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MATCHING PERCEPTION WITH REALITY: HOW PATIENTS DEVELOP PERCEPTIONS OF TREATMENT

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Reality is perception

The provision of a high level of technical expertise in dentistry is central to delivering professional care to patients. Other members of the profession can observe the 'reality' of the technical expertise provided and judge its level against accepted professional standards. As members of the profession, they know what they are looking for technically and find the result perfectly satisfactory.

However, delivery of a technically expert treatment is just one side of the clinical coin. The patient's perception of the standard of care delivered by the dentist may be quite different. Although the dentistry may be technically excellent, it is quite possible that the patient believes it is inferior. In this instance, patients' perception of care is their 'reality' and the result is not satisfactory.

It is important, therefore, to understand both sides of this coin in order to meet our obligation to provide a high standard of care – one that satisfies both our patients and our professional colleagues. This article explores the components of patients' perceptions of dental treatment and how they develop them. It is known that the quality of interpersonal

TABLE 1

DEFINITIONS OF STRUCTURE, PROCESS AND OUTCOME OF SERVICES¹

Structure refers to the extent to which the goals of the service are valued by patients and potential patients. Do the values of the service match those of users? The structure of a service relates to the way in which it is organised, its location, the payment system in operation, how patients access the service (walk-in centre, referral and so on).

Process refers to whether the manner in which the service runs is acceptable to service users (such as opening hours, services offered, location). The process of the service relates to the patient's experience of using the service, and can cover all aspects from receiving an appointment to undergoing treatment.

Outcome refers to various aspects of the outcome of care. Do patients express satisfaction with the services they received? Does it produce valued health gains? The outcome of care can also take many forms, including improvements in aesthetics or function, and patients' satisfaction with the care they have received.

communication between the patient and the dental team is paramount to the development of patients' perception. A well-researched and commonly used model of interpersonal communication is provided as a guide for dentists and their teams. It is hoped that this will help them improve the quality of this aspect of their practice and therefore cover both sides of the clinical coin, matching perception with reality.

What are the components of 'patient perceptions'?

Patients' perceptions of the treatment that they receive during their dental treatment can broadly be said to relate to beliefs concerning their expectations and evaluations of the care they receive.^{1,2} Expectations are notions in anticipation of the experience of care, whereas evaluations are those notions formed following the receipt of care. The experience of care can confirm or disconfirm the expectation.

For both expectations and evaluations, there are three broad aspects of service

provision that we can ask patients about:³

- 1 The structure of the service
- 2 The process of the service
- 3 The outcome.

These are defined in Table 1.

There is a distinct possibility that patients will differ from the dental team in the relative weighting given to each of these aspects, and furthermore that patients do not show a homogeneous set of perceptions regarding these aspects.⁴

It is quite legitimate to request patients' opinions on aspects of the structure, process and outcome of care (or, in the case of patients lacking the capacity to express their views clearly, their carers or advocates). This should include the views of those who have chosen to discontinue treatment as well as those who continue in treatment. For example, drop-out rates for treatments have been used as a crude indicator of treatment preference.⁵ A questionnaire or interview to follow-up those who do not complete treatment may yield information that is of value in planning or modifying services.

KEY WORDS

Patient Satisfaction, Patient Outcome Assessment, Communication, Health Care Quality, Access, Evaluation

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TABLE 2
SEVEN ASPECTS OF SERVICE QUALITY⁶⁻⁸

Availability refers to the ability of the service user to access the service, and may include aspects as varied as location, opening times, disability accessibility.

Appropriateness refers to the match between the services required by users and the services provided. Are those services appropriate to the needs (for example, the availability of the full range of preventive, conservative and restorative treatment options)?

Acceptability has been defined as 'The fit between the values of the client and the service provider'.⁹ It refers to the match between patients' perceptions of what should be provided, and the perceptions of the service provider.

Efficacy refers to the effectiveness of the service; that is, how well it achieves valued goals for the patient.

