted lower third molars. A pre-test–post-test control group design was used. Given 36 patient cases, two groups of 16 general dental practitioners each were asked to assess the need for removal of asymptomatic impacted lower third molars. The cases were classified by three parameters: 'position of the third molar', 'impaction type', and 'patient age'. After studying selected literature on this subject by the intervention group, both groups were asked to assess the same cases again. Frequencies of decisions to remove the third molars were calculated. For each participant, tables were composed by crosstabulating the indication to remove a third molar with each of the three parameters. *T*-tests were used to test the significance of the difference between pre-test and post-test decisions. The overall number of indications to remove asymptomatic, impacted lower third molars decreased by 37% in the intervention group. In the control group, the difference between pre- and post-test was not statistically significant. It was concluded that the provision of selected literature significantly influences treatment decision making by dentists in a third molar decision task.

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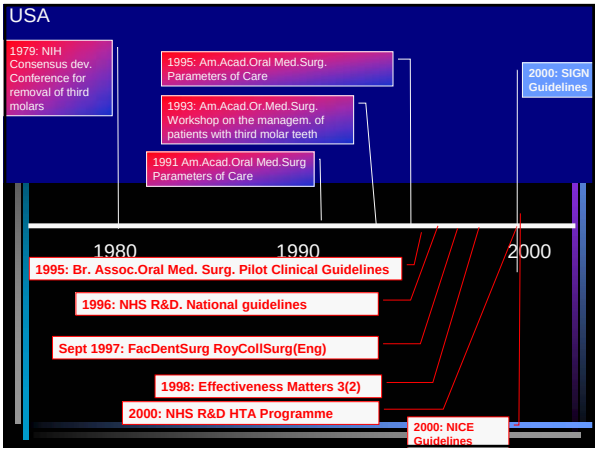
Key words: decision making, third mola... quality of care
Accepted for publication November 20...

Science transfer to dentists seems ineffective ..is the problem that...

..research is difficult to access ... or understand?

But what about clinical guidelines?



..is the problem that...

....research is difficult to access

...or understand?

...what about clinical guidelines?

Are the existing guidelines bad or inappropriate?

.... yes and no

..is the problem that...

....research is difficult to access or understand ?
... clinical guidelines ..are they bad or inappropriate?

Are the practicing dental professionals non-receptive?

.... if so, who is responsible?
....and can something be done?

1. A fundament for life long learning is to possess skills in critical appraisal
2. Critical appraisal of research must be an integral component of student training
3. Curriculums should progress from being PBL- to become EBD-based

All dental students should conduct at least one systematic review according to a PICO question because...

... conduct at least one systematic review because...

The student will

1. Identify differences in conclusions of studies and possibly grasp why

... conduct at least one systematic review because...

The student will

1. Identify differences in conclusions of studies and possibly grasp why
2. Recognize the state of current oral health research

... conduct at least one systematic review because...

The student will

1. Identify differences in conclusions of studies and possibly grasp why
2. Recognize the state of current oral health research
3. Identify opportunities for research

... conduct at least one systematic review because...

The student will

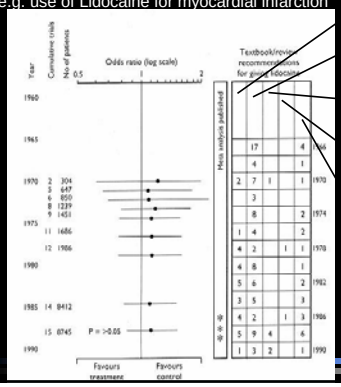
1. Identify differences in conclusions of studies and possibly grasp why
2. Recognize the state of current oral health research
3. Identify opportunities for research
4. Train to recognize potential bias caused by poorly executed research or due to inadequate reporting

From research to practice -

Steps	Obstacles
Creating evidence	
Basic science research	Paucity of clinical trials
RCTs	Underfunding of research
Observational studies	Lack of trained clinical investigators
Summarizing evidence	Frequency of small underpowered studies
EPCs	Heterogeneity of studies
Published meta-analyses	Inconsistency between meta-analyses and large RCTs
Cochrane collaborators	Lack of awareness of existing efforts
Others	Access to evidence
Disseminating evidence	Information overload
Clinical practice guidelines	Format not helpful
Continuing medical education	Labor-intensive
Publications	Expensive
Cochrane database	Waning effectiveness
Implementing evidence	
Clinical pathways	
Computer decision support systems	
Automated MEDLINE searches	
Academic detailing	
Audit and feedback	

EPCs, Evidence-based practice centers
RCTs, randomized controlled trials

Time lag in textbook/review recommendations - e.g. use of Lidocaine for myocardial infarction



- Should be used routinely
- Used only in selected patients
- Should never or rarely be used
- Considered as experimental treatment
- Not mentioned

Antman et al., JAMA 1992.

