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The Dentist / Patient Relationship: The Role of Dental Anxiety

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CLAREMONT McKENNA COLLEGE
THE DENTIST/PATIENT RELATIONSHIP: THE ROLE OF DENTAL
ANXIETY

SUBMITTED TO
PROFESSOR KATHLEEN BROWN

AND
DEAN GREGORY HESS

BY
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FOR
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Introduction

“Hello, I’m calling from Wang and Jean Dentistry for Mr. John Doe to remind him of his appointment tomorrow at 9 o’clock with Doctor Wang. If you need to make any changes or would like to reschedule, please call our office.”

I must have left this message on hundreds of answering machines during the past two summers while working as a dental assistant at my uncles’ dental office. Calling patients to remind them of their upcoming appointments was probably my least favorite thing to do at work not only for the sheer tediousness of the task but more so because it made me feel like I was about to deliver bad news. Whenever I called a patient, I always wished to be received on the other end by an answering machine so that I did not have to give the news personally. However, in the event that my call is actually received by the patient, I can usually tell by the tone of their voice that they are unhappy to be reminded about going to the dentist. Even in the 30 second conversations that I have with the patients, their displeasure of their upcoming appointment is incredibly evident. My reminders are at times, met with groans and even blunt remarks about not looking forward to their appointment. From my first hand experience at the dental office, I am able to conclude that people possess an extreme dislike for the dentist.

In contrast to the majority of dental patients, my perception of the dentist has always been positive and was forged very early on in childhood. I was always excited to visit the dentist because all the instruments and techniques they utilized interested me. It also helped that the dentists that I visited were two of my uncles. Maybe it was the fact that they were family that put my mind at ease. I felt very comfortable and secure in their

hands knowing that they had my best interests in whatever they chose to do to my teeth. The relationship I had with my dentist was very influential and shaped my views about dentistry.

The antagonistic views people direct towards dentists is greatly concerning especially because I intend to apply to dental school with the ambition to become a dentist one day. There are several reasons why dentistry seems appealing to me. My interest in dentistry developed early on when I used to explore my uncles' dental office. I was intrigued by all the different instruments they used, the fancy chairs the patients sat in, and mostly by the strange x-ray machine they brought out before every teeth cleaning. My initial attraction to the dental field was purely physical in nature. Good pay, manageable hours, and the ability to be self employed were the first factors that made me pursue this career path. However, as I have matured these past few years, I realized that being a dentist entails so much more. My enthusiasm towards the dental field is now derived from what I may be able to do for others and not what being a dentist can do for me. What I have discovered is that dentistry offers a chance to do so many things all in order to improve a certain aspect of someone's life. For instance, a dentist possesses the ability to relieve someone of pain in order to improve the patient's current well being. A dentist can create a beautiful smile to strengthen one's self confidence. A dentist can even fashion a full set of teeth to replace the current set that has deteriorated over the years. Dentists are able to make their patients feel better about themselves by improving their oral health. Moreover, dentists provide an important public service by helping their patients maintain their health and appearance which results in an increased level of happiness and satisfaction.

It is unfortunate that dentists receive such a bad reputation even though they provide a great service. One major attitude patients hold regarding dentists is fear. The dental anxiety present in so many patients is the basis for all other negative perceptions towards dentists. By finding the causes of dental anxiety, hopefully a feasible solution can be developed to decrease the prevalence of dental anxiety found in many patients. Alleviating this fear can provide significant advancements for the dental field.

As an aspiring dentist, I understand the importance of developing a healthy dentist/patient relationship. When I treat my future patients, I want them to be comfortable with all aspects of the treatment. This can only be achieved if I am able to relieve them of their dental anxiety. Hopefully this thesis will be able to teach me how to approach this problem so that visits to the dentist can be an enjoyable experience for both the patient and me.

This thesis will address the issue of dental anxiety beginning with the causes that influence this widespread problem. In addition to analyzing the numerous origins of dental anxiety, this first chapter will describe the demographics of people who fear the dentist. Following the chapter on the characteristics of dental anxiety, the intricacies of the dentist/patient relationship will be broken down. The second chapter also describes the topic of stress associated with the interaction between dentist and patient. The third chapter takes a look at the various treatment methods, both medical and psychological, in treating dental anxiety. Lastly, the implications of this thesis will be addressed in relation to my future career goals.

Chapter 1: Dental Anxiety

Dental anxiety refers to the fear of dentistry and receiving dental treatment. Surveys reveal that approximately 80% of the adult population in the United States admits to some level of anxiety in regards to dental care (Getka & Glass, 1992). Needless to say, the vast majority of all dental patients experience some sort of anxiety at the very thought of scheduling their next appointment. This is unfortunate because dentists are supposed to be providing a public service in the form of maintaining the oral health of the community. In order to do so, patients need to visit the dentist on a consistent basis. However, since so many people are fearful of the dentist, most people seek dental care only in emergency situations such as in the event of a toothache. This behavior is unhealthy because in most cases, the event could have been prevented by attending regular checkups. Nevertheless, dental anxiety is a tremendous problem that is caused by both direct and indirect experiences.