Equity is a concept related to justice. It refers to the extent to which the treatment or service provided is matched to need. An equitable service provides treatment in proportion to need – delivering most care to those in most need.

Efficiency is related to efficacy and is concerned with achieving the maximum effect in the most efficient manner possible (that is, by minimising the unnecessary use of resources).

Humanity is a concept allied to acceptability, but rather than referring to the views of an individual, humanity examines the extent to which the service provided meets the expectations of society as to the nature of an acceptable service.

Within these three broad dimensions of structure, process, and outcome of care, we can also identify seven specific aspects of service quality:⁶⁻⁸

- 1 Availability
- 2 Appropriateness
- 3 Acceptability
- 4 Efficacy
- 5 Equity
- 6 Efficiency
- 7 Humanity.

A brief description of each of these aspects is given in Table 2.

Each of these seven specific aspects could be addressed for the three broad dimensions of structure, process and outcome. However, the author has argued elsewhere that only some questions can be expected to produce reasonable answers from patients,¹⁰ namely availability, appropriateness, acceptability and efficacy. The extent to which these different dimensions have been addressed is limited.

The literature surrounding patient expectations of care

Patients' expectations of healthcare are usually defined as a typology. Thompson and Sunol (1995)¹¹ suggest that there are four main types of expectations that patients may have of their future treatment:

- *Ideal expectations* refer to those notions that the patient would like to have in a perfect world; were such expectations to be realised the patient would be highly satisfied, although they expect the probability of

meeting them to be low.

- *Predicted expectations* are those behaviours and experiences that the patient anticipates will happen.
- *Normative expectations* refer to positive or negative expectations that a patient may have about the encounter based upon social (either societal, familial or other social groups) norms (for example, patients might expect a dentist to wear some form of uniform, they will expect to pay in some form for the treatment that they receive).
- *Unformed expectations* refer to those situations or aspects of a situation for which the patient has no anticipated experiences.

The importance of these expectations lies in their relationship with satisfaction with their treatment after it has been delivered. 'Disconfirmation theory' suggests that, where our expectations of goods or services are not met, we become dissatisfied with the thing delivered, for example Baker (1998) states:

*'Our satisfaction with most encounters, medical or otherwise, often depends on whether or not our expectations are met. The purpose of managing expectations is to have as little discrepancy as possible between patients' expectations and their actual experience.'*¹²

Although there does seem to be some evidence that failure to meet expectations

is likely to lead to dissatisfaction, it appears to be dependent on the particular expectation and its importance to the individual. A patient's *ideal expectations* are those that are most likely to be important in determining satisfaction – fulfilment or near fulfilment of these is highly likely to lead to a satisfied patient. *Normative* and *unformed expectations* are unlikely to be strongly related to satisfaction, as they are taken for granted. For the *predicted expectations*, it is likely that the importance of the expectation is critical (for example, if patients predict that their treatment will be completed, but this is disconfirmed, then they will be, quite reasonably, dissatisfied).

For all types of expectation, there appears to be a 'zone of tolerance' such that small failures of expectations may be acceptable. This zone of tolerance varies with the importance of the dimension – if the expectations relate to aspects of care that the patient values highly, these are more likely to be central in determining patient satisfaction, but the zone of tolerance is likely to be smaller. It is therefore important to determine what aspects of care are important to patients and endeavour to meet their expectations in relation to those core values.

The literature surrounding patient evaluations of care

Many studies have assessed patients' evaluation of their dental treatments, in particular patient satisfaction with the process and outcome of care.^{5,13} The review by Newsome and Wright (1999)⁵ is a thorough and detailed introduction to the topic. It demonstrates that, typically, patients express high levels of overall satisfaction with dental services, but that satisfaction decreases when patients are asked about specific components of their care – especially the personal aspects of care.

