

CHAPTER 12

Working With Youth Who are Fearful/Anxious About Dental Care

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“I have not been to the dentist since I was 11. Even though I was very young, I still remember everything. It traumatized me, so I refuse to go back.” (Samantha, 16-year-old girl)

Conceptual Issues of Importance
<ul style="list-style-type: none"> • Many children and adolescents experience some anxiety about dental care or about more invasive dental procedures. For most, dental fear and anxiety (DFA) is transient and can be handled with empathic communication and interventions such as tell-show-do.
<ul style="list-style-type: none"> • There is a subset of children and adolescents who experience dental phobia; these youth likely need more intensive interventions that require the collaboration of dental and mental health professionals.
<ul style="list-style-type: none"> • Dental phobia in childhood or adolescence can continue well into adulthood and may result in years-long avoidance of dental care.
<ul style="list-style-type: none"> • Experiences in which the child feels a loss of control are particularly relevant for the development of dental phobia.
<ul style="list-style-type: none"> • Youth can develop high levels of DFA or a dental phobia after a painful or shameful experience during dental care. Although less common, DFA or a dental phobia can also be the result of social learning.
<ul style="list-style-type: none"> • Both patient and provider factors contribute to whether an experience is perceived as painful or shameful.
<ul style="list-style-type: none"> • Early experiences at the dentist are likely the most influential in determining whether a child or adolescent develops DFA or dental phobia.
<ul style="list-style-type: none"> • For vulnerable individuals, dental providers may need to weigh the pros and cons of focusing on current dental needs versus long-term health concerns, at times delaying needing treatment to prevent a dental phobia.

Dental fear and anxiety (DFA) is a common problem. Although there are not high-quality epidemiological studies, the available evidence suggests that somewhere between 5 and 20% of children and adolescents experience elevated DFA (e.g., Baier et al., 2004; Bedi et al., 1992). Similar to adults, however, among this group of youth is a smaller number who experience a

specific phobia related to dental care, often referred to as dental phobia¹. There are several important differences between youth with lower levels of DFA and those who can be classified as having dental phobia.

- *Severity* — Anxiety and fear exist on a continuum and there is no exact cut off between DFA and dental phobia, but youth with dental phobia experience significant levels of anxiety and fear about presenting for dental care or related to specific dental procedures in comparison to youth their same age or developmental level.
- *Duration and Persistence* — It is not unusual for a child to express apprehension when undergoing a new dental procedure or starting a relationship with a new dental office. Dental fear and anxiety become more of a concern, and might be indicative of a phobia, if the fear is persistent, meaning that it occurs every time or almost every time the child presents for dental care. If this type of fear or anxiety lasts at least six months, that is when it might be considered a phobia.
- *Interference or Distress* — A fear is not considered a phobia unless it causes interference or severe distress. The way this is evidenced in youth with dental phobia is that they refuse to go for dental care, or there is conflict between the parent and child when the parent attempts to get the child to go to a dental office (e.g., tantrums in younger children, oppositional behavior in older children and adolescents). However, other common ways this gets expressed include needing some type of sedation for procedures that do not typically require sedation, or extreme distress leading up to dental procedures (e.g., stomach aches, repeated reassurance seeking,

¹ According to the 5th Edition of the American Psychiatric Association's Diagnostic and Statistical Manual. (American Psychiatric Association, 2013) these youth would be diagnosed with a specific phobia – blood, injection, injury subtype.

crying). It is important to keep in mind that there are some types of subtle interference that could be considered healthy behavior from a dental care standpoint – for example, avoiding sugary foods or beverages – that could be indicative of a phobia when taken to the extreme or done with the purpose of avoiding the need for dental care because of anxiety or fear.

Developmental Considerations

Guidelines indicate that a child's first dental visit should occur as soon as the first tooth emerges or at age one, whichever occurs first (American Academy of Pediatric Dentistry, 2025). This typically occurs at a developmental stage that coincides with the peak levels of stranger anxiety in youth (Gullone, 2000). Therefore, in an ideal situation, the one in which a child's first visit follows prevailing recommendations, some degree of anxiety and fear is normal and should be expected. This type of fear and anxiety has more to do with being in a situation in which the child has to interact with new people and is not specific to being at the dental office. There is also no indication that this transitory apprehension is predictive of later problems with high DFA, dental phobia and/or attending dental appointments; in fact, there is a good reason to believe that obtaining dental care early can prevent dental fear (see Seligman et al., 2017).

