

DCPs and research in general dental practice

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In brief

Increases awareness of practice-based research opportunities.

Increases awareness of engaging dental care professionals in research.

Highlighting funding opportunities for practice based research

The application of evidence-based practice (EBP) requires a competent understanding of the best available research. There is increasing acknowledgement that some of this evidence also needs to be generated at the practice level. Currently, research activity in general dental practices is not well embedded. Dental care professionals (DCPs) play an important role in a dental team and present a good way for dental practices to become engaged in research. This experiential article highlights potential opportunities and benefits of DCP research activity to the dental practice.

Introduction

Working in a dental practice can be very busy, especially if your working day encompasses treating numerous patients under a publicly funded system such as the NHS. More than this, days might even begin to feel stressful and monotonous as the inevitability of the procession of numerous patients configures our working lives. The days can pass nine-to-five with the dental team providing the same sorts of treatments to patients without thought for variety in either challenge or opportunity.

As young children, growing up in the world was something of an adventure where our parents gave us a sense of what was right and what was wrong, but we also learned from our own experiences and from the things that happened around ourselves (and to our friends). This was us learning an evidence-based life – the conjunction of best available research (what science and our parents tell us), our clinical expertise (what am I able to do), and

in collaboration with our patients (in living with others). With this as our map and guidebook, life can be exciting as a learning experience.

Albert Einstein said: *'Learn from yesterday, live for today, hope for tomorrow. The important thing is not to stop questioning.'*

Practice-based research

Now back to our practice – in the relentless quest to hit performance targets (in the NHS driven by a UDA based system) do many of us really get the chance to pause and question in depth what we do and the care that we provide to our patients? At what juncture should we start probing (pardon the pun) and ask questions such as: What other contemporary treatments can I provide for a patient with a specific condition? What is the optimal way of recording and treating a carious lesion in a lower left permanent molar for this patient at this time? What organisational changes can I make in my working day and with my dental team to deliver better care for our patients, and also improved quality of working life for the practice team?

The traditional treatments that are commonly associated with NHS practice are most likely generated from our experiences at dental school, or perhaps from those continuing professional development and postgraduate courses that we all take. However there is

a real requirement that what we do is justified and supported by the current evidence base. And more succinctly, can we as clinicians working in primary care actually add anything to this evidence base?

Care delivered within the NHS should be clinically effective and also cost-effective to ensure that public finances are being used to the greatest effect for the population. This care provision ideally should be supported by advances in both science and clinical practice; it should be evidence based and backed by clinical research. But, here's the rub; clinical (or applied health) research in primary care dentistry is still relatively rare – it is increasing, but the majority of studies which inform our clinical practice have been conducted in academic institutions and secondary care environments. Translation of findings from one sector to another and the implementation of recommendations to daily practice in primary care can consequently be slow and difficult at best, and at worst, totally inappropriate. Research either does not see the light of day or has to be dramatically tweaked and squeezed to make it fit the real-world environment, so much so that the clinical benefit that it promised is compromised.

Dr Mike Schmoker, a best-selling author on educational change says of research, "The research we do at the local level - collaboratively - is what makes formal, outside research work. Outside research cannot be installed like

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a car part – it has to be fitted, adjusted, and refined for the school contexts we worked in.¹

Whilst the dental clinic might be a million miles from the school or classroom, there would seem some sense in this notion that research findings cannot simply be dropped in from afar. Indeed there is growing acknowledgement that primary care (including NHS general dental practice) is very different to the secondary care environment where research has traditionally been conducted. The significance of primary care practice-based research (PBR) is being increasingly recognised and with it the need for dental practices to engage with the research process.

Getting started in research

So how do we involve dental care professionals in research?

When we first started the process of embedding research into my practice certain barriers became evident. We ran, and still do run, a busy, predominantly NHS dental practice and as such research activities may compete with our day-to-day operations; allocating time for research activities would need to be addressed. There are also certain regulatory processes and governances that need to be complied with, many of which we were not even aware at the start, and had no sense of how to get help with this. Then there was the thorny but very relevant issue of financing the activities.

