Helping anxious patients
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Abstract
Dental patients who experience anxiety are vulnerable and need help and support to overcome their anxious feelings and thoughts. Several studies have shown that a sizeable proportion of the general population avoids regular dental visits unless experiencing pain or discomfort. The aim of this paper is to increase awareness in dental hygienists and therapists of the aetiology of dental anxiety and aid you in your assessment and treatment of such patients.

Dental anxiety
There are several definitions for characteristic behaviour which involves fear, anxiety, phobia and panic. 1-7

1. Fear is a cognitive process for an event that has not yet occurred. It refers to the appraisal of an actual or potential danger in a given situation.

2. Anxiety involves the emotional response to that appraisal of fear, which can lead to physical symptoms such as tension, tremor, sweating, palpitation and increased pulse rate.

3. Phobia is characterised by an intense desire to avoid the feared situation and arouses anxiety when one is exposed to that situation.

4. Panic is a sudden overpowering fright, accompanied by increasing or frantic attempts to secure safety.

The following examples are scenarios that many of us may have experienced at some point in the dental setting:

Fear: A patient says he fears dentistry; he is generally referring to a set of circumstances that are not present but may occur at some point in the future. A fear is activated when an individual is exposed, either physically or psychologically, to the situation he considers threatening.

Anxiety: A patient is anxious in the dental surgery for a dental treatment. She experiences a subjectively unpleasant emotional state characterised by unpleasant subjective feelings, such as tension or nervousness, and by physiological symptoms - heart palpitations, tremor, nausea and dizziness. When the fear becomes activated she experiences anxiety.

Phobia: A patient is in the dental chair for an extraction, which refers to a specific object of fear. It involves the appraisal of a high degree of risk in a situation that is relatively safe.

Panic: A patient is having local anaesthetic for an extraction, which triggers an intense, acute state of anxiety associated with other dramatic physiological, motor and cognitive symptoms. The physiological correlates of panic are an intensified version of that anxiety - rapid pulse, cold, profuse sweating and tremor. One has a sense of impending catastrophe, general embarrassment and an overwhelming desire to escape, or get help.

Anxiety can be such a dramatic experience that it overshadows other components of the threat response. It can vary between individuals depending on circumstances. To understand the aetiology of dental anxiety, it is important to identify and examine the causes including:

1. What the patient reports in response to anxiety? [Self-report]

2. How different situations arouse anxiety? [The situation]

3. How the professional identifies the anxiety by looking at physiological, behavioural and cognitive factors? [Psychobiological report]

4. How biological differences in individuals provoke anxiety? [The biological differences]

Self-report
For those patients who have overcome some degree of their dental anxiety, and manage to attend for treatment, a competent preliminary screening of each individual physiologically and psychologically, as they report, is very useful. There are examples of standard ways of measuring how anxious each individual feels by self-report questionnaires, such as: State-Trait Anxiety Inventory (STAI) ; Dental Anxiety Scale (DAS) ; DAS modified (MDAS). 9-11 To achieve reliability, it can be tested by giving a questionnaire before and after an intervention. 14,15

The situation
There are several studies which indicate that for some individuals certain environments, procedures and treatments in the dental setting are relatively more stressful and anxiety provoking. 9,12,13 Examples could vary from being extremely anxious at the thought of having an extraction, injection and drilling to being fairly anxious during the polishing procedure, or even while sitting in the dental chair.

Psychobiological report
An examination of physiological, historical, pain related, developmental and childhood or adulthood experiences related to dental fear and anxiety can be undertaken to help patients. 16-20

1. Physiological aspects
Somatic changes, such as increased heart rate, sweating, raised blood pressure, palpitations and breathlessness, can be observed.

2. Behavioural aspects
Some behavioural problems are sometimes considered to be manifestations and signs of anxiety:

- Avoidance behaviour

Feelings of shame and embarrassment regarding their teeth could lead to avoidance. Such patients often avoid dental care thereby escalating their problems and increasing the likelihood that subsequent dental visits will be required for emergency treatment. This behaviour prevents them from separating and distinguishing the anxious and fearful state during treatment from non-traumatic experiences. 6,8,21

- Phobic behaviour

Some people’s fears become exaggerated to the level that it affects their quality of life, personally and socially. 22,23 They may suffer pain for days before consulting the practice for help. This patient’s behaviour is characterised by an intense desire to avoid the feared situation at any cost.

- Motor behaviour
This involves a degree of disruptive behaviour and can be assessed.\textsuperscript{22,23} The motor behaviour of anxious adult patients, and children, can form in several ways; moody, angry, verbal complaints and criticising attitude, pushing the instruments away, refusing to open the mouth or refusing treatment, rigid posture, being emotional and sensitive, crying, questioning, refusing to sit in chair or delaying tactics.