A question that often arises in dental practice is the advisability of having parents present in the operatory during treatment. Social learning theory suggests that parents, particularly anxious parents, would teach their child DFA through a process called modeling. Although there is a dearth of high-quality experimental studies to answer this question, there is some evidence that for most youth, parent presence does not produce the predicted negative effects (Ahuja et al., 2018; Yigit et al., 2022). However, if the accompanying parent evidences DFA that is readily

observable, this should be taken into consideration and a discussion with the parent should be undertaken to determine the best course of treatment for the child. With this exception in mind, for young children, parental presence during treatment is developmentally appropriate and can circumvent normative separation anxiety from interfering with treatment and the development of a positive relationship with the dental care team. Introverted youth may also prefer to have a parent present.

During late adolescence developmental concerns shift to equipping the adolescent to begin taking over the decision-making for their healthcare as this time marks the transition phase from parental control over their healthcare and healthcare decisions to greater autonomy. It is important to keep in mind, this is a period of vulnerability for youth with high levels of DFA or phobia, as the parental influences that may have led them to go for regular dental care may wane or disappear, allowing them to avoid regular appointments. Importantly, this avoidance not only is likely to negatively affect dental and oral health, but also, in an unfortunate vicious cycle, avoidance tends to also intensify the severity of fear and anxiety.

Finally, for youth with developmental disorders, disruption to the child's routine and the amount of stimulation experienced during a dental visit can be overwhelming and can ultimately lead to dental phobia. (See Chapter 11 in this volume for more information about working with individuals with developmental disorders, including autism.)

Why Do Youth Develop Dental Fear and Anxiety?

For many children and adolescents, typically those experiencing normative levels of DFA, the discomfort may result from not knowing what is going to happen at the dentist, shyness, or having incorrect information about what is going to happen. Erroneous beliefs, for example, about how painful a procedure will be or what a procedure will entail, can come from

hearing about others' bad experiences or from exposure in the media (e.g., depictions of dental procedures or dentists in movies or television programs). However, although high DFA can result from observing others' DFA or from verbal learning (McNeil et al., 2019), more commonly, those who develop dental phobia learn to be fearful through a direct learning experience — one in which they *personally* have a bad experience during a dental visit (Davey, 1989). This bad experience usually involves either pain or shame and embarrassment (e.g., being chastised about the condition of one's teeth or one's oral care habits). However, not every painful or embarrassing dental encounter is equally likely to lead to dental phobia. Experiencing pain or shame during one's first visits to the dental office seem to be more predictive of dental phobia than experiences that occur when the child already has considerable experience with going to the dentist (e.g., de Jongh et al., 1995). So, a child experiencing pain the second time they see a dentist health professional is more likely to develop dental phobia than that same child experiencing that same level of pain at their tenth visit. This seems to be because, in the second case, the child learns that the dental office is a safe experience on their first nine visits. This learning then “interferes” with the ability to form an association between the dentist and pain on the tenth visit – a phenomenon known as latent inhibition (Geers, Seligman, Pituch, Colagiuri, et al., 2024; Seligman, Geers, et al., 2023).

The process that seems to be most relevant to understanding who develops dental phobia is called direct conditioning or associative learning. This is because this type of learning results in associations being formed between the dental situation and the experience one had there (Seligman, Talavera-Garza, et al., 2023). It is important to keep in mind that these associations occur at an automatic or unconscious level, so youth can have formed these associations without

being able to clearly verbalize their existence, although many can and do recall the learning experience that led to their phobia.

Characteristics of the experience itself can clearly influence how likely it is that one can form these types of association. For example, a profoundly painful experience is more likely to result in associative learning than a mildly painful experience. Similarly, repeated painful or shameful experiences are more likely to result in conditioning than a single experience. As discussed above, the timing of the potential learning experience also matters — events that happen early in one's learning history are more influential than those that happen when we have greater experience. Finally, events that result in the child feeling like they were unable to control the situation seem to be particularly relevant for the development of dental phobia (e.g., being physically or chemically restrained or being unable to communicate discomfort because of equipment in one's mouth) (Armfield, 2008).