Good ideas for research are important, and there are ways to identify research priorities at practice level, but the challenge in primary care comprises more than just coming up with these good ideas. Encouraging our DCPs and providing support to help them undertake research was equally important and included:

- Incorporating the research into their busy work schedules
- Needing to improve the infrastructure in our practice to support their evolving roles
- Relevant training required
- Financial support.

Gaining support

Without financial support putting any research proposal into practice becomes almost impossible. Such investment is required to fund things such as:

- DCP salary
- Training activity
- Methodological support
- Practice administration



Fig 1. Assessing ph of resting saliva

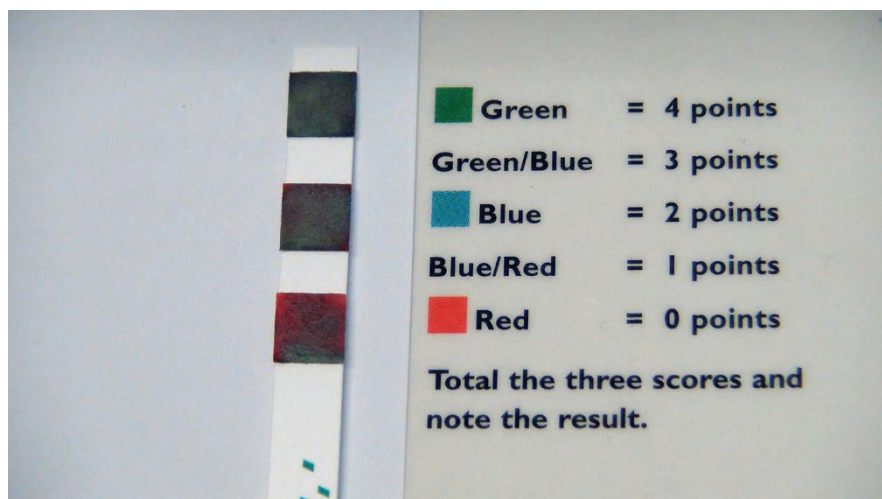


Fig. 2 GC Saliva check assessing buffering capacity of stimulated saliva.

- Help with data analysis
- Expenses incurred by patients as part of the research.

The above are just some examples of certain costs that may need to be covered.

There is help available for these costs and we have been very fortunate with support from the Oral and Dental Research Trust (ODRT). The ODRT annually runs a DCP research award programme to encourage dental care professionals to engage in research. In the past six years, three DCPs at our practice have been awarded these very important and prestigious research grants. It is also pertinent to note that the DCPs were not just dental hygienists or dental therapists, but actually two of the prizes were given to our extended duties dental nurses.

The studies supported by ODRT awards at our practice are:

1. Salivary diagnostics by a dental nurse
2. Glass-ionomer sealants on partially erupted molars in children by a dental therapist
3. Dental Nurse delivered child oral health promotion in NHS general dental practice.

Real benefits of research projects

Participating in such projects has really helped develop our practice team and has led to several positives.

Project 1: Salivary diagnostics in practice

We now have regular oral health education sessions with an extended duties dental nurse, which also includes where appropriate, salivary testing. This includes testing the acidity and buffering capacity of saliva (Fig. 1 and 2). The research has given us a better understanding

of the testing and its benefits (and limitations) and we all feel much more knowledgeable and better equipped to advise patients appropriately. Involvement has also resulted in a poster presentation at a national conference. Development of practice patient information literature and submission of a larger research proposal to a national funding stream ensued.

Project 2: Glass-ionomer sealants on partially erupted permanent molars in children

This study has really been an eye opener for us. None of the teeth sealed had developed cavitated lesions after five years follow-up and retention of the sealant was better on occlusal than buccal/palatal surfaces. These sealants showed easy placement in areas of difficult access in the mouth (Figs 3 and 4). Again, other outputs were a poster presentation, production of treatment information literature, and development of a larger more definitive research study for submission to a national funding stream.