In terms of the structure of health services,

research in both the dental and the medical literature suggests that patients are not generally interested in being involved in discussions concerning the allocation of healthcare funds.¹⁴⁻¹⁶ Crossley et al (2001)¹⁶ suggest that patients are most interested in information on standards, performance and complaints. There is a body of literature in the UK that has addressed the perceptions of members of the general public of the availability of services¹⁷ and there has been a small body of work published on perceptions of appropriateness. In the late 1980s and the late 1990s, the state of Oregon sought to define a priority list for funding healthcare. The response to what has been termed 'Oregon's experiment with prioritising public health care'¹⁸ provides some information on the priorities set by members of the public on dental treatment in comparison with other disease states. The data produced by the Oregon experiment are somewhat contradictory,

suggesting that the general public finds the setting of priorities difficult.¹⁹

There is a quite extensive literature in the dental field that has determined the perceived acceptability and humanity of treatments among members of the public and patients. This research has drawn on methodologies from the field of mental illness and palliative care, which have examined the acceptability of treatments from the viewpoint of the general public using vignettes.^{20,22} In this method, participants are presented with case scenarios and asked to judge the acceptability of the treatment in each case. The use of standard vignettes allows the systematic exploration of the impact of outcome and other characteristics on perceived acceptability.

The published research has largely explored views on the acceptability of interventions for the management of the

manifestations of extreme dental fear such as the use of sedation and methods of restraint.²³⁻²⁵ Interestingly, the main effect that has been found in this study is the importance of the outcome of treatment – the better the outcome of the treatment (regardless of what it is), the more acceptable that treatment is seen as being.

In summary, assessments of patients' evaluations of the structure, process and outcome of care have largely been successful in focusing on the perception of satisfaction with care. There is probably a need for the development of new methodologies (perhaps including qualitative methods and drawing on the work of market researchers) for the broader assessment of patients' evaluations of treatment.

A final consideration, which has not been widely discussed in the literature, is the timing of evaluations. This is likely to be critical in determining the perceptions of patients. For example, in the short-term, patients may experience residual iatrogenic symptoms (pain, bleeding, numbness), which will pass with time. The timing of perceptions should strike a balance between being too immediate at the risk of evaluations being overly influenced by transitory problems, and too long after treatment when patients may not remember the treatment experience – see Williams et al (2001).²⁶ Naturally, the timing of the evaluation will need to be judged according to the particular treatment under investigation, and the expected course of recovery.²⁷

How do patients develop their perceptions?

As described above, patients' perceptions will comprise expectations of care to be received and experiences of care that they have just received. Such expectations are likely to arise in three ways (Table 3).^{1,2}

It is important for practitioners to note that these expectations are susceptible to change by the dental practitioner through the use of communication strategies before treatment commences. This can be through the management of the sources of

TABLE 3

SOURCES OF PATIENTS' EXPECTATIONS^{1,2}

Development of expectations from personal experience. The patient may develop expectations of the way a service is delivered from their previous experiences and memories of treatment in both the specific and related settings. Patients' expectations of treatment will be coloured by previous experience in other dental and medical settings. This is most likely to be true of *predicted* and *normative expectations*. The accuracy of such expectations is unknown, because patients may inappropriately generalise from one setting to another. For example, children may fear dental injections from generalising their experience of injections from immunisations.

Development of expectations vicariously. Patients may have expectations of dental services derived from experiences shared by family members and friends, but also from the manner in which dentistry is portrayed in media and advertising, including both television and print media, and even advertising from dentists. Stereotypes of dentists are promulgated in all types of media, and most dentists will be familiar with patients discussing the portrayal of dentists in films such as *Marathon Man* and *The Little Shop of Horrors*.²⁸

The development of expectations as relief from the negative effects of dental disease. Patients' *ideal expectations* are likely to be related to the perceived impact of the condition. For example, Ryan et al (2012)²⁹ outline a model that suggests that patients experience distress and disruption in their daily activities as a result of their dental condition – in this case, their orthodontic status (such as feeling self-conscious about the appearance of their teeth) – and engage in orthodontic treatment with the expectation that the treatment will reduce the distress and disruption, in this instance their feelings of self-consciousness.