Oftentimes, when learning about the causes of dental phobia, parents and dental professionals alike interpret this to mean that dental phobia is caused by experiences related to insensitive dental health professionals. While it is of course true that the attitudes and skills of the people who work in dental offices — from the receptionists to the dentists, can affect youth's experiences in important ways, it is equally important to understand the individual and cultural factors that patients bring to their dental appointments that can affect their likelihood of having a bad experience. This understanding of patient factors is imperative to helping to ensure that patients have positive experiences at the dentist – experiences that prevent DFA and keep patients engaged as active participants in their own dental and oral health.

Patient Characteristics That Can Affect Dental Fear

Individual characteristics and shared cultural factors can affect both the experience of dental care and whether that experience has the potential to increase the vulnerability to develop DFA.

- *Neuroticism.* Neuroticism is the tendency to experience negative emotional states (Widiger & Oltmanns, 2017). Neuroticism may be a contributing factor in determining whether interactions at the dentist are experienced as shameful or embarrassing. For example, almost anyone would have a negative emotional reaction if, during an exam, a dental provider berated them for having poor oral hygiene, but youth with higher levels of neuroticism may be more likely to experience much less noxious comments and behavior as shame-inducing. Additionally, neuroticism may increase the likelihood that one experiences pain during dental procedures given that neuroticism is related to hypervigilance for negative events. This may mean youth high in neuroticism would be monitoring their bodies for indications of pain and therefore more likely to notice and amplify negative sensations. Of note, the fact that high neuroticism tends to run in families, may be partially responsible for the idea that dental phobia is something that parents teach their children. That is, as health professionals, we correctly observe that anxious children often have anxious/fearful parents and then conclude that the parent's anxiety/fear is *causing* the child's anxiety (i.e., that they learned it from their parent). While that may be true in some cases, it may also be the case that this relationship is the expression of a *shared vulnerability* as evidence suggests that neuroticism is, in part, genetically determined (Nagel et al., 2018). This is important to keep in mind when interacting with parents of phobic youth as it can enable better understanding of the

parent's anxiety and result in less blame, opening the door to a better collaboration between the dental team and the parent in efforts to assist the fearful child.

- *Pain Sensitivity.* The experience of pain, its aversiveness, and how anxious/fearful one is in response to it (McNeil & Rainwater, 1998) varies among individuals. Clearly, we would expect that people who can have a lower pain threshold and/or tolerance or find the pain experience to be more aversive, are at greater risk for developing high levels of DFA or dental phobia simply because there are a greater range of dental procedures and experiences that would result in pain for such individuals. Considering a youth's pain sensitivity is important for dental professionals as there is evidence that people are better at forming fearful associations to oral pain than pain in other parts of the body (Meier et al., 2014). Along these lines, it is important to note that there is some evidence of racial differences in pain experience. For example, on average, African Americans (Edwards et al., 2001) and Hispanic Americans (Hollingshead et al., 2016) show greater sensitivity to pain compared to Whites.
- *Cultural beliefs about dental care.* Cultural beliefs about the importance of dental care, oral health values (Edwards et al., 2021), diet, and a treatment versus preventative orientation to dental health may influence one's learning experiences at the dentist (Geers, Seligman, Pituch, Clemens, et al., 2024; Hovey et al., 2025). Some cultural groups place a high importance on dental and oral health or appearance, while for other groups this is less meaningful (Edwards et al., 2021; Hovey et al., 2025). An emphasis on the importance of dental health is potentially an important protective factor against the development of dental phobia even for youth who experience early negative events, if this cultural belief circumvents avoidance of dental appointments. In other words, if a

child has a negative experience at the dental office that leads to some dental anxiety, they are more likely to develop dental phobia if they do not return for some time. This is because they have no new positive experiences to compete with the negative learning. Therefore, in families or cultures where avoidance is less likely because of the cultural emphasis on dental care, this cultural value likely offers some protection for the child, as long as subsequent dental experiences are positive or at least neutral. Diet and the belief that dental care should be sought to prevent, as opposed to treat dental problems, may also influence one's experience at the dentist (Hovey et al., 2025). For example, in some communities it is common practice to put babies and toddlers to bed with a bottle of milk. This makes it more likely that even very early visits to the dentist, the ones that are likely the most influential in the development of dental phobia, require treatment that may be painful (as opposed to a routine cleaning and exam) or exams may result in negative feedback that could induce shame. Similarly, there is some evidence that in some cultures (Hovey et al., 2025; Nakazono et al., 1997) visiting the dentist is viewed as something one does only when there is an indication of dental pathology; this too increases the probability that pain or shame is experienced at early visits.

