

20 years – 20 highlights

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Editor

As I prepare to step down as Editor after 20 years with the journal it was suggested that I might like to select twenty topics we have summarised that I felt were important. Given that new evidence is emerging all the time and that some Cochrane reviews have had two or three updates since the journal started this was a bit of a challenge. As it is also a very personal choice, it comes with my personal biases, so be warned.

So, moving through roughly in chronological order, my first choice is the review of the prophylactic extraction of third molar teeth by Song *et al.*¹ and summarised in our first issue by Jonathan Shepherd.² This review helped inform the NICE guidance on third molars (<https://www.nice.org.uk/guidance/ta1>) and at present an announcement is awaited as to whether an update will go ahead.

The next selection was the York review of water fluoridation.³ This was an extensive and unique review in that it was overseen by a steering group involving both pro- and anti-fluoridation supporters including your editor. Given the size and importance of the review a number of the separate questions addressed by the review were summarised in EBD volume three, issue two.

Next was another review conducted with the Centre for Reviews and Dissemination at York and a team from Cardiff Dental School that looked at the longevity of dental restorations⁴ summarised by Asbjorn Jokstad for EBD.⁵ While the review provided data on longevity for a number of dental materials there were few comparisons between materials and call for better research and an increase of research in general practice settings.

The next selection is the first publication of the Cochrane review on powered versus manual toothbrushes⁶ summarised by Rick Niederman.⁷ This was published by Cochrane to coincide with an evidence-based dental meeting in Boston, and received a significant amount of media coverage with different interpretations of published evidence on whether powered or manual brushes performed better.

Subsequent updates of the review are now clearer that powered toothbrushes reduce plaque and gingivitis more than manual toothbrushing in the short and long term.

The next two selections are summaries by Hannu Hausen^{8,9} of just two of the Cochrane reviews undertaken by Valeria Marinho on topical fluorides.^{10,11} This series of reviews was very helpful in clarifying the effect size of a range of topical fluoride interventions. My next pick is a summary by Sergio Uribe¹² of the Cochrane review of pit and fissure sealants.¹³ This Cochrane review provided evidence of the effectiveness of sealants, with the most recent update of the review demonstrating caries reductions in occlusal surfaces of between 11-51% at two years, an effective preventive intervention.

Jim Bader's summary¹⁴ of the NICE guideline on dental recall¹⁵ is my next selection. The key recommendation of the guidance was a move away from fixed six-monthly recall intervals to a variable risk-based interval for both children and adults. While there has been some change within the profession this still seen by some as controversial and later this year the results of a UK based trial will be available which will add another contribution to the debate.

Orthodontic retention regimes are also a topic of much debate and Chung How Kau¹⁶ summarised the Cochrane review by Littlewood *et al.*¹⁷ that looked into the evidence for this which at the time found insufficient data. The review was updated in 2016 and while more evidence was included in the review there is still not enough high quality evidence to make recommendations.

The next selection is the only randomised controlled trial on the list. It is a large trial of the Hall technique for restoring primary molars¹⁸ summarised by Aronita Rosenblatt.¹⁹ A simple and effective approach for managing carious molars that has been supported by several other trials and is now considered as one of a number of biological options for managing carious primary molars.

In 2008 Toru Naito²⁰ summarised a Cochrane review addressing the issue of

whether single or multiple visits were the best approach for root canal treatment in permanent teeth,²¹ a topic of some debate. However, the review found no evidence of a difference in effectiveness between the two approaches, with the latest update to the review also finding no apparent difference.

Now an orthodontic paper; for many years the early extraction of primary canines had been recommended to facilitate the eruption of the palatal ectopic permanent canines. Carlos Flores-Mir summarises²² a 2009 Cochrane review²³ which found no evidence to support this and there is now a new expanded Cochrane protocol in development.

Toothpastes of difference concentrations is my next selection. This I believe was the Cochrane Oral Health Group's first published network meta-analysis.²⁴ Published in 2010 and summarised by Graciella Racines²⁵ it confirms the benefits of using fluoridated toothpaste to prevent caries and provides information on the relative effects of the different concentrations of fluoride.

Debra Ferraiolo and Analia Veitz-Keenan²⁶ summarised my next pick, a Cochrane review that compares paracetamol and ibuprofen for pain relief following third molar removal,²⁷ finding high quality evidence to show that ibuprofen was superior to paracetamol. Sugar consumption is an important risk factor for caries and Ruth Freeman summarised²⁸ the systematic review by Paula Moynihan²⁹ that underpinned the 2015 WHO guidance on sugar intake.