### Cognitive aspects of dental anxiety

The way people think about events plays a central role in their emotions. The anticipation of pain and suffering, either expected or experienced, can lead to anxiety.\textsuperscript{24-26} There are many suggestions and studies as how the cognitive distortion can relate to anxiety\textsuperscript{27} which can be subdivided as follow:

#### Learning from previous experience

Once an individual experiences traumatic dental treatment followed by the negative expression of pain and discomfort, the likelihood of their readily seeking dental treatment in the future is low. Often such an experience occurs during childhood or a dental emergency, and they are then subsequently unable to differentiate between pain caused by the condition and that caused during treatment.\textsuperscript{25,26} Experiencing a traumatic event with considerable pain, invasive treatment, humiliation and loss of control, will lead to a belief that a similar future event will also be traumatic. The patient’s previous learning and experiences reinforce the anxiety and can be classified as two types of conditionings: ‘classical conditioning’ and ‘operant conditioning’ theories:

- **Classical conditioning**

The classical conditioning theory by Pavlov\textsuperscript{27} suggests that if the neutral stimulus is repeatedly paired with the unconditioned stimulus, then the neutral stimulus becomes a learnt or conditioned stimulus leading to a learned or conditioned response. In dentistry patients often report that their anxiety stems from a fear of pain, and this is consistent with a classical conditioning explanation.

- **Operant conditioning**

This describes how behaviour is shaped and maintained by positive or negative reinforcements, and their consequences. The function of anxiety in the dental setting may be linked to pain or discomfort. The experience of pain is generally sufficiently unpleasant; the repeat of the same experience could be an example of negative reinforcement. Furthermore, a perceived critical response from dental personnel may reinforce dental anxiety.\textsuperscript{25,26}

#### Learning via observation

Learning is developed through observation of others who experience anxiety. This indirect phenomenon can be formed via sharing imaginatively in the feelings or activities of another person.\textsuperscript{29-31} In this scenario a person’s [adult or child] fear is activated by engagement with a similar situation that he sees, talks or thinks about, by other people or sources, therefore the threatening situation would become more prominent and more impending.

#### Uncertainty and unpredictability

The fear of the unknown and feeling out of control can intensify and exaggerate anxiety.\textsuperscript{20-21} In the dental setting a patient may experience anxiety through lack of predictability and loss of control; they cannot view what is happening in their mouth and for most part of treatment are unable to anticipate when pain might occur.\textsuperscript{14} Their anxiety is an expression of an emotion that thoughts and images of a threatening nature are out of control; the autonomic arousal produced in this way is interpreted by the patient as a sign of serious physical or mental derangement.\textsuperscript{7}

### Generalisation

Dental experiences may develop from experiences in other settings.\textsuperscript{20,27,33} An example of this is when someone has a fear of the medical environment due to a previous experience of illness and discomfort. They may project the same feeling towards the dental environment.

### Preparedness

There are suggestions that humans are born with a predisposition, or preparedness, to be anxious about certain situations or objects which in our evolutionary past did pose a threat.\textsuperscript{25,42} It is possible that the dental setting, instruments and new personnel can be distressing. The idea of being trapped in an unfamiliar situation, with unusual and unseen equipment, poses a real threat.

### Biological differences

Each individual may differ in terms of their anxiety level due to innate biological variations, such as sensitivity, pain tolerance or pain threshold or even arousal according to Pavlov theory.\textsuperscript{27} There are also suggestions that some people with high levels of dental anxiety have a number of other anxieties and concerns, such as general psychological or psychiatric difficulties.\textsuperscript{43,44}

### Conclusion

Anxious thoughts and anticipations of danger and painful experiences are unpleasant and sometimes debilitating. In many patients avoidance of dental treatment would therefore be their preferred choice. As a result, dental anxiety can lead to long-term negative implications for these individuals. A deterioration in their oral health and an increase in the perceived likelihood of pain and restorative treatments may ultimately require attendance for emergency treatment, consequently resulting in further negative dental experiences. Dental professionals have a duty of care to every patient and an empathetic approach needs to be employed when dealing with anxious patients to help arrest any downward spiral of disease.

About the author: Ellie qualified as dental hygienist in June 2005 from Kings College University. She has worked in various areas: general practice, holistic practice, periodontal practice, practice consulting, hospital, teaching and research.

Ellie also has an BSc (Hons) in analytical chemistry from University of London, which she studied for while working full time as a dental hygienist.

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### References:


