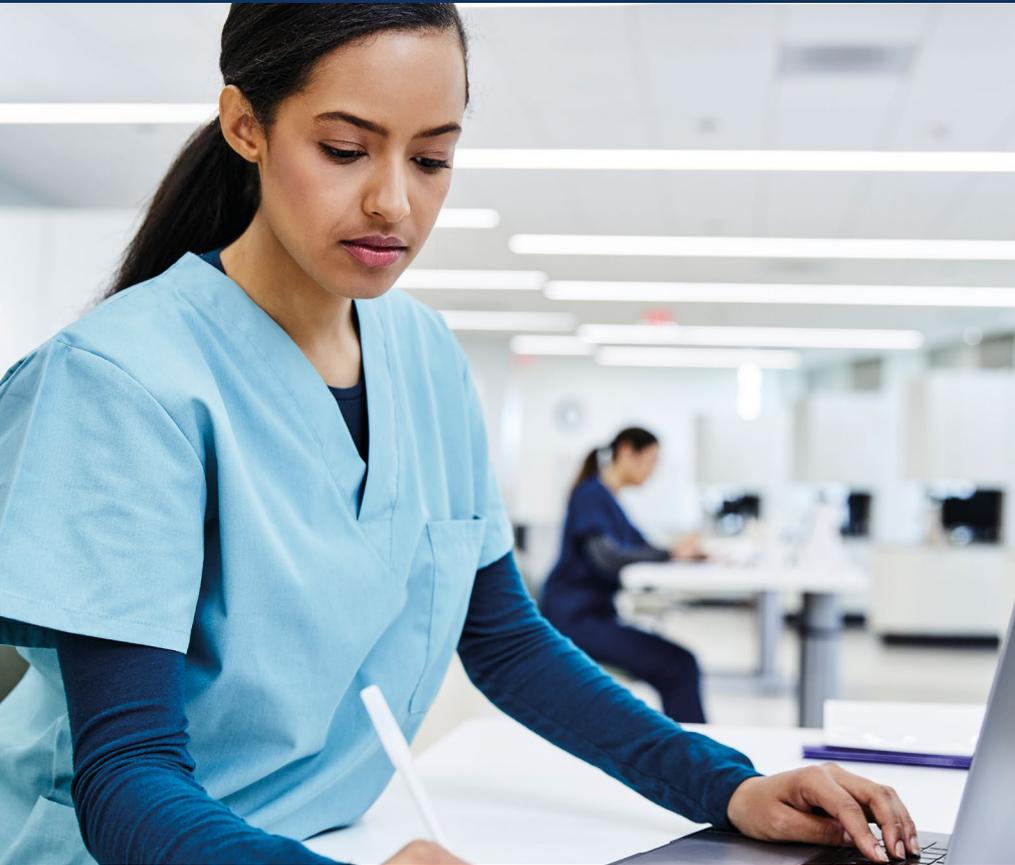


The dental hygienist as researcher



Dental hygienist, writer and speaker

Linda

Douglas,¹ who lives in Canada, ponders the value of dental hygienists conducting research in their practice.

Roles of the dental hygienist

The key responsibilities of dental hygienists¹ include health promotion, education, clinical therapy, research, change agent, and administration. We are familiar with some of these roles, especially clinical therapist and educator. The roles of researcher and change agent are not as widely fulfilled, yet they are vital to advance the profession and improve the health of the public. Most hygienists underestimate their abilities regarding these aspects of the profession, when in fact they are far more capable than they realise.

I had pondered the possible value of dental hygienists conducting research in their practice for some time; partly due to my inquisitive nature, and also because I had read about concerns regarding the paucity of research by dental hygienists.

In 2007 I attended a workshop on dental hygiene research at the International Federation of Dental Hygienists² symposium, where I asked a well-known dental hygiene educator about the possibility of hygienists in clinical practice conducting research; she replied: 'You need a Master's degree to conduct research, and there are few hygienists with Master's degrees'. This was rather disappointing to hear, but another speaker, Dr Ken Eaton, was quite encouraging; he mentioned the Faculty of General Dental Practice³ in the United Kingdom, which was committed to supporting general dentists who want to conduct research. That's when I realised it was possible for the clinical dental hygienist to do research as well. This became a reality in 2012, when I commenced my studies at O'Hehir University⁴ for a Bachelor of Science degree in oral health promotion. I was introduced to these three significant concepts: reflective practice,⁵ action research⁶ and health behaviour change.⁷

Author information

¹Linda M. Douglas BSc RDH graduated as a dental hygienist in 1982 from the Royal Dental Hospital in London, England. After graduation she worked in periodontology before moving to Toronto, where she has worked in private practice since 1990. She attained a Bachelor of Science degree in Oral Health Promotion from O'Hehir University in 2013. Linda is now a course instructor at O'Hehir University, and will commence studies for a Master's degree in education, psychology and health science with the Open University in 2022. Linda also writes and speaks on xerostomia management and saliva testing, caring for dental patients with eating disorders, and caring for dental patients with dental anxiety and dental phobia.

