1

Spectrum of Anxiety Management

Introduction

The aim of this chapter is to introduce the reader to the nature and development of dental anxiety and to provide an understanding of how and why patients behave in the way they do. This forms the basis for the practice of conscious sedation in the management of dental anxiety. The latter part of the chapter explains the development of conscious sedation, the accepted definition and the current guidelines relating to the practice of the technique in dental practice.

One of the main indications for the use of conscious sedation for dental care is ‘anxiety’. The prevalence of dental anxiety and phobia is high. The 2009 United Kingdom Adult Dental Health Survey indicated that 36% of adults had moderate dental anxiety and a further 12% reported extreme dental anxiety. The significance of dental anxiety as a barrier towards obtaining dental care, particularly as a result of avoidance, is well recognised. It has also been reported that dental anxiety does not just affect the patient but can have a significant effect on the general dental practitioner who treats the anxious patient. Treating the anxious patient can be a major source of stress for dentists within their daily working environment.

It has been postulated that the aetiology of dental anxiety is multifactorial and modifies and evolves with time. This concept is particularly relevant for the twenty-first century. With the decline in dental caries in childhood, dental trauma will have a reduced role. Other factors such as the attitudes of family, friends and peers, media influence or the extent to which dental anxiety is part of an overall trait, will become more apparent.

There is a need to understand the individual components of dental anxiety as this will help to increase the dental healthcare worker’s awareness in recognising and managing the dentally anxious patient.

Fear and Anxiety as a Normal Phenomenon

Fear is often considered an essential emotion, augmenting the ‘fight or flight’ response in times of danger and manifesting as an unpleasant feeling of anxiety or apprehension relating to the presence or anticipation of danger. Fears are found throughout childhood, adolescence and adulthood.
Intense fears in childhood generally subside with maturity and the development of an ability to reason. If they do persist, however, this can result in the development of a 'phobia', a persistent, irrational, intense fear of a specific object, activity or situation. Phobias cause more distress to the patient and are difficult to overcome as they are more resistant to change. Very often some form of psychological/therapeutic intervention is required. Dental phobia invariably leads to dental neglect and total avoidance of dental care and is much more difficult to manage than dental anxiety.

It is therefore important to distinguish between 'phobia' and 'anxiety'.

**Anxiety**

*Anxiety* is a more general non-specific feeling, an unpleasant emotional state, signalling the body to prepare for something unpleasant to happen. Typically, anxiety is accompanied by physiological and psychological responses including the following.

**Common Physiological Responses**
- Increased heart rate
- Altered respiration rate
- Sweating
- Trembling
- Weakness/fatigue.

**Common Psychological Responses**
- Feelings of impending danger
- Powerlessness
- Tension.

**Phobia**

*Phobia* may be considered as a form of fear that
- Is irrational and out of proportion to the demands of the situation
- Is beyond voluntary control
- Cannot be explained or reasoned
- Persists over an extended period of time
- Is not age specific.

**Aetiology of Dental Anxiety**

The aetiological factors associated with the development of dental anxiety will be dealt with under the following headings:
- General anxiety and psychological development
- Gender
- Traumatic dental experiences
- Family and peer-group influences
- Defined dental treatment factors.
General Anxiety and Psychological Development

It has been suggested that dental anxiety is a function of personality development associated with feelings of helplessness and abandonment. It is therefore important to consider the age and degree of psychological development of a child when assessing their ability to cope with stressful situations.

As children mature, so their level of understanding increases and the nature of their fears change. In infancy and very early childhood, fear is usually a reaction to the immediate environment, for example loud noises or looming objects. Relating this to the dental environment, it is understandable therefore that a very young child may find the sounds and smells in a dental surgery overwhelming, as well as the sight of the dentist and dental nurse in clinical uniform.

By the early school years, it is suggested that such fears have broadened to include the dark, being alone, imaginary figures, particular people, objects or events (animals and thunder). This could also equate with the dental situation, where a child is perhaps left in the dental chair with the dentist. He or she is unsure of what is going to happen and is unfamiliar with the dental environment.

At about nine years of age, the fear of bodily injury starts to feature strongly. It is clear therefore that for many children the thought of invasive dental procedures may be anxiety-provoking. As children mature they are more able to reappraise the potential threat of the situation and may be able to resolve that anxiety.

In adolescence, fear and anxiety are centred on social acceptance and achievement. Some teenagers will be particularly aware of their appearance and possible criticism from peer groups.