Periodontal disease remains a significant public health problem and Shalini and Neeraj Gugnani³⁰ examined a Cochrane review on whether interdental brushing in addition to toothbrushing compared with toothbrushing alone was better for periodontal health with the review finding low quality evidence of a benefit.³¹

Three authors, Caitlin Stone, Andrew Hannah and Nathan Nagar³² summarised my next pick, a review of the long-implicated link between occlusion and

temporomandibular disease (TMD). The Manfredini review³³ summarised found very little clinically relevant evidence supporting an occlusal cause for TMD.

Another summary by Debra Ferraiolo and Analia Veitz-Keenan³⁴ looked at a Cochrane review comparing surgical versus non-surgical approaches for endodontic re-treatment,³⁵ another area where there are differing views on the best approach. The review found evidence that surgical approaches lead to better outcomes, but the available evidence was of low quality.

A number of studies have suggested links between periodontal disease and a range of medical conditions. One of these, adverse birth outcomes in pregnant women, was assessed in a 2017 Cochrane review³⁶ summarised by Silvia Spivakovsky,³⁷ It found it was unclear if periodontal treatment during pregnancy has an impact on preterm birth (low-quality evidence). However, there was low-quality evidence that periodontal treatment may reduce low birth weight (< 2500 g).

My last selection is a summary by Parthasarathy Madurantakam³⁸ of another Cochrane review which looks at the question of whether open or closed surgical exposure of palatally displaced crowns had the best outcomes,³⁹ again a topic where there are different views. The review found no evidence to suggest that one approach was better, but the available evidence was of low-quality.⁴⁰

Most of studies I have picked have been Cochrane reviews, and the development of the Cochrane Oral Health Group and the number of reviews have to me been one of the important drivers of Evidence-based Dentistry over the past 20 years. Over that period, we have also seen significant growth in the number of non-Cochrane systematic reviews conducted. This together with increased teaching of evidence-based dentistry at under- and post-graduate level has helped its development. However, there is still much to do to develop dentistry's evidence-base, and many of the reviews we are doing are highlighting the need to improve the quality of our primary research. We need to rapidly adopt and implement the best research practices. There is plenty of guidance out there in resources such as the EQUATOR Network <http://www.equator-network.org/>. We also need to build on the work that some dental groups are

doing with Common Outcome sets (<http://www.comet-initiative.org/>). Using common outcome sets helps compare outcomes in similar studies and assists systematic reviewers to aggregate data which should help us to build a more robust evidence base answering important questions more quickly.

As the volume of published research continues to grow, I feel there will be more than enough for my successor to digest and summarise. So, as I sign off as Editor I wish my successor all the very best in keeping you all abreast of the latest and best evidence offerings in dentistry.

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Evidence-based Dentistry Journal appoints new editor

Professor Elizabeth Kay has been appointed as the new editor of *Evidence-Based Dentistry (EBD)*, a BDJ Portfolio journal.

Kay, who qualified from Edinburgh Dental School in 1982, has a long and distinguished career in dental public health and dental research and is a long-standing member of the BDJ Editorial Board. She is the author of 200 research and professional papers, six books and two book chapters, and has previously been Scientific Advisor to the BDA.

In 2017 Kay was awarded an MBE in recognition of her services to dental education and is currently the Foundation Dean at the Peninsula Dental School at Plymouth University and Faculty Associate Dean for Equality and Inclusion. She will take over the position from the current editor with the June 2019 issue.

'I'm really excited about the new post and to have the privilege of working with some excellent people,' said Kay.

'I have spent quite a long career trying to do research and translate it so that it's relevant to practitioners who are delivering good dental care to the population.

'I've been a great proponent of evidence-based practice and the evidence base being used properly ever since I did my PhD. I've been very involved with NICE [National Institute for Health and Care Excellence] so I'm very used to reviewing and trying to pull together complex and complicated and sometimes conflicting evidence and that's a real role for the journal of Evidence-Based Dentistry.'

Stephen Hancocks, Editor-in-Chief of the BDJ welcomed the appointment, saying: 'Liz is a great fit as the next editor of EBD and I am delighted that she will be working with us to make even more of the journal based on its strong foundation and robust reputation.'



Professor Liz Kay

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