- *Economic factors.* Finally, issues such as insurance coverage, access to dental care, parents' and caregivers' ability to take time away from work and caregiving responsibilities play into how often and at what age a child visits the dentist. Again, delays in obtaining preventative dental care or early treatment are more likely to result in negative experiences at early dental visits, thereby increasing the risk for high levels of DFA and dental phobia.

Effective Strategies for Addressing Dental Fear in Youth: What Works and What May Not

It is important to define the desired outcome in addressing DFA and dental phobia. This is because there are at least two possible end goals when choosing an intervention and both can be equally valid goals, depending on the patient and the situation (e.g., whether immediate treatment is required). One goal may be to decrease anxiety and fear immediately in the short-term to allow treatment to progress. Most typically, this is accomplished by use of one of various forms of sedation² (American Academy of Pediatric Dentistry, 2024). While this approach has the advantage of providing the dental care needed, it allows less opportunity for the child (and parents/caregivers) to learn to cope with dental care without such interventions. Since dental care is needed throughout life on an ongoing basis, it may be an opportunity lost to achieve only the immediate, short-term outcome without learning and preparing for future dental care.

With this in mind, the second type of goal is to decrease anxiety and fear in the mid- and long-term. In this case, the focus is not as much about getting the child through an individual procedure; it is more about ensuring that the child's anxiety is low enough so that future visits to the dentist occur without great distress. In other words, the focus here is on long-term dental and oral health. It is important to consider this long-term/short-term relief distinction because the approaches used to achieve each of these goals are not always complementary—at least not in cases in which there is an established dental phobia. When it

² Although “protective stabilization” is sometimes included as a behavioral technique to manage patient anxiety while protecting the patient and treatment providers, we caution against the use of such interventions as lack of control during dental procedures has been shown to be related to the development of significant DFA and dental phobia.

comes to prevention, however, these goals may be more easily achieved in a complementary way.

Prevention

As is often the case across all areas of healthcare, preventing dental fear, to the extent possible, is better than treatment. This is particularly true because even our most intensive and effective treatment for phobias tend to work for about only about 60% of youth (Davis et al., 2019) and some degree of relapse is not unusual (Bouton, 2014). There is some evidence from basic science studies that this is due, at least in part, to the fact that once an association is formed, treatment can result in new, competing associations but it does not erase the original learning that resulted in the phobia (Bouton, 2014). For this reason, preventing the fearful learning altogether is likely a more effective strategy than addressing it once it has already formed.

Additionally, looking across treatment studies on DFA, it appears that low-cost, less intensive interventions that can be easily implemented at dental offices may be effective in preventing anxiety in youth, particularly when these interventions are implemented when the child has never been to the dentist before and when the child is experiencing relatively low levels of anxiety (e.g., Folayan et al., 2003; Klingman et al., 1984). These types of interventions may get a child through a dental procedure without undo distress and, by facilitating a positive dental experience, they may serve to prevent the development of dental phobia. That is, these strategies can be effective in reducing both short and long-term anxiety and fear. The type of interventions that may be effective for youth who have never visited the dentist before and/or youth with low levels of anxiety or fear include the following (Seligman et al., 2017).

- *Tell-show-do.* Tell-show-do, an intervention, in which a procedure is explained to a child, then demonstrated, and only then performed on the child, can decrease the anxiety children experience when they do not know what to expect or they misunderstand what is going to happen to them during their dental visit. When tell-show-do interventions incorporate information about how the child can communicate about their experiences during the dental procedure or how they can control what is being done to them (e.g., raising their hand to show they need to take a break or are experiencing discomfort), this type of intervention may also address children's concerns about loss of control.
- *Modeling.* Modeling procedures involve having a child observe someone else undergo a dental procedure before the child undergoes that same procedure. Two types of modeling interventions have been investigated. The first type is a mastery model (e.g., Klorman et al., 1980). In this case, the child observes a model who is not anxious and who handles the procedure with ease. The second type of modeling intervention involves the use of a coping model. A coping model is one that experiences some difficulties (e.g., pain or increasing anxiety) but demonstrates effective coping (e.g., Klorman et al., 1980). It is generally thought that models that more closely match the child are more effective (e.g., using child models vs adults, using a model of the same sex and ethnicity). This can be more easily achieved when using filmed models as opposed to trying to do this intervention in real-time with live models demonstrating the procedures. However, low intensity versions of this type of intervention can also be achieved by having the dental professional demonstrate a

