

What is research?

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The first thing I must do before answering the question I have set myself, is to offer my enormous gratitude to the Guest Editors who provided such brilliant editorials in the last two issues of *Evidence-Based Dentistry (EBD)*. Their erudition and insightfulness gave the readership of *EBD* a real treat. My admiration for both Professor Ali's and Professor Newton's work, and their enormous contribution to the evidence base informing dentistry, is profound. They are both researchers of the very highest calibre.

And that brings me to the thoughts I wish to share with you, which concern the very nature of research, for the word research is one which, in recent years, has fallen more and more into common parlance. One hears it bandied about everywhere...people claiming to have 'researched the matter thoroughly' – meaning that they have popped a word into a search engine and unearthed a few facts, or consulted a consumer advice website before making a purchase. And many seem to think that the word 'researched' is equivalent to 'I've read about'!

The word itself is odd. It could mean re-search, as in 'search again', or perhaps 're:' (as in regarding/concerning); looking for something.

The dictionary defines research as 'the systematic investigation into, and study of

materials and sources in order to establish facts and reach conclusions' and that is much nearer to my personal view of what it required in order to undertake meaningful and important research.

For me, research always has to begin with a very good reason for carrying it out. That is, there must be some important underlying purpose which makes a question worth asking. Research has to have the potential to lead to a finding which will, in some way, improve life for someone, or some people. Well-conducted research which does not have a strong reason for doing it is relatively worthless, in my view.

The next important ingredient of good research is, I think, real genuine enthusiasm for one's subject. Good research is difficult, and time-consuming, and takes determination and patience. So, without enthusiasm, it is extraordinarily difficult to bring it to a successful (or even unsuccessful!) conclusion.

But the key thing in research, as the dictionary definition suggests, is that it must be systematic. Systematic, not only in the way data is collected and processed, but also systematic in the approach taken to the analysis of what has been done before in the subject area. Hence, this journal's commitment to the publication and promulgation of systematic reviews.

A further central necessity of good research is the ethics of what is being done. This consideration relates in part to the first requirement – a really good reason for undertaking the research in the first place. Without that vital component, research cannot be ethical. It also needs to be fair, respectful of society, and carried out

with honesty and integrity. Commercial considerations must be ignored.

And then, as every researcher will tell you, what takes the most time, and the most effort, is the absolute attention to every single detail which must be paid. Close attention must be given to the detail of the methods used to collect data; attention must be given to the collection and storage of results; and fierce attention must be given to determining the most appropriate way to analyse the data once it is collected, so that the results can be presented and interpreted correctly. If this is properly done, this is what elevates research into offering real insights and discovery.

Finally, research, to be worthwhile, must be circulated. It absolutely must be published. It is not ethical research if it is not, as research which utilises resources, whether that resource is time, money, laboratory space, or simply energy, is wasteful. Research must be shared with others to justify its existence. And once published, it performs a useful function, no matter how statistically insignificant the result – as, when shared with others, if it does nothing else, it might generate hypotheses: about the subject matter, or simply about how the subject may be better researched. And that is a highly useful function.

So, research that has a reason, enthusiasm, a systematic approach, is ethical and has attention paid to detail will provide results that can be published and circulated, which will generate further hypotheses. – that is my definition of what real research is about, and is for.

Good research is invaluable. The work of those who undertake research drives progress in our profession. And the work of the commentators who work so brilliantly for this journal to distil research evidence for others is, I believe, invaluable. So, I send my thanks to all the diligent and determined researchers who write both the systematic reviews and the papers which are the subject of the commentaries. And most particularly, I thank the commentators, without whom this journal would not exist.

