Evidence-based prosthodontics

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"Then It Went Condo": Perception of truth may be based on something besides research

"It subdivided": Perception of truth, once analyzed in detail, may not hold up

"The Climate Changed": Perception of truth can change as the profession changes

"The Relatives Moved in - truth, relative truth and damn lies"

We Were in the Neighborhood of Truth...

1. "Then It Went Condo": Perception of truth may be based on something besides research
2. "It subdivided": Perception of truth, once analyzed in detail, may not hold up
3. "The Climate Changed": Perception of truth can change as the profession changes
4. "The Relatives Moved in - truth, relative truth and damn lies"

HARD FACTS
DANGEROUS HALF-TRUTHS & TOTAL NONSENSE
PROFITING FROM EVIDENCE-BASED MANAGEMENT

Jeffrey Pfeffer
Robert I. Sutton
1. "Then It Went Condo": ... based on something beside research
2. "It subdivided": ... may not hold up detailed scrutiny
3. "The Climate Changed": ... change as the profession changes
4. "The Relatives Moved in - truth, relative truth and damn lies"
5. *Have we ever been in the neighborhood of truth?* Who says so and how can they say?

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**We Were in the Neighborhood of Truth...**

Have we ever been in the neighborhood of truth? Who says so? How can they say?!!

1. A reflection of the three basic questions posed in Philosophy:
   1. What is there? (ontology)
   2. How do we know? (epistemology)
   3. Why should I? (ethical decisions)
1. What is there in prosthodontics? (ontology)
2. How do we know? (epistemology)
3. Why should I? (ethical treatment decisions)

Why do the theories and practices taught in different school undergraduate & prosthodontic graduate programs differ so much?

Scientific studies can be graded according to the theoretical possibility of an incorrect conclusion.

This is reflected by the design of the study.

...we will never know exact answers in science....

Appropriate Study Designs to address implementation of interventions

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<td>Process of intervention: How does it work?</td>
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<td>Safety: Does it matter?</td>
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<td>Acceptability: Will the patient accept the intervention?</td>
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"Doubt is not a pleasant condition, but certainty is an absurd one"

Voltaire (1694-1778)
Evidence-based Practice

Recognition of need of evidence

Search for Evidence

Make Sense of Evidence

Act on Evidence

Primary research papers

Generating evidence from research

Synthesising the evidence

Making clinical decisions

How many in the audience here can comfortably state that they were adequately trained to critically appraise primary research papers?

The new graduate

Publication in prosthetics

Demonstrator

"Curriculum"

"The Classic literature"

Advertising

- producers

- colleagues

Head/ Staff

filtered

Truth

Relativ

Damn

Cookbook

dentistry?

Decisions Making in Dental Treatment Planning

Publication in Dentistry

Source: Ulrich's International Periodicals Directory
The Information Overload

Dental 'science'
25 000 articles/yr

Meetings/courses

Colleagues

WWW

Patients & (-groups)

Popular magazines & Media

- Advertising
- producers
- colleagues

Dental literature

Influences on treatment decisions

Dental Practice

Resources

The last patient

Experience

Evidence

Payment systems

Litigation

Education

Audit

Because of the volume and time constraint....

Perhaps we can stick to read only review papers?
Secondary research papers

- Generating evidence from research
- Synthesising the evidence

- Aproach to reliability, validity, and results
- Making clinical decisions

Modified from Haynes et al.
BMJ 1996;317:273-6

Reviews in Dentistry (n=12,367) (2007: 191)

(Source: Medline. OVID search strategy: review.pt + exp dentistry)

Reviews - problems

- Usually:
  - written by a single topic expert
  - based on their understanding of the literature
  - no methodology is given
  - a broad based subject is addressed
  - the conclusions and advises differ
Example: Are splints an efficacious intervention for patients with TMD?

The use of occlusal splints may be of some benefit for the treatment of TMD.

Oral splints: the crutches for temporomandibular disorders and headaches?

The true efficacy for oral splints remains unsettled.
SRs can show:

A review being published in a highly reputable journal does not necessarily mean it can’t be biased

Therefore, the reviews should be "Systematic"
"Systematic" review?

Is just a word!

Learn how to recognize one...

How many in the audience here can comfortably state that they were adequately trained to critically appraise secondary research papers?
Information is not synonymous to knowledge and even less so to clinical competence

How quickly do dentists adopt to new research information?
Impacted wisdom teeth?
TMD management?
Need for restoration replacement?
Caries and remineralization potential

Why does the science transfer to dentists seem to be ineffective?
"...studies ....appear to motivate a more restrictive approach today compared with 10 years ago"
Even if we have new research

1. This is not necessarily known amongst the dental clinical practitioners

2. Do educators ensure that they adequately prepare our future health professionals to change behavior, attitude and techniques rapidly in light of new knowledge?
Are dentists worse or better than other health professions?

The Cochrane Collaboration

- 1972: 1st trial
- 1972-1987: +6 trials
- 1989: 1st SR

From 1992

Cumulative meta-analysis of RCTs
“Guerir quelquefois, soulager souvent, consoler toujours”

“Cure occasionally, relieve often, console always”

Even if we have new research

1. This is not necessarily known amongst the dental clinical practitioners
2. Have our educators adequately prepared students to change …. in light of new knowledge?
3. Who’s responsibility should it be to disseminate (new) research results that impacts directly on patient care?
Who should be responsible?:
The state of research on oral implants

Thank you for your kind attention

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