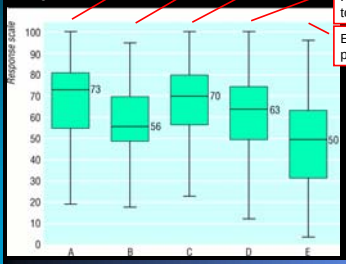
Barriers to implementation of EBM

Perceived barrier	No of responses
Lack of personal time	171
Context of primary care:	62
Personal and organisational inertia	35
Morale in general practice	6
Lack of investment by health authorities and trusts	4
Difficulties in involving whole practice	5
No financial gain in using evidence based medicine	8
Closed lists	4
The evidence itself:	59
Lack of hard evidence	20
Evidence not related to context of primary care	16
Too much evidence	9
Availability and access to information	14
Attitudes of patients:	44
Patients' expectations	23
Patients demanding ineffective treatment	11
The need for lengthy discussions with patients	6
An ignorant media	4
General practitioners themselves:	35
Attitudes of colleagues	29
Lack of critical appraisal skills	2
Evidence based medicine seen as threat	4
Others	3

*Only 80% of the 302 respondents answered these questions. Respondents gave more than one answer

Attitudes versus EBM - physicians

100=positive
0=negative

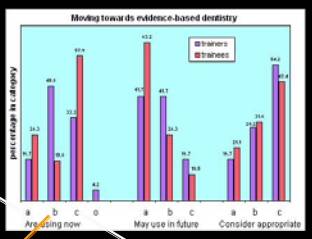


- Welcoming attitude towards current promotion of ebm
- Perceived welcoming attitude of colleagues towards ebm
- Agreement to practising ebm improve patient care
- Perceived usefulness of ebm in day to day management of patients
- Estimated percentage of clinical practice that is evidence based

McColl et al., BMJ 1998

Moving from opinion-based to evidence-based dental practice. Which route is the most appropriate?

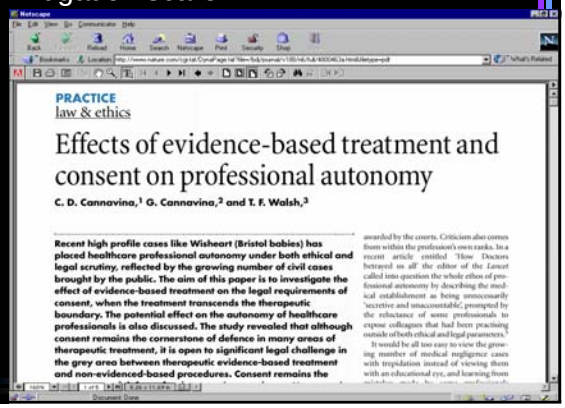
a: learning the skills of evidence-based healthcare (i.e. identify and appraise the primary literature or systematic reviews oneself)



b: seeking and applying evidence-based summaries which give the clinical 'bottom line'

c: using evidence-based practice guidelines or protocols developed by colleagues for use by others.

Litigation scare?