Figure 1: Adapted Calgary–Cambridge guide for patient-centred dental consultations

we can discuss how your teeth have been and then I will take a look and perhaps get some x-rays. Once we have all that information we can decide on the next steps'. The dental professional is also responsible for ensuring that the stages progress satisfactorily. The typical stages of a dental consultation are clearly delineated in the model.

Building the relationship

A relationship of trust and mutual respect will enable dental professionals and their patients to work towards joint decisions about the most effective pathway of care. Three key skills help to build such relationships. One is developing rapport through showing an interest in the patient and a willingness to help, as well as appropriate empathic responses. Another is involving the patient in decision making, which is simple and helps them feel positive towards the decisions made. Such involvement need not be complex – for example, asking patients whether they would like upper or lower impressions first, or for their opinion of the priorities for treatment. Throughout, the dental professional's non-verbal communication should be warm and welcoming.

The consultation

Extensive research in both medical and dental patients has identified those aspects of medical and dental consultations associated with the best outcome in terms of patient satisfaction with the consultation³³ and are listed in Table 4. The positive aspects are associated with a good outcome from the dentist–patient interaction – they generally result in patients feeling satisfied with their interactions with dental healthcare staff. The negative aspects are associated with dissatisfaction.

Active listening

Although we generally believe that we are listening to somebody, we recall less than 25% of the information that we have been told. Active listening refers to a process where the individual listens and, at the same time, attempts to discern, interpret and summarise what the speaker is saying. This necessarily requires a great deal of

information, such as how the practice is promoted to the public and patients, as well as through the management of the patient, ensuring that the patient's first experiences of the practice match the quality of care that the practice is aiming to provide.

A framework to aid improved patient perception

The development of patients' perceptions from the first and subsequent experiences with the practice will depend heavily on the quality of interpersonal communication between themselves and all members of the dental team they encounter. Interpersonal communication is founded on three channels of communication through which we transfer information. These are:

- 1 The verbal channel: the actual words we use.
- 2 The paralinguistic channel: essentially, our tone of voice.
- 3 The non-verbal channel: a whole range of behaviours that we interpret without consciousness but which convey a great deal of information (for example, facial expressions, gestures, eye contact).

Communication is most effective if all three channels (verbal, tone of voice and non-

verbal communication) are congruent – they all give the same message.³⁰ For a description of these components and their importance in dentist–patient communication, see Newton (1995).³⁰

There are many conceptual models of healthcare communication and a review of all the models would be beyond the scope of this article. However, perhaps the most commonly used model of healthcare consultations in the United Kingdom is the Calgary–Cambridge framework,³¹ which provides an overview of the key tasks that members of the dental team should seek to achieve when communicating with their patients (see Figure 1). It comprises a central theme, which is the *consultation* with various stages, and two tasks running concurrently: *providing structure* and *building the relationship*. The use of the Calgary–Cambridge framework is recommended for the training of healthcare professionals.³²

Providing structure

The dental team should be cognisant of the structure of the consultation and make it clear to the patient what is happening currently, what has happened and what will happen. For instance, 'Today I will make some notes on your medical history,

TABLE 4
COMMUNICATION SKILLS STRONGLY ASSOCIATED WITH PATIENTS' EVALUATIONS OF TREATMENT²³

Positive aspects

- Active listening
- Empathy
- Appropriate use of open questions
- Frequent summaries
- Clarification
- Negotiation of treatment plans
- Clear explanations
- Checking patient's understanding
- Checking patient's compliance with treatment.

Negative aspects

- Inappropriate use of closed questions
- Premature advice/reassurance.

and requires a degree of empathy on the part of the listener. Active listening is strongly associated with positive evaluations of the interaction.

Empathy

Empathy refers to the feeling that the listener is making an effort to understand the situation from the speaker's point of view. Empathy may be conveyed in body language and tone of voice, and also in the way that the dental healthcare professional talks about patients' problems.