What is reflective practice?

Reflective practice is the ability to reflect on our actions in order to engage in the process of continuous learning. Action research questions stem from reflections on our work with the aim to improve outcomes.

Action research is 'research in action'

Researchers generate new ideas and knowledge. There are various types of research methodology: the types most familiar to us from reading research journals come under the umbrella of basic research. Basic research differs from action research in that it does not necessarily have any immediate application. The aim of basic research is to amass knowledge and better understand some phenomenon. For example: a research study to increase understanding of the pathophysiology of a particular disease is basic research.

Action research differs from basic research in that it is a form of applied research: its purpose is to solve problems and improve practice. It is reflective, dynamic and responsive;⁸ so, if an action is not successful, we try another until we find one which works. Action research is conducted by the practitioner, and it is participatory:⁹ instead of having subjects on whom we conduct research, we have participants in our research; the researcher also participates through their actions.

Any practitioner can do action research because it is conducted in the workplace without disrupting the workflow. The action researcher is a practitioner-researcher who improves their practice, and generates knowledge by describing how they have improved it;¹⁰ therefore, research is not just the domain of those in academia. We don't have to wait for others to conduct research and provide us with new knowledge: we can create new knowledge,¹¹ transfer it into our practice, and share it with others. Action research empowers the practitioner, benefits patients and often has a positive ripple effect on the entire workplace in terms of elevating practice standards, and boosting morale.

There are differing perspectives on action research in various professions, such as nursing, social work and education; it is also evolving to suit the needs of the dental team. The dental team needs more focus on action research that improves oral health by facilitating health behaviour change, in addition to implementing novel clinical therapies and oral hygiene aids.

The importance of health behaviour change

Changing health behaviours is notoriously difficult. Some prime examples include how we have all been educated on the health

benefits of regular exercise, but numerous individuals are sedentary. Almost everyone knows smoking is the leading preventable cause of death^{12,13} in Britain and the United States of America, yet many people continue to smoke. Most of us are also aware that consuming sugar increases risk of diabetes,¹⁴ caries¹⁵ and inflammatory diseases such as periodontal disease,¹⁶ but such awareness frequently fails to deter the behaviour. These examples clearly demonstrate that knowledge alone is not an effective motivator for changing health behaviour.

Although genetics¹⁷ plays a part in susceptibility of some individuals to certain oral diseases such as periodontal disease,¹⁸ most oral disease is related to behaviours¹⁹ such as poor nutrition,²⁰ sugar consumption,²¹ smoking,²² and failure to achieve effective daily biofilm removal or disruption.²³ We know it is possible despite genetic risk factors to achieve and maintain a healthy periodontium with effective daily self-care and clinical therapies.

conversations tell us how much they value their oral health, and the extent of their knowledge about their oral health issues: then we can offer to add to their knowledge by sharing further information. Asking permission to share information enhances their receptiveness to our message.

Once our patients become aware of the incongruence between what they value (such as a nice smile, and healthy mouth) and their current health behaviours and they are ready to change, they can tell us what their goals are. We then collaborate to help them decide what they are prepared to do to achieve their goals. They can also choose solutions to address any barriers and ensure their environment is conducive to successful change, such as ridding their home of sugary foods and drinks, or using smartphone apps as reminders. This active involvement of our patients in the decision-making process enhances their self-efficacy, and improves their chances of success.

Health behaviour change requires

'Any practitioner can do action research because it is conducted in the workplace without disrupting the workflow.'

We can educate our patients about oral disease, and instruct them in the use of the products we recommend; however, there is one fundamental truth: the only oral hygiene aids that work, are the ones they actually use. We only see our patients for an hour every three or six months, so their daily self-care is more significant than what happens in our chair. Consequently, changing oral health behaviour is a crucial factor in improvement and lasting maintenance of oral health.

Our patients are experts too! The benefits of listening instead of instructing

While we are experts in clinical therapies and oral health counselling, our patients are experts on their lives, their capabilities, what they value, and what they want. Listening to our patients rather than just educating them is the key to finding what motivates them. By utilising motivational interviewing techniques such as asking open-ended questions and actively listening to our patients, we facilitate their autonomy, and develop a rapport. These

a personalised approach, therefore implementing appropriate health behaviour change methods is vital to any action research project that aims to improve oral health outcomes.

You can do it!

Most dental hygienists initially find the prospect of conducting research quite daunting; nevertheless, we are all practitioner-researchers. We conduct action research day-to-day every time we reflect on a problem in our practice and implement new improvement strategies. This 'research in action' is really action research, only we don't always formalise it and write it up in a paper. Successfully conducting our own research and communicating an account of the process and outcome instigates changes which benefit the wider community beyond our own practice: this is the essence of health promotion.²⁴

The following are abstracts of two action research papers by dental hygienists who recently graduated with their Bachelor of Science degree in Oral Health Promotion.



Alison Brown, BSc Dip Dent Hyg AFHEA

Biography: 'I am a dental hygienist working in general practice and as a clinical supervisor teaching with year 2 BDS and Dental Hygiene undergraduates on clinic at Peninsula Dental School in Plymouth.

I completed my BSc in Oral Health Promotion with O’Hehir University (OHU) in 2020. With this programme I undertook an action research study looking at patient awareness of self-checking for oral cancer. This study has allowed me to help colleagues set up outreach clinics with Plymouth Dental Social Enterprise (PDSE) teaching patients how to self-check for oral cancer.

I also completed a mentoring programme with OHU and have been working with the British Society of Dental Hygiene and Therapy (BSDHT) setting up a national mentoring and coaching programme for members. I am currently studying for an MSc in Dental Hygiene at the Eastman Dental Institute. I am a firm believer in education, and I am amazed

at the opportunities I have had so recently to continue to support patients, colleagues and students.'

Title of research paper

If I show patients how to carry out a mouth cancer check at home will they alter their oral health behaviours?

Abstract

The aim of my action research project was to find out if patients were aware they were being assessed for oral cancer at their dental hygiene appointment.

Methods

Ten patients were randomly selected and asked if they were happy to participate. Patients were asked pre-appointment questions relating to what they were being assessed for at their appointment, and if they regularly looked in their mouths. Patients were taught how to self-check for mouth cancer at their appointment, advised of tissue changes to look out for, and when to seek further advice from their health professional. Post appointment questions were given to the patients for feedback on what they had

learned. A follow-up phone call was made four weeks later.

Results

Patients generally looked more at their gums. All patients were happy to be taught a mouth cancer self-check (MCS) and felt confident to do so. Most were unaware they were being assessed for oral cancer at their appointment. They felt everyone should carry out a self-check regardless of risk and what they may find would not put them off. At four weeks a follow-up phone call was made; six out of the ten patients had carried out an MCS at home.

Conclusion

Patients were unsure what to look for with mouth cancer and were happy to be taught how to carry out an MCS. Not all patients carried out an MCS, but all ten patients felt it should be carried out on a regular basis. Showing and educating patients on how to carry out an MCS does help to alter their health behaviour.

‘I am a firm believer in education, and I am amazed at the opportunities I have had so recently to support patients, colleagues and students.’

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Margaret Flynn, BS RDH

Biography:

I have been a practising Registered Dental Hygienist at DentaQuest Oral Health Center, a prevention-focused dental practice in Westborough, Massachusetts for 16 years. The key difference of the Oral Health Center is our focus on risk-based treatment. By identifying the unique risk factors for each patient, we help them avoid dental disease and achieve better oral health. I love practising evidence-based dentistry and motivating behaviour change in patient care.

In March 2021, I graduated from O'Hehir University with a Bachelor of Science degree in Oral Health Promotion, and in September will commence studies for a Master's degree in dental hygiene at the Eastman Dental Institute in London. I am interested in the oral health and overall health connection and hope to be participating in more research based studies in the future.'

Title of research paper

What would be the outcome if I attempted to improve my patient's inflammation around the mandibular anterior teeth through a process of behaviour change and adding different devices?

Abstract

My 30-day action research study planned to improve mandibular anterior gingival inflammation using behaviour modification and adding different concepts. Gingivitis is a long-term public health problem linked to other chronic inflammatory systemic diseases. My participant is a middle-aged male with other risk factors for consideration: he is a cigarette smoker and mouth breather. Behaviour modification is an evidence-based model that guides the patient to choose what solution works best for them. Participant data was collected and evaluated every ten days using the Silness and Loe plaque and bleeding index, RED COTE disclosing tablets, and intraoral photographs. The six mandibular anterior teeth were evaluated: the surfaces scored were mesial, distal, facial, and lingual. A water flosser was the first device implemented: current evidence states that oral irrigation effectively removes biofilm and has higher patient acceptance.

Cigarette smoking is the most important environmental risk factor in periodontal disease, and mouth breathing can exacerbate gingivitis due to the diminished benefits of saliva. XyliMelts xylitol mints were selected as the second device implemented, to stimulate saliva flow and decrease bacteria while sleeping, when salivary flow is at its lowest.

Xlear xylitol nasal spray was chosen as an alternative to traditional nasal spray to add moisture and for added antimicrobial benefits. Myotape lip tape was chosen to facilitate nasal breathing.

The study's outcome showed the participant's plaque and gingival bleeding scores declined, from a plaque score of 2.91, and four bleeding sites, to a plaque score of 1.2, with one bleeding site. His systemic health and well-being improved, and his oral health behaviour has become consistent.

Having met with success with the participant of this study, I plan to implement the same motivational interviewing and collaborative approach in the future. I will continue to recommend water flossing as an effective therapy for self-care. As it has shown to be more practical and less frustrating than traditional flossing, it is more likely to be used consistently in self-care routines. I will use radiographic imaging to monitor smokers' periodontal statuses more closely in the absence of gingival bleeding, as nicotine is known to suppress this immune response. I will also screen for signs of mouth breathing and suggest early interventions, such as lip taping with Myotape.

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