

Did evidence-based approaches die during the pandemic?

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Once upon a time, there was a world where research would take years. From inception through to mainstream adoption, perhaps anything between 15 to 25 years would need to go into creating an evidence base big enough to ensure what researchers were producing was the equivalent of dining out at a Michelin star restaurant.

And then SARS-CoV-2 happened, and the kitchen evidence-based medicine (EBM) used to cook in was turned on its head.

Listening to Professor Simon Carley ask whether COVID-19 killed evidence-based medicine at the recent British Orthodontic Conference was as thought-provoking as it was distressing. His assertion that in 2019 research methods would be progressive, methodical, balanced, sequenced and building a big picture are very different to how they are now. Yes, the world is a different place, but should EBM have followed suit?

The new English journal of virologists

We've all seen the people and the posts across social media. 'Do your own research!' they proclaim, only to be shocked when you do your own research about their claims to find they're nonsense. I recall reading a recent conversation between two individuals about fluoridation, and person A copying in information that sounded great, only to reveal it was from Wikipedia. The conversation went on, with person B keen to see the peer-reviewed evidence that person A was so far not producing to back up their belief fluoride was bad. As it transpired, none was forthcoming.

It is perhaps due to the pandemic that the scale of this 'infodemic' has really come to

light, a point Carley made when he suggested EBM no longer stood for evidence-based medicine, but rather evidence, beliefs, media. It is also perhaps due to the fact we have more access to content than we ever have done, and that is only going to increase. Laymen do not understand research, cannot read the results or understand the implications. That is not to disrespect, but to show how dangerous it now is for every Tom, Dick and Harry to 'do their own research', totally oblivious to what research even is. Is it a career of 20+ years in their chosen field, accruing knowledge and experience that is unmatched, or does research mean googling something to find an answer, or more worryingly, an answer you want to find?

What the pandemic has done is force science that usually took place away from the public eye right into the thought conscious of everyone – including politicians. No longer was science conducted in the same way – nor was it looked at the same. The pressure to do something, Carley explained, often forces changes, be it for the good or not. Maybe that's why people think they've been forced to de-worm themselves using drugs designed for horses – they've done their research and implore you to do the same.

Speaking of wildlife, the pandemic has also put journals, once the prestigious gatekeepers of high-quality information on which the medical world would base their practise, in a position where they are sitting ducks. They are no longer sufficient on their own for information about the pandemic. Social media has been that additional source, where low-quality evidence suddenly takes on a life of its own. But it isn't solely the responsibility of un-regulated platforms in casting a shadow on solid evidence bases wilting.

Science through press release?

The rise of the pre-print is something no area of healthcare – including dentistry – has escaped. Carley's assertion that health policies can and are changing on the back

of non peer-reviewed pre-prints is truly alarming but again, to the untrained eye, these look and feel exactly like evidence to base beliefs on. In the early stages of the pandemic outbreak, drugs with anti-viral properties were being dropped into a petri-dish, and if they showed signs of killing the virus, they were given to patients – it was that quick. This fast-food trend followed with sample sizes and methodology that 'fifth year medical students would present as an observational study' quickly becoming fast-tracked into patients. EBM was, in Carley's words, in a very bad place.

It is difficult to see how – despite the initial clamour for any form of treatment that may work subsiding – COVID-19 hasn't altered the basic ways science will function. You would hope it hasn't, and while there is hope for a return to evidence-based medicine, that hope is still out of our grasp. Which is why the incredible efforts of *Evidence-Based Dentistry* under the editorship of Professor Elizabeth Kay should not have gone unnoticed. In her first editorial in June 2020 looking at all the evidence relating to dentistry and COVID, Kay wrote:

'What I will promise, for the future, is that we will, as the evidence emerges, do our very best to distil and disseminate it, and we will try our best to determine the practical actions we should take based on the best and latest evidence. But until better evidence is carefully collected, checked, analysed and specifically made relevant to the context of dentistry, we can only wait.'¹

After listening to Professor Carley, it is an ethos we should all be subscribing to, as the alternative is much, much more dangerous. ♦

Reference

1. Kay E. Doing our best. *Evid Based Dent* 2020; **21**: 38.

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