Use of open questions

The quality and amount of information acquired in a consultation is related to the appropriate use of open-ended questions, frequent summaries, clarification and negotiation. Open questions allow the patient a free possibility of response, rather than limiting the replies to a number of options. 'How are you?' is an open question; 'Do you have a toothache?' is a closed question. Using open questions allows patients to discuss all their concerns. If questioning is inappropriately restricted to closed questions (about symptoms, etc), important concerns for patients (such as their anxiety) may be missed.

Summarising

As the consultation progresses, the use of frequent summaries allows the dentist or other dental healthcare professional to check that he or she has understood the patient. It may also help patients to clarify in their own mind what they are trying to express. A simple technique is the use of 'chunk and check' – group information into meaningful chunks and then check after every 'chunk' that the patient has clearly understood and remembered that bit of information before moving onto the next.

Clarification and negotiation

Clarification aims to demonstrate to the patient that the dentist is seeking a shared understanding of the patient's problem. The aim is to decode the patient's statements: a patient who asks, 'Will you be using the drill?' is probably expressing anxiety. The patient's tone of voice and body language will also reveal cues to meaning. Negotiating a joint treatment plan requires that the patient be involved in making treatment decisions, where that is possible. It may be worth thinking about decisions that could involve the patient – for example, when taking impressions do you routinely ask patients whether they would want to try the lower impression first

attention on the part of the listener. This attention will be reflected in the body language and non-verbal communication of the listener. Active listening involves trying to understand a speaker's viewpoint

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or the upper impression? It probably matters little to you, but patients may prefer to build their confidence by starting with whichever is easier, or prefer to 'get the worst out of the way first'.

Clear explanations

Patients who are given clear explanations also feel more satisfied with their interactions. Consider rehearsing a clear explanation for the advice you commonly give. Remember that although you may give the same message several times a day, it is important to make each event sound as if it is your first. There is a risk your delivery of the message will sound automated and, by inference, that you are disinterested. Your tone of voice and non-verbal behaviour should convey that you are genuinely interested in helping that individual patient. Through the tone of voice used, a healthcare professional can convey excitement, interest, boredom or that something is important.

Check patients' understanding

Patients often fail to understand the language used by clinicians and are reluctant to ask for clarification if they do not understand.³³ It is therefore important to check that patients have understood the

discussions that occur in the consultation.

Check patients' compliance

Failure to comply with the advice of healthcare professionals can lead to failures of treatment, and is potentially costly in terms of need for retreatment and ill health.³⁴ It is therefore important to check whether patients have managed to follow the advice given, or whether they have not followed the advice, either intentionally or unintentionally. Asimakopoulou and Daly (2009)³⁵ provide guidance on reinforcing compliance.³⁵

Premature advice/reassurance

Roter and Hall (1989)³³ suggest that seeking to provide advice or reassurance before being sure that all the relevant information has been collated can give rise to poor compliance and patient dissatisfaction with their interaction with healthcare professionals. A thorough knowledge of the nature of the problem, including the patients' perspective, is essential to effective communication.

Conclusion

Patients' perceptions of treatment comprise both expectations and evaluations of treatment. Both expectations and

evaluations may relate to the way that services are organised (structure) and delivered (process), as well as the result (outcome) of the treatment.

The level of satisfaction with care is significantly linked to the degree to which the evaluation of the experience matches the expectation (Did the patient believe the treatment proceed in the expected way? Did the treatment produce the expected result?).

Expectations are largely determined by the pain or distress that patients are experiencing when they attend, as well as through information obtained from sources such as close friends and family and the media. The way in which a practice and its healthcare team portray themselves will also be important in determining the initial expectations. In contrast, patients' evaluations of treatment are largely based on the experience of care. The most important aspect of the experience is the communication between the patient and the healthcare team.

The better the communication, the greater patients' satisfaction with care. Their 'perception' matches the 'reality'.

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