In adulthood, although anxieties can develop spontaneously, it is more commonly related to social circumstance or bad experiences.

Gender

There are varying reports and opinions regarding the influence of gender on the aetiology of dental anxiety. Female patients tend to have higher scores for dental anxiety and consider themselves more fearful of dental treatment when compared to men. When considering prevalence studies in children, it would appear that generally girls report more fears than boys. There is much debate as to whether this is due to

- Men being less willing to admit their anxiety
- Women feeling more vulnerable
- Women being more open about their anxieties.

Traumatic Dental Experience

Negative dental experiences are often quoted as the major factor in the development of dental anxiety with direct negative experiences including painful events, frightening events and embarrassing experiences leading to the development of dental anxiety. Such experiences can occur during childhood, adolescence and adulthood, however, for dental anxiety to develop, it is the nature of the event that appears to be more important than the age at which it occurs.

Traumatic medical experiences can also have a significant relationship with negative dental behaviour and may be important factors in the development of dental anxiety in children.
Family and Peer-Group Influences

Influences outside the dentist's control can often heighten dental anxiety. Indiscriminate comments, conversations and negative suggestions about dentistry can induce fear in children and the expectation of an unpleasant experience during dental treatment. Such comments may be made by family members or the child's peers and act as an important source of negative information.

Defined Dental Treatment Factors

Specific dental treatment factors have been defined as the immediate antecedents of dental anxiety, the two most anxiety-arousing being the injection and the drill. Other factors also play a part such as fear of criticism by the dentist, the dentist's attitude and manner and the dental environment. The dentist's attitude may lead to the development of a dentally anxious patient. For example, an abuse of trust by one dentist may result in all dentists being mistrusted. A proposed model for dental fear in children can be seen in Figure 1.1 (Chapman and Kirby-Turner, 1999).

Measuring Dental Anxiety

Within dental education the behavioural sciences have become an increasingly important component. One element of this has been the application of psychological methods to study and quantify behaviour and attitudes relevant to dental care, in particular, dental care.
anxiety and behaviour during dental treatment. This has included a wide range of methodological approaches and techniques, including questionnaires and behaviour measures. Examples of such measures include children’s drawings, observation of behaviour, visual analogue scales, ratings by dentists and self-report questionnaires. The most common method of measuring dental anxiety is by using questionnaires and rating scales. It is important to ensure the measures used are reliable, valid and applicable to the population to which they are aimed.

**Commonly Used Anxiety Scales**

**Adults**
- Modified Corah Dental Anxiety Scale
- Visual analogue scale (Figure 1.2)
- Short Dental Anxiety Scale.

**Children**
- Children’s Fear Survey Schedule Dental Subscale
- Smiley Faces Scale (also known as Wong or Venham faces Figure 1.3).

**Summary**

In summary, it is clear that dental anxiety has a multifactorial aetiology comprising age and psychological development, gender of the patient, past traumatic dental and medical experiences, influence of family and peer groups and the immediate antecedents of dental anxiety. All patients will hold their own attitudes and emotions towards the dental situation, as well as their own past dental experiences. The social circumstances and family dynamics will also have an influence on the patient’s behaviour and the level of dental anxiety. It is important therefore for those in the dental profession to be aware of this multifactorial aetiology to be able to provide effective behavioural management in the dental setting.

Very Anxious ----------X------------------------------------------ Not at all Anxious

**Figure 1.2** Visual analogue scale – A straight line measuring 10 cm, labelled Very Anxious at one end to Not at all Anxious at the other end. The patient is asked to place a X on the line to represent the extent of their anxiety.

**Figure 1.3** Smiley faces anxiety scale – The child is asked to circle the face that best represents how they feel.
**Behaviour**

In order to understand the rationale behind the methods used in treating anxious patients, it is necessary to understand why people behave in the way they do. It is also useful to know how behaviour can be modified in a way that is beneficial for both the patient and the dentist. This can often be achieved without resorting to the use of drugs, allowing long-term anxiety management.

**Nature of Behaviour**

Behaviour may be defined as functioning in a specified, predictable or normal way. In psychological terms, behaviour is a response or series of responses of a person to a given stimulus. The borderline between what is normal (or acceptable) and abnormal (or unacceptable) behaviour is blurred by a host of factors including time, culture, conditioning and other considerations.