Involvement in research studies has contributed to practice meetings, in house CPD events, and patient focus groups. Hence staff and patients at the practice are already seeing the benefits of our research participation.

Benefits of DCPs in PBR

It is all too often in general practice that dental nurses might begin to feel a sense of frustration with their role being perceived to be somewhere on the sidelines, ie that it is the dentist 'providing all the care' and receiving 'all the thanks'. These awards have been invaluable in promoting our DCP's sense of value and self-worth. The awards are presented at a champagne reception during the annual BDA conference and emphasise the importance of their achievement in gaining such an accolade.

The positives of applying, getting, and doing research for our DCPs have been numerous and wide ranging. In formulating the application they have been challenged to think about what they see as important in their daily working lives, and it has encouraged them to

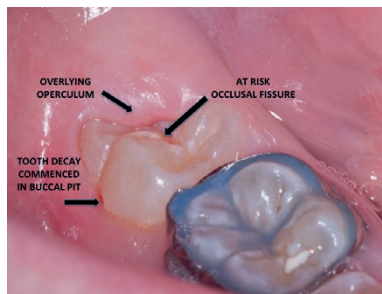


Fig. 3 Partially erupted molar in high risk caries patient

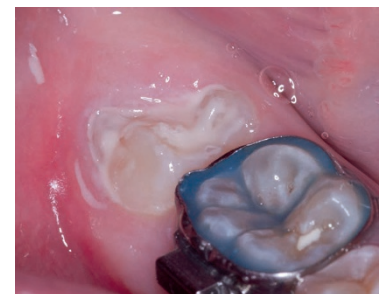


Fig. 4 Partially erupted molar treated with a Glass ionomer sealant

look at the current evidence base behind their traditional clinical interventions.

It has provided time for them to perform new interventions, which are being investigated, and has helped to add variety to their working day.

Being involved with research can really stimulate the spirit of inquisition in DCPs and as a practice, apart from the obvious measurable gains, it brings many intangible benefits as the practice and the team evolve. I know that for our DCPs these awards have stimulated their ideas and visions for practice.

Comments include:

'Since moving to a research active dental practice in 2011, I feel that my scope of skills and career possibilities has evolved. Even though I had been a dental nurse for 11 years I wasn't actually aware that research could be carried out in a dental practice setting. I have been encouraged and positively pushed into developing my outlook and daily working practices, and would certainly encourage other dental nurses to approach their teams, especially their employers, to ask about the possibility of getting involved in research, and take advantage of all the support that is available. It really unearths the inquisitive nature in you.' (Mrs Nicole Allen, Extended Duties Dental Nurse. Award Recipient of the 2016 Colgate ODRT DCP Research Award).

'I had not even heard of the possibility of doing research in practice but was inspired by my work colleague Lisa who had been awarded an ODRT DCP research award the previous year. She had found it immensely rewarding.

Likewise for myself, winning this award has unexpectedly opened up whole avenues for me and my career, and really opened my eyes about the bigger picture of dentistry including my role within the team.' (Miss Laura Rose Brady, Dental Therapist. Award Recipient of the 2012 Colgate ODRT DCP Research Award).

The practice has also seen the positive effects of staff retention and reduced recruitment costs. Large-scale research submissions have been made to upstream research bodies such as the NIHR Research for Patient Benefit Programme based on the work carried out by our DCPs, and we have also been part of a National Health Technology Assessment research project.

Conclusion

Research participation with support from the ODRT has been a great experience and fostered better understanding of the research logistics and evidence-based practice. Our dental practice has had wide ranging benefits and ultimately resulted in better care for patients.

We have seen our dental professionals present at conferences and give talks to their fellow colleagues, and constantly come up with new ideas. I think that one comment from my DCP encompassed and summed up what it has meant for her and our team, 'I feel like I'm not just an assistant anymore but more involved in patient care and its development at the practice'.

1. Schmoker M. *Results: The Key to Continuous School Improvement*. 2nd ed. ACSD: Alexandria, VA, 1999.