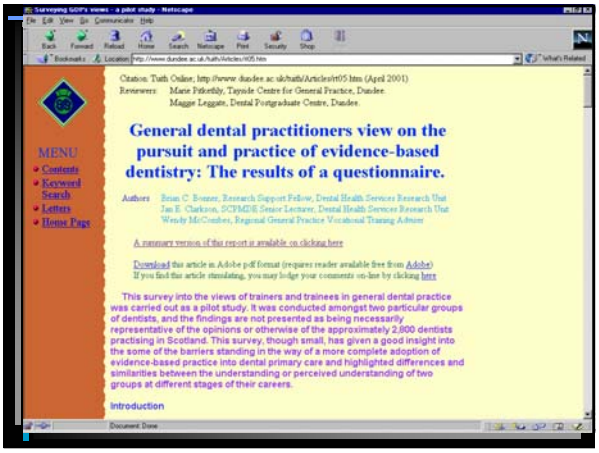


PRACTICE
law & ethics

Effects of evidence-based treatment and consent on professional autonomy

C. D. Cannavina,[1] G. Cannavina,[2] and T. F. Walsh,[3]

Recent high profile cases like Wisheart (Bristol babies) has placed healthcare professional autonomy under both ethical and legal scrutiny, reflected by the growing number of civil cases brought by the public. The aim of this paper is to investigate the effect of evidence-based treatment on the legal requirements of consent, when the treatment transcends the therapeutic boundary. The potential effect on the autonomy of healthcare professionals is also discussed. The study revealed that although consent remains the cornerstone of defence in many areas of therapeutic treatment, it is open to significant legal challenge in the grey area between therapeutic evidence-based treatment and non-evidenced-based procedures. Consent remains the



Citation: Turth Online; http://www.dundee.ac.uk/turth/Articles/rt05.htm (April 2001)
Reviewers: Marie Pitkethly, Tayside Centre for General Practice, Dundee.
Maggie Leggate, Dental Postgraduate Centre, Dundee.

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General dental practitioners view on the pursuit and practice of evidence-based dentistry: The results of a questionnaire.

Authors: Brian C. Bonner, Research Support Fellow, Dental Health Services Research Unit
Jan E. Clarkson, SCPMDE Senior Lecturer, Dental Health Services Research Unit
Wendy McCombes, Regional General Practice Vocational Training Advisor

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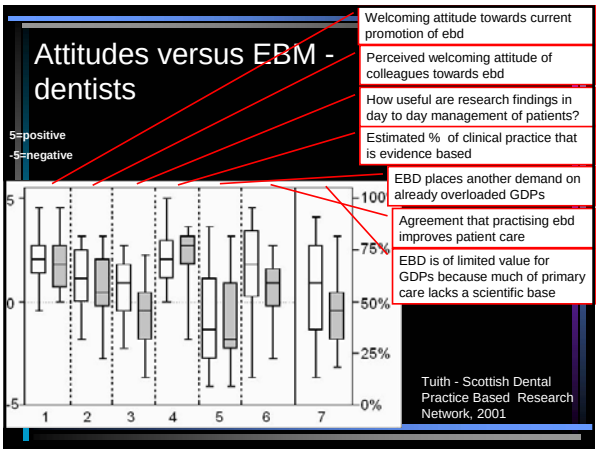
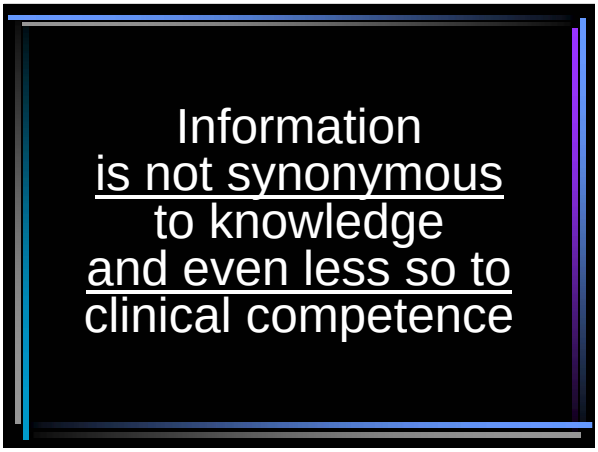
This survey into the views of trainers and trainees in general dental practice was carried out as a pilot study. It was conducted amongst two particular groups of dentists, and the findings are not presented as being necessarily representative of the opinions or otherwise of the approximately 2,800 dentists practising in Scotland. This survey, though small, has given a good insight into the some of the barriers standing in the way of a more complete adoption of evidence-based practice into dental primary care and highlighted differences and similarities between the understanding or perceived understanding of two groups at different stages of their careers.

Introduction


Attitudes versus EBM - dentists
5=positive
-5=negative
Welcoming attitude towards current promotion of ebd
Perceived welcoming attitude of colleagues towards ebd
How useful are research findings in day to day management of patients?
Estimated % of clinical practice that is evidence based
EBD places another demand on already overloaded GDPs
Agreement that practising ebd improves patient care
EBD is of limited value for GDPs because much of primary care lacks a scientific base
5
0
-5
1
2
3
4
5
6
7
100
75%
50%
25%
0%
Tuith - Scottish Dental Practice Based Research Network, 2001


Information
is not synonymous
to knowledge
and even less so to
clinical competence