The intent of adults would most commonly be to want to behave in a rational and sensible manner, whereas the same intent would not always be present in children and adolescents. It therefore follows that the management of what appears to be similar but abnormal behaviour in the different groups needs to be tackled from a different viewpoint. This illustrates the complexity of the problem when it comes to teaching or learning techniques of behavioural management.

In conclusion, behaviour is a complex issue governed by a multitude of factors, some of which are illustrated in Figure 1.4. Equally, the management of behaviour is a difficult and extensive subject. However, the successful treatment of any patient depends on a dentist’s ability to manage the patient’s behaviour satisfactorily and some of the techniques of behavioural management are discussed below.

**Behaviour Management**

**Simple Methods**

There is an element of fear in all unknown situations in the majority of normal individuals. Probably the most important aspect of behavioural management is to ensure that the provoking stimulus is minimised as far as possible. Much of this is common sense and includes paying attention to such factors as room decoration, the way staff are dressed and the playing of gentle music in the background.

**Positive Distraction**
Positive distraction can be applied with the use of ceiling-mounted televisions and personal music systems, as in Figure 1.5.

Although the five sensations of sight, sound, hearing, touch and smell can all be offensive to patients at the dentist, it is undoubtedly the fear of pain which is the most commonly quoted factor that inhibits individuals seeking treatment or which underlies the apparently irrational behaviour of many anxious patients.
Tell, Show, Do
Simple behavioural management consists of informing verbally and demonstrating practically before actually performing a procedure. This has commonly been interpreted as a ‘tell, show, do’ sequence and there is good evidence that it is effective for many people (Figure 1.6). It does, however, depend on patients being able to adopt a rational approach to unknown situations. It is unlikely to be very effective in phobic patients or those demonstrating other types of neurotic behaviour.

Permissible Deception
Another simple method of behavioural management, and one that is particularly suitable for use in children, is sometimes referred to as ‘permissible deception’. An example of this would be the introduction of an infiltration local anaesthetic into an upper premolar region without a patient being told they were having an ‘injection’. Providing adequate topical anaesthesia has first been given and the needle is not seen by the patient, abnormal behavioural responses are rarely seen in such situations. In such techniques, it is important not to tell lies but to be ‘economical with
Figure 1.5 Ceiling-mounted television.

Figure 1.6 By explaining the procedure to the patient and showing them the equipment the patient may feel more confident to proceed with treatment.
the truth’ using such terms as squirting some numbing water, washing the gums or making the teeth go to sleep.

Successful application of these simple techniques is highly dependent on the confidence of the person applying them. The success of the administration can then be used as a building block on which further steps can be built.

**Relaxation Techniques**

Behavioural response is also heightened by stress, and simple relaxation techniques can be applied to enable tense patients to relax. This may be achieved actively, for example by using progressive relaxation strategies, or passively by using soft background music. It has also been shown that patients perceive the degree of stress being experienced by the dentist and react accordingly, developing heightened responses to any stimuli. It is, therefore, essential that dentists review their own reactions in difficult or stressful situations and take every action possible to moderate them accordingly.

**Systematic Desensitisation**

This is the most common and potentially most effective psychological technique. It involves gradually acclimatising patients to very minor stimuli and teaching them to relax while these are being applied. Once relaxation is achieved the stimulus can be gradually increased usually over a considerable period of time, until even the most feared situation is manageable.

Many dentists intuitively use this approach in treating extremely anxious patients, first of all introducing a mirror and then a probe followed by the use of hand-scalers, tooth-brushing with the dental engine, maxillary infiltration, small restoration, inferior dental block, and so on. In many cases, it is possible to teach a new set of learned behaviours, replacing the previously maladapted ones.

**Cognitive Behavioural Therapy**

Cognitive Behavioural Therapy (CBT) is a talking therapy that addresses a person’s problem(s) by changing the way they think and behave. An important aspect of CBT is that it focuses on the present problems rather than dealing with issues that have occurred in the past, helping the individual to find ways of changing their state of mind on a daily basis. CBT is delivered in a structured and collaborative way where patients are asked to carry out exercises at home as part of the process. CBT helps the patient make sense of their anxiety by breaking the issue down into five main areas that are interconnected and affect each other:

- Situations
- Thoughts
- Emotions
- Physical feelings
- Actions

The behavioural aspect of the therapy includes learning relaxation techniques and carrying out systematic desensitisation of anxiety-provoking situations. The cognitive element of the therapy is based on the way people think about situations, which has an effect on their emotions and physiological response and can lead to unhelpful behaviours including avoiding dental visits. The aim of CBT is therefore to create a new way of thinking about a situation which in turn leads to a more positive behaviour.
CBT can be delivered by dentists and dental care professionals (DCPs) who have received appropriate training in the technique.

Hypnosis
The use of hypnosis in dentistry has been slowly increasing as more scientific research and effective postgraduate training have shown potential benefits. A range of techniques can be employed from a simple light hypnotic trance which creates an illusion of relaxation and remoteness, to the use of more complicated phenomena, such as hypno-analgesia, where the effects of a local anaesthetic can be induced through suggestion alone. Hypnosis is a specialised therapeutic technique and should only be practised by those who have received appropriate training.

Summary
Where behavioural techniques prove unsuccessful, drug therapy may be required to manage patients’ anxieties in order for them to be able to comply with dental care. The method of choice for the majority of patients will be conscious sedation. The next section of this chapter will deal with the development of conscious sedation in dentistry, introducing the reader to the history and main principles of its practice.

Conscious Sedation
This section presents the definition and guidance for conscious sedation in dental practice in the UK.

Current UK Practice in Conscious Sedation
There is much to be gained from the practice of safe conscious sedation. This must be based on a sound understanding of the principles and practice of safe sedation and the remainder of this book aims to give such a grounding.

The practice of conscious sedation in dentistry in the United Kingdom is regulated by the General Dental Council (GDC) with reference to the most contemporary guidance documents developed by expert working groups. In 2003 the Standing Dental Advisory Committee for England and Wales published guidance relating specifically to Conscious Sedation for Dentistry and in Scotland the Scottish Dental Clinical Effectiveness Programme published guidance in 2012. Both these documents sought to standardise the safe provision of conscious sedation in dental practice.

More recently in 2015 the Intercollegiate Advisory Committee for Sedation in Dentistry (IACSD) published Standards for Conscious Sedation in the Provision of Dental Care and in 2017 The Scottish Dental Clinical Effectiveness Programme (SDCEP) revised their guidance document Conscious Sedation in Dentistry.

Definition of Conscious Sedation
Conscious sedation as practiced in the UK is defined as:

A technique in which the use of a drug or drugs produces a state of depression of the central nervous system enabling treatment to be carried out, but during which verbal
contact with the patient is maintained throughout the period of sedation. The drugs and techniques used to provide conscious sedation for dental treatment should carry a margin of safety wide enough to render loss of consciousness unlikely.

It should be noted that guidelines on conscious sedation vary at an international level and the readers should be directed to documentation available for their own countries.

General Anaesthesia

The availability of conscious sedation has undoubtedly reduced the number of patients who require a general anaesthetic to tolerate dental treatment, but there remains a significant number who seem unable to tolerate the idea of treatment of any sort unless they are rendered totally unconscious. For this group of people, no amount of talking or persuasion will make any difference; unless they are ‘knocked out’ they will not have any treatment regardless of the degree of pain they are suffering. While this may appear totally irrational, it is no less real and it must be accepted that for those people, a caring professional must provide anaesthetic services at least for the relief of pain and other emergency dental situations. This was the basis of the Department of Health (DH) report, *A Conscious Decision* (DH, 2000), where guidance was produced for the delivery of safe and effective general anaesthesia for dental treatment. The report also recommended that sedation should be used in preference to general anaesthesia whenever possible.

In the United Kingdom, general anaesthesia should now only be provided in hospital-based services where there is access to intensive care facilities.

Summary

In the first chapter of this book, various methods of patient management have been considered and it is important to remember that many factors will influence decision making, including the patient’s age, level of anxiety, relevant medical history, level of co-operation and understanding. It is advisable to adopt a stepped approach when deciding what is in the best interest of the patient, first considering behavioural management techniques and subsequently moving along the scale to sedation or even general anaesthesia in a few cases. Patient management may involve one or more of these modalities depending on the needs of the individual. It is likely that such an approach will be more beneficial in the long term since patients who have general anaesthesia or profound sedation from the outset are less likely to attend recall appointments and have a higher incidence of subsequent dental disease. Those who adopt a progressive approach to sedation, with a view to using it as a treatment modality which can gradually be reduced, are more likely to be successful in their treatment of anxious patients. Sedation should therefore be considered in severely anxious (phobic) patients, moderately anxious patients undergoing difficult or prolonged procedures, anxious child patients, those with certain physical or intellectual disability, and those who may otherwise require a general anaesthetic.
References


Further Reading


