



Tackling a dry mouth: an oral health intervention for Sjögren's sufferers

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Public health competencies being illustrated: *Strategic leadership and collaborative working for health and oral health improvement*

Introduction

As part of the curriculum at Plymouth University Peninsula Dental School, second year students are given the opportunity to work with their peers to deliver a Community Engagement Project (CEP). This involves working with target groups within the local community to identify relevant oral health needs and addressing these needs by providing an appropriate, evidence based, student-led, oral health intervention. The project aims to further the students' understanding and empathy for different groups within the community, while improving their ability to provide holistic patient care.

This report reflects on the CEP undertaken by a group of Peninsula Dental School students alongside a local support group for individuals suffering with Sjögren's syndrome (SS).

Initial impetus for action

There are thought to be about half a million people in the UK currently suffering with SS, 90% of them women over the age of 50 (Carr *et al.*, 2012). The systemic condition is autoimmune in nature, targeting exocrine glands throughout the body, leading to cardinal symptoms such as dry mouth (xerostomia) and dry eyes (xerophthalmia) (Fox *et al.*, 2005). Unfortunately, there is no known cure. Instead treatment is focused on symptomatic control and prevention of further health complications (Carr *et al.*, 2012). Historically, SS has not commanded a high profile within the medical profession and is considered largely under-recognised and often under-treated (BSSA, 2014).

The British Sjögren's Syndrome Association (BSSA), founded in 1986, is a self-help organisation with more than 1,800 members, dedicated to providing support to affected individuals nationally. A local support group, established in May 2010 serves Devon and Cornwall, currently supports 22 members and is one of 41 BSSA support groups in the UK.

A group of nine undergraduate dental students were introduced to the support group through Plymouth Univer-

sity Peninsula Dental School's Community Engagement Team (CET). The CET play a vital role in creating and building trust with agencies from many sectors of the community in Plymouth, laying the foundations for the project. Subsequently, over six months the students arranged three visits with 12 volunteers from the local BSSA support group to develop the oral health intervention.

The aim of the CEP was to work with the SS Support Group to devise an evidence based oral health intervention project specifically targeting their oral health needs.

First, the literature surrounding SS was reviewed to provide an evidence-based understanding of the detrimental impact of SS on oral health and insights into the effectiveness of available treatments.

It became evident that the predominant effects of SS on the oral cavity are mainly consequent to hyposalivation (Carr *et al.*, 2012). Current evidence suggests that a reduction in saliva may increase a patient's susceptibility to oral diseases such as caries, oral infections, pathological toothwear and, potentially, periodontal disease, although the evidence for this is less clear (Schiodt *et al.*, 2001; González *et al.*, 2014).

Then, to gauge the support group's expectations and current understanding of the oral manifestations of their condition, the students developed a short questionnaire in the form of a quiz with a written feedback form. The findings were central in planning the project and included:

- All 12 stated they would like advice on how to maintain good oral hygiene and be given guidance regarding treatments available to help prevent dental diseases and infections
- Nine of the 12 reported that support groups provided them with most information regarding the impact of SS on oral health and the remainder used the internet for this, with none citing dentists or general medical practitioners
- All 12 said they would like to be informed about different treatments to reduce their susceptibility to dental disease and available on prescription to them by their dentist.

It is important that sufferers of SS seek regular advice from their own dentist about how to best manage their specific dental needs (González *et al.*, 2014) and evidence from the literature suggests that simple oral hygiene advice is crucial and should be given by all dental professionals to anyone with SS. The support group's findings indicated that they would like advice on how to improve their oral hygiene, which if followed, has aided treatment and avoided future dental disease and infection (Mavragani and Haralampos, 2007) by reducing oral pathogenic bacterial loads, reducing sugar intake and encouraging remineralisation of tooth surfaces.

Solution suggested

Following these principles the students decided to produce and deliver a convenient, wallet-sized concertina-folded information card with a complementary educational presentation. The proposed card was to act as a quick reference and contain essential oral health information supported by the Department of Health's toolkit for prevention, 'Delivering Better Oral Health' (2014). In addition, the card would contain tips on how to relieve the dry mouth sensation and guidance on the use of saliva substitutes and stimulants, supported by the Cochrane Collaboration (Furness *et al.*, 2011). The 'Top Tips' card was distributed to 12 of the support group on the final visit and feedback was collected following a two-week trial period.

Actual outcomes to date

After the two-week trial period, results were collected in the form of quantitative and qualitative feedback. The results and comments received from eight members of the support group were extremely positive, indicating the students had managed to produce a useful tool for people suffering with SS (Figure 1).

"...it's reassuring to find that Sjögren's is being welcomed by the dentistry section of trainees"

"Well presented information relative to dry mouth. I felt that I learnt a lot today regarding specific aspects that affected me"

"I very much enjoyed the interaction and the card is very concise and a good tool. I am pleased to think thatour group has had a part in this important project."

"...the cards ... have been shown to family and friends and, once read by us and understood what is required, we can implement the guidelines with benefit."

As the 'Top Tips' cards have the potential to be released to a wider audience, it was essential that the enclosed information be accurate, reliable and, most importantly, evidence based. The use of national guidelines and other sources of evidence such as 'Delivering Better Oral Health', the Cochrane Database of Systematic Reviews, served as the cornerstone for the information contained within the card.