- procedure on themselves, when possible, engaging the child in the procedure (this is similar in many regards to tell-show-do).
- *Distraction and relaxation procedures.* Procedures that either distract the child or those that help the child relax may be effective in addressing mild dental anxiety and fear, or temporarily in those with high levels of DFA or phobia. These procedures can include making a movie available, talking to the child, having the child wear a virtual reality headset and engage in a virtual environment or game, hypnosis, or progressive muscle relaxation training.
 - *Delay potentially painful treatment.* For patients who first present to the clinic requiring significant and potentially painful treatment, the dentist will need to determine the urgency of addressing the dental and oral health concerns. If a delay in treatment is not contraindicated, it may serve the child's long-term oral health to schedule several visits focusing on less-invasive procedures before the potentially painful interventions. When procedures are needed that almost assuredly will entail discomfort and pain, effective pain management and efforts to allow the child to retain some control during the treatment procedures (e.g., agreeing on a way to communicate discomfort if the child will be unable to talk) can also be pivotal in preventing the development of a dental phobia.

Prevention Strategies for Youth Who Have a Negative Experience. Obviously there will be times that a child or adolescent will have some type of negative experience during a dental visit. Particularly when the patient is at high risk—either because the event occurs early in their dental learning history or because of some of the other potential vulnerabilities discussed above—the treatment team will want to consider ways to decrease the chance of the development

of a phobia. Scheduling a non-invasive (“happy”) visit (or multiple visits in quick succession, when possible) may help, particularly if this is coupled with parent education about the importance of attendance at these appointments to avoid the development of a phobia. These visits can help the child to interpret the negative experience as somehow unique and not relevant to subsequent dental visits. In turn, this may help prevent the generalization of fear learning that is characteristic of a phobia.

Treatment of Phobic Youth

To date, there are no established treatments that have been shown to specifically work with youth with dental phobia, but we can draw from treatments that have been shown to work with youth with other types of phobias (Ollendick et al., 2009) and treatments that have been shown to work with adults with dental phobia (Haukebø et al., 2008). These treatments have in common that they are guided by cognitive behavioral theory (see Seligman & Ollendick, 2011 for background information about these types of treatments). More specifically, the core component of cognitive behavioral treatment of phobias is an intervention called exposure therapy. In exposure therapy, the child encounters the situations they fear in a graduated and controlled way (Seligman & Ollendick, 2011). Exposures are planned to allow the child to create new, positive learning to compete with the fear learning that is thought to drive the phobia. To accomplish this, repeated and prolonged exposures are used (i.e., the child is encouraged to stay in the situation they fear usually for a much longer duration than would typically during the completion of the dental procedure). The key to exposure therapy is not that the child is only facing their fears and anxieties, it is that the child is facing their fears and anxieties in such a way as to allow new learning to take place (Craske et al., 2014). For this to occur, it is often necessary for the child to experience short-term increases in anxiety to achieve long-term relief. Treatment

requires that the child is prepared for exposure therapy so that they are willing to endure the short-term anxiety and actively collaborate in the treatment process. For all these reasons, formal exposure therapy must be conducted by a trained professional who understands how to structure the treatment in such a way as to maximize the probability of a positive treatment outcome. For most youth with dental phobia, exposure will likely include exposure to dental procedures that can only be conducted by qualified and trained dental health professionals. As a result, for the most phobic youth, effective treatment for dental phobia likely requires a collaborative approach between dental health professionals and mental health professionals, particularly those trained in cognitive behavioral therapy and exposure therapy.

Example from a Case

Samantha is a 16-year-old Hispanic female who is currently a junior in high school.

Samantha is an only child and lives with both of her biological parents.

