

Fourteen years later!

“Evidence-based dentistry must prevail. Personal testimonials and endorsements by self-appointed experts in the absence of scientific evidence are simply unethical and unacceptable.”⁶ Not much has changed since I wrote an invited Perspectives in 2002.⁶ Today, I still sit in lectures during which a dental material is recommended based on the “it works for me” philosophy, the same as 14 years ago. In online discussion groups and at popular sites, the predominant reason dentists give for using a specific composite resin or dental adhesive is the testimonial of very important dentists or opinion leaders. Gorgeous clinical cases with beautiful immediate results, but without any reference to the materials’ performance and retention after a few months of clinical use, are presented as the highest level of evidence for the excellent clinical behavior of the materials. Clinical techniques are being taught and advertised, but not backed with clinical evidence.

Speaking of clinical evidence, is there any controlled clinical study which shows that the use of flowable composite resins underneath regular-viscosity composite resins improves the clinical outcome of the restoration? Not to my knowledge. Among several clinical trials, I would highlight one that reported results at 7 years.¹¹ Is there any clinical evidence that self-etching adhesives cause less postoperative sensitivity than etch-and-rinse adhesives? Not to my knowledge. I would recommend two sources, a critical appraisal⁷ and an excellent systematic review.⁸ What about bonded amalgam restorations, is their use justified? Bonded amalgam restorations are still taught in several dental schools in spite of the existing clinical evidence that the technique may be a waste of time and resources, as the clinical behavior of bonded amalgam restorations is similar to that of conventional amalgam restorations.^{2,3}

I could go on and on, but we would need at least three pages to list and challenge all the current clinical procedures that are not backed by clinical evidence, including the use of glutaraldehyde-based desensitizers underneath restorations to prevent postoperative sensitivity, the use of antibacterial cleansers prior to the bonding procedure, sealing crown preparations with adhesives prior to temporizing, etc. Although information on evidence-based dentistry has become accessible to all clinicians,^{1,4} the immediate clinical result is still what seems to matter for most opinion leaders. I have always wondered if cardiologists only show the immediate results of valve replacements in their meetings as examples of clinical success.

Conflict of interest is another problem that deserves some reflection. While it is widespread in non-peer-reviewed magazines, it is less common but still present in peer-reviewed scientific journals.⁹ According to the International Committee of Medical Journal Editors, “financial relationships (such as employment, consultancies, stock ownership or options, honoraria, patents, and paid expert testimony) are the most easily identifiable conflicts of interest and the most likely to undermine the credibility of the journal, the authors, and of science itself.”⁵ Transparency and objectivity are essential in scientific research and the peer review process.⁵

This conflict of interest issue reminds me of a paper published in the *New England Journal of Medicine* in 1998, in which the authors explored the controversy behind physicians’ financial relationships with the pharmaceutical industry, as such relationships might pose a conflict of interest.¹⁰ The research problem was “it is unknown to what extent industry support of medical education and research influences the opinions and behavior of clinicians and researchers. The recent debate over the safety of calcium-channel antagonists provided an opportunity to examine the effect of financial conflicts of interest.” The authors selected articles examining the controversy regarding the safety of calcium-channel antagonists from March 1995 through September 1996. The findings of this study were rather alarming. While 30 articles were in favor of using the drug, 17 were neutral, and 23 were against the use of the drug. Authors who supported the use of calcium-channel antagonists were significantly more likely than neutral or critical authors to have financial relationships with manufacturers of calcium-channel antagonists (96%, 60%, and 37%, respectively). Supportive authors were also more likely than neutral or critical authors to have financial relationships with any pharmaceutical manufacturer (100%, 67%, and 43%, respectively).

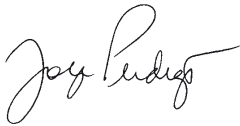
I do not see any problem with lecturers being sponsored by the dental industry as long as the conflict of interest is fully disclosed. We, the lecturers, ought to disclose the sources of recent research funding, consulting, and lecture honoraria. And in case the honorarium for a lecture is supported by the dental industry, we should write it clearly on the lecture’s first slide and verbally inform all participants at the beginning of the lecture. Fully disclosing any conflict of interest is also a sign of respect for those who pay to attend the lecture. Unfortunately, the disclosure by lecturers or by authors of clinical opinion articles that they are being spon-

sored to deliver the lecture or to write the article (including ghostwriting) is not as frequent as one would expect.

What if a renowned dental journal published a paper reporting a clinical trial in which desensitizers in bleaching gels are compared regarding the incidence of sensitivity, without any conflict of interest disclosure? That would be acceptable if no conflict exists. Let's now imagine that, besides being a consultant and mentor for the manufacturer of the whitening agent that shows the best results in the paper, the senior author only includes one brand of whitening agents in his/her lectures, coincidentally the same brand that has the lowest sensitivity in the same clinical trial. Would this be ethically acceptable? What scientific value would the findings reported in this manuscript have? Probably none at all!

Unfortunately, this is not a hypothetical situation. The paper was published in 2016. My friends, we still have a long way to go.

Thank you for reading.



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