The quiz revealed that all members of the group were interested in learning more about treatments that may be prescribed by their dentist to improve their oral health. However, due to the many treatment modes available, variation in individual needs and preferences and continually evolving research, it was deemed inappropriate to include information detailing specific products. Instead more generalised information relating to oral health and symptom relief was included, as well as a clear recommendation to seek advice from the sufferer's own dentist for further information.

Despite the strong female predominance observed in SS, the students felt it was a priority to design a card that appeals to both genders to avoid further isolating male sufferers. To achieve a suitable design the students collaborated closely with the graphic design company, initially providing a design brief, followed by modification of prototypes until the final design was reached. Key features of the design were gender-neutral colours and graphics.

Following the popularity of the card with the local support group, the 'Top Tips' concept has been adopted by Peninsula dental school and developed to create a dental 'Top Tips' series. The cards contain appropriate and accurate information tailored to benefit a number of target audiences. The cards in the series are titled:

- Best accessory for boys/girls
- Bridges and Dentures
- For Carers
- For Children
- Milk Teeth Matter

The CET are now exploring potential opportunities to produce the series of cards on a larger scale to extend the benefit of the cards to the wider population. Further information about these is available from the dental school via the correspondence address.

A recent case study of dental education through social and community engagement, reported that the Peninsula dental school CEP provides 59 of the 144 learning outcomes in the GDC document 'Preparing for practice'

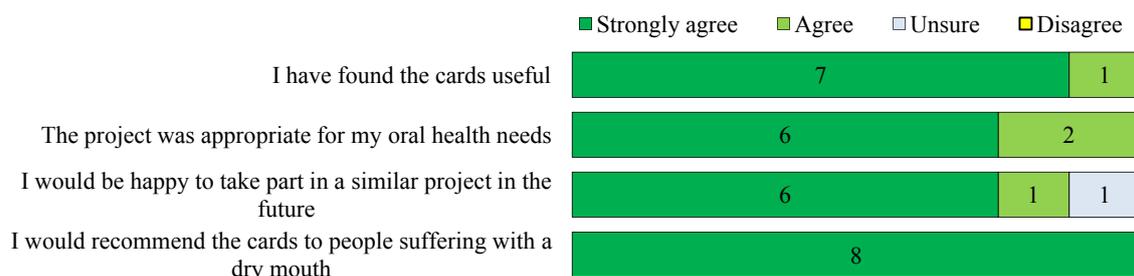


Figure 1. The distributions of responses to the feedback questions after two weeks of using the cards (n=8)

(2011). The case study concluded that the CEP gives students a wide range of skills and experiences to draw upon to help deliver dental care in a rapidly changing health environment (Witton *et al.*, 2013).

At the time of the intervention a number of press releases reached local and national newspapers as well as recognised dental journals including the British Dental Journal and Dentistry magazine. In addition, a poster detailing the project was recently presented at the British Association for the Study of Community Dentistry's Annual Presidential conference, where it won the Oral Health Promotion prize. The project also won the Peninsula Dental School's Community Engagement prize. The authors hope this exposure may contribute to raising the awareness of both GDPs and the general population to this under-recognised condition at local and national levels.

Challenges addressed

To assess the knowledge and expectations of the group the students devised a short, multiple-choice virtual quiz. The main challenges encountered in the development of the quiz are:

- Creating a set of concise targeted questions that were relevant to the group's oral health.
- Providing a choice of answers that, if selected, could be used to develop a targeted intervention.
- Carefully selecting a choice of answers that would enable the creation of an intervention within the scope of a student project.

On the day of the quiz, due to a technical fault with the automated data-capture software, the questions were displayed on-screen and responses self-recorded by hand. This turned out to be a favourable outcome as many respondents opted for more than one answer per question and in one case opted for no answer with a short written explanation. These data would have been lost using the planned data capture method. This resulted in a better understanding of their perceptions and oral health awareness.

The project was divided into the stages: information gathering, production, delivery, reinforcement and evaluation. Unfortunately, due to a delay in printing, the cards were not available for distribution at the planned delivery stage. Despite this setback the students delivered the oral health advice presentation alongside a paper prototype of the definitive 'Top Tips' card. Nevertheless, the prototype was extremely well received and the delivery was postponed until the reinforcement stage. However, the students felt this was not detrimental to the project.

Feedback was an important feature throughout the project and was collected at each stage (information gathering, delivery and reinforcement). This provided the support group with a voice, and an opportunity to contribute toward the direction of the project. The resulting culture of collaborative working gave the group a real sense of ownership for the outcome of the project.

Collection of the post-trial feedback was originally planned for the reinforcement stage but delayed printing

of the cards meant feedback was collected via email two weeks after the distribution of the cards at the reinforcement stage. The response rate of 67% was somewhat disappointing. The reasons behind this are unclear and have not been investigated.

Learning points

- Teamwork was a consistent theme throughout the project. It was particularly helpful to establish roles, including a team leader. Tasks were carefully allocated appreciating the strengths and weaknesses of each team member. This way all students had a clear understanding of their individual responsibilities and ensured an even distribution of workload amongst the team.
- Effective communication is of paramount importance. A good rapport was established and maintained with the support group and the CET in the early stages and proved to be invaluable in the development of the project.
- The provision of evidence-based information is crucial. Incorporating the best of the available literature into practical advice offered credence, as well as ensuring that recipients have the best possible chance to improve their oral health.
- Community engagement projects are a valuable learning tool for students preparing for practice as they encourage a holistic approach to patient care.

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