According to Samantha, she has not been to the dentist since she was 11 because she is “scared that the dentist will say that she needs work done” on her teeth. She describes her thoughts about the dentist as being “anxiety inducing” and when she thinks about the dentist, she feels restless. Thinking about the noises of the drills and picturing the office with the chair are upsetting to the point that she “sweats and shivers” and she has often had toothaches and pains that were not occurring prior to having thoughts about the dentist.

Samantha remembers that she started to become anxious/fearful of the dentist around the age of 6. She had not had any prior preventative visits so her early visits required treatment for several cavities; she experienced some elevated DFA due to the “the sound of drills” during treatment. For the next few years, Samantha went to the dentist only when bribed with toys and

clothes from her parents. She explained that she would beg her parents not to take her to the dentist. When at the dentist, she would be sullen in the waiting area, and would cry, kick, and scream in the dental chair. Because of this behavior, her parents and dental staff had to hold her down during dental visits.

Samantha believes her “true fear” began when she was 9 years old. During a dental visit in which she needed six cavities filled, the dentist and dental staff first tried to restrain her in reaction to her anxiety, fear, and restlessness. They then gave her nitrous oxide, but she still was resistant. According to Samantha’s report, the treatment was ultimately completed with general anesthesia, but she recalled it did not work fully work. Samantha stated that she “felt everything”—the drilling, scraping, pulling, and suction and that, although her eyes were closed, she still felt pain but she could not communicate any of her experiences. After this visit, Samantha said that the “fear was cemented” in her brain.

During another visit, at age 11, Samantha had to have two more cavities filled. This time she was given oral anesthesia but, again, she could again feel everything, even though her eyes were closed, and her body was immobilized. Samantha reiterated that in both procedures she could feel the work being done in her mouth and that she was in extreme pain. Samantha has not been back to the dentist since this last episode.

Samantha tries to avoid having to go to the dentist by obsessively taking care of her teeth. She flosses and brushes her teeth at least 3 times daily and uses mouth wash several times a day. She stated that although she stays away from colored drinks like coffee and sodas, she will occasionally drink them but only if she does so through a straw in order “to avoid staining my teeth so I don’t have to go to the dentist to get them cleaned.” In an effort to avoid the need for

dental treatment, Samantha does not eat sweet foods. For example, she avoids eating candy, icing on cakes, and other desserts.

Since the age of 11, Samantha has made visits to an orthodontist for braces. Although she feels anxious during these visits, she is able to go because she differentiates between the orthodontist and dentist and does not expect painful experiences from the orthodontist. Now, at age 16 years, Samantha states that she occasionally experiences tooth pain, but is unsure whether she has any cavities. Despite this, she still refuses to go for dental care. Her parents have decided not to “push it” until an urgent need arises.

Summary

DFA and even dental phobia are not uncommon in youth. For very young children, DFA may really result from fear of new people and new situations; this is to be expected and is unlikely to predict later problems in compliance with dental treatment. High levels of DFA and dental phobia often result from associative learning. The likelihood of this type of learning occurring is determined by a combination of situational factors and patient factors. One of the best ways to address development of high DFA and phobia is through prevention, minimizing the chances a patient will experience pain, shame or loss of control or by ensuring aversive procedures take place only after the child has had several positive experiences in the dental office. This is one reason why early preventative care can be important in determining lifelong attitudes toward dental and oral health.

Minor or moderate levels of DFA can likely be addressed through low-cost interventions such as tell-show-do and distraction. On the other hand, effective treatment of dental phobia will likely require more intensive intervention that requires the collaboration of mental and dental

health professionals. Nevertheless, dental phobia should be treated as soon as it is recognized as it commonly interferes with ones' ability to receive proper dental care; this avoidance is likely to intensify the severity of the phobia an ultimately result in poor oral and dental health outcomes.

TIPS for Clinicians

- **Early positive dental experiences are key to preventing dental DFA.**
- **Assessing patient vulnerabilities (e.g., neuroticism and pain sensitivity) may help alert clinicians to patients who may be especially prone to having negative experiences at the dentist.**
- **Many children and adolescents have some mild fear or anxiety during dental care, particularly when a new setting or procedure is involved. These concerns typically can be addressed with distraction, reassurance, positive communication and reinforcement.**
- **Dental phobia is a severe, persistent, and interfering fear of dental care. It can last for years and result in avoidance of some or all dental care.**
- **Dental phobia may be best addressed through a collaboration between dental and mental health professionals using exposure therapy.**

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