Editorial

The importance of studying communication processes in the dentist: patient interaction

Gerry Humphris and Ruth Freeman

The delivery of dental services attracts continuing debate by health service management, public health specialists and public representatives. There is little argument, that communication among dental service providers and client groups is a vital component of exemplary services. However, the exact requirements of what constitutes good communication becomes problematic. Definitions can be applied to detailed observations of elements of dental staff behaviour. Such observational audits are rarely applied, due to the large resources required, and believing this approach is purely a research-only exercise. We acknowledge the demanding nature of any such endeavour in real-time by a trained observer. An alternative is to video-record clinical sessions. Although this has been possible for some decades, the widespread use of recording samples of clinical sessions, for example to assess staff engagement in prevention advice, is not realistic using current methodologies, even if the considerable ethical concerns could be assuaged. In addition, hitherto, there has been a wide ranging set of views of what would be considered poor, just good enough or excellent communication. Part of this difficulty is due to the complexity of the communication processes themselves. The variety of health service settings, staff experience and training received in the field of communication and the sheer spectrum of patient types and problems that surface which require treatment, advice and instruction makes a universal framework of what constitutes acceptable communication skills difficult to specify. Furthermore, when no established standard can be agreed the status of rewarding good communication is therefore under-valued and simply ignored from service contracts.

Our thesis is that technological and communication theory advances converge to establish, perhaps for the first time, the characteristics to enable commissioners to design systems to catalogue, examine, analyse and reward staff and services for exemplary, consistent high-quality messaging and communication skills with patients attending local services. There are many instances in the dental consultation when communication skills are key to successful clinical delivery.

We focus just on two areas where communication skills are vital, and they include:
1. anxiety management, and
2. delivery of preventive advice, information and recommendations for changing dental health behaviour.

The use of recording routinely clinical sessions allows the sampling of a selection of consultations for detailed analysis. This opportunity to report communication skills would require a streamlined approach to reveal the all-important techniques, content and timing to demonstrate a minimum level of performance. The development of an automated system might be the 'golden egg' to open this field for serious consideration. More recently this once fanciful validation of service provision is becoming closer to reality.

From our research in the field of clinician and patient communication from a number of perspectives in our careers, we wish to present some important findings. We propose that the study of communication has become within close range of detailed scientific investigation based upon close observation, definition, hypothesis generation and testing. New technological developments give the potential to collect, code and analyse the large quantities of data that can catalogue the pattern of interaction between players in the clinical setting. The potential benefits of pursuing this presents some intriguing choices for public health researchers and clinical teachers.

Both of the routine areas of public service dentistry above (dental anxiety management and chair-side health promotion/education), which rely on sophisticated communication may be enhanced with reference to at least two theoretical and complementary developments. The first is a focus on emotional talk and the second is the expansion from dyadic to triadic systems of personal communication.

It has been shown that assessments of dental anxiety (using the modified dental anxiety scale: MDAS) conducted before meeting face-to-face with a dental professional are known to influence patient experiences and psychological outcomes. However, there is an important moderator. That is, the clinician must engage with the patient to return a positive clinical effect. Clear demonstration of this was highlighted by Yvonne Dailey's PhD work (2002, supervised by Gerry Humphris and the late Mike Lennon) and from Jenny Hally's PhD (2017, supervised by Ruth Freeman and Gerry Humphris). This work is consistent with a recent secondary analysis using structural equation modelling from a representative UK sample (Yuan *et al.*, 2020). The model presented a close correspondence between patient self-reported ratings of the communication process with their past experience of the interaction with dental staff, trust in the dentist-patient relationship, and finally, the link with patient dental anxiety. Although supporting the ethos of communication being a central

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construct in service delivery it was based primarily on self-reports. The close observation of communication transcripts, although work intensive, repays close attention. The international team of communication experts from EACH, meeting at Verona in Italy, developed the VR-CoDES system, over a period of eight years. It was based upon a theoretical framework to derive a reliable assessment of coding emotional talk (Piccolo *et al*., 2017; Zimmerman *et al.*, 2011). The response from clinicians can be divided into 17 definable categories (Piccolo *et al*., 2011). Investigators have also reported an automatic system for coding emotional talk using Artificial Intelligence (Park *et al*., 2021).

The second example of applying a personal communication theoretical perspective to clinical service delivery is the proposal of a new model of triadic communication between child, parent and dental professional (Yuan *et al*., 2021a; 2021b). The coding scheme that has been developed (Yuan *et al*., 2019) shows the benefit of parent intervention in interactions between dental staff in health promotion communication with a young child advising about tooth brushing and sugary snack consumption.

Technological developments have pushed ahead recently to enable automatic transcripts to be stored as patient files to be text analysed for words linked to prevention (Park *et al.,* 2021). The collection of large quantities of audio-recordings within the patient electronic file is now feasible, with concurrent consent and storage with appropriate safeguards. Coding systems are being developed to enable service providers to glean reports of the frequency of certain components, say, of acknowledgement of patient anxiety, an empathic statement responding to a patient expressing a worrisome thought or the dental staff member tailoring health education for their patient. Empathic statements and preventive support can now be confirmed, whereas previously service commissioners depended on clinician self-reports that would be difficult to validate.

New analytical techniques using intensive longitudinal assessments over periods of months, sometimes referred to as 'shortitudinal' approaches can be employed to plot the crucial dynamics of communication processes over time. An example can be found from the quit smoking literature of ecologically momentary assessment (EMA)(Businelle *et al*., 2016). This technique allows enhancement of the audit trail of services to plot changes in communication over time. The ability then to collect, routinely, personal interactions and analyse important parameters, that could be confirmed, over time or a number of appointments would, we argue, change staff attitudes towards the process of positive client engagement. This change increases the likelihood that this vital component of clinical services could be assessed. We commend the investment of research into the automatic coding and analysis of clients, service providers and clinicians video recordings. It is our belief that there is a huge set of excellent examples of communication skills between patients, carers and clinicians in the dental arena that is lost to the ether and could be used potentially for audit, other quality assessments and even remuneration schemes. The dominant use of treatment indicators might be balanced with the human social exchange of providing care, support, explanation and commended instruction to assist changes in preventive behaviour of the dental team with the patient included as the engaged partner.

Announcement

It is with great sadness that we report that Professor Ruth Freeman passed away on Thursday 23rd September 2021. A more formal obituary, with a biography of her work is included on page 284 of this issue.

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