Direct Negative Experiences: Their Influence on Dental Anxiety

The most common source of dental anxiety stems from direct negative experiences. Negative experiences can consist of many factors. Locker, Shapiro, and Liddell (1996) focused on three different sources of negative experience. They collected their data based on their subjects' answers when asked if they had ever had an experience at the dentist that was painful, frightening, or embarrassing. Over 75% of the respondents reported that they had encountered direct negative dental experiences. Painful experiences were the most common source of negative experience with 71.3% of

the participants citing the presence of pain as the cause. Following painful experiences was frightening experiences with 23.0%. Embarrassing experiences were felt by 8.9 of the respondents. When a combination of the fears was reported, a stronger relationship was revealed. For example, subjects who described the presence of all three types of negative experiences had 22.4 times the chance of having dental anxiety in comparison to subjects that reported no negative experiences. The results of the study verified that there was a convincing relationship between direct negative experiences and dental anxiety.

Pain is clearly one of the major factors contributing to dental anxiety. Using a number of pain and discomfort scales in conjunction with Corah's Dental Anxiety Scale, Vassend (1993) was able to describe the level of pain and discomfort and therefore the anxiety associated with dental care. The research showed that a large percentage of subjects considered pain to be associated with dental treatment. To be more precise, 20 to 30% of the subjects rated their last visit to the dentist as moderately painful or worse. Again, 20 to 30 % also held the prediction that their next visit would be moderately painful at the least. In addition, around 60% stated to have experienced at least one very painful experience during treatment. Dental anxiety is derived for most people as the result of pain-inducing treatment methods.

Dental treatments range in severity with more complicated procedures often resulting in more pain. Although resulting in more pain, the more complicated procedures are done with local anesthesia to nullify the potential pain resulting from the treatment. With proper use of local anesthesia, the patient is not supposed to feel any pain besides the slight pressure applied to the region of the tooth or teeth being worked on. However, even if local anesthesia is applied, the patient may still feel pain if the

dentist begins to work before the anesthesia fully sets in or if there are complications in the actual numbing process of the patient. These are relatively easy fixes for the dentist as it only requires more care and attention from the dentist. In regards to the treatment, pain should not be felt mainly because the anesthesia should be able to numb the region from experiencing any discomfort.

Besides the pain associated with the lack of effect from the anesthesia, another source of pain is derived from the act of administering the anesthesia. Anesthesia is injected into the gum tissue by a needle-like syringe instrument. For many, the sight of the needle evokes fear and a preconceived painful experience. This fear of needles or needle phobia can be alleviated through the use of topical anesthetic which numbs the site of injection. If performed properly, the patient can barely feel the penetration of the needle into the gum tissue. Pain is felt however if the topical anesthetic is not left on the tissue for a long enough time. The injection can also be painful depending on the injection style of the dentist. Injections are the least painful when administered with care and at a comfortable pace. When the anesthesia is injected too fast, the tissue can be damaged which results in pain. Again, the dentist is able to eliminate these pain-inducing scenarios with greater care and empathy in his or her work.

The multi-purpose drill instrument evokes similar sentiments as the needle-like syringe used for injections. The drill stimulates fear much like the needle because they are both sharp instruments that penetrate different surfaces. Instead of penetrating the gum tissue like the needle, the drill penetrates the tooth itself to clean out the decayed region. With proper administration of local anesthesia, the drill is essentially painless. The only sensation from the drill that can be perceived as pain is the vibration and

pressure resulting from the contact between the drill and tooth. The similarities between the needle and drill instruments are great but there is a distinguishing factor that separates the two instruments. The drill creates a sound which resembles the sound a buzz saw makes when it slices through wood or metal. Since buzz saws are used to cut objects, the similar sound of the drill evokes an image of dangerousness which can induce fear. Because the drill is used for all sorts of treatments, its noise is persistent in the dental office. This may explain in part the anxiety experienced by patients even before the treatment begins.

Aside from pain, embarrassment due to various circumstances can also induce negative experiences that influence dental anxiety. Moore, Brodsgaard, and Rosenberg (2004) studied the role of embarrassment as a source of dental anxiety. Their research showed that 47% of their subjects reported a feeling of powerlessness in regards to dental social situations, some specific to embarrassment during dental treatment. Most of the embarrassment is derived from the patient's fear of what the dentist might say in response to the patient's neglect of dental care and poor appearance of teeth in general. For instance, if the patient displays poor oral health he or she may be fearful of what the dentist may think and say about his or her teeth. This can lead to the development of poor self esteem due to the negative social evaluation handed out by the dentist especially if it is in the form of a lecture. Another source of embarrassment stems from the guilt and even shame associated with the failure to make appointments regularly with the dentist. A simple remark from the dentist such as "How long has it been since your last checkup?" may embarrass the patient because it hints at the patient's indifference towards

the maintenance of oral health. The sense of embarrassment experienced by some people during dental treatments contributes to dental anxiety.

The powerlessness associated with dental social situations is the result of the combined factors of embarrassment and a loss of control. While embarrassment is surely a cause of this feeling of powerlessness, it is typically considered a side effect to the more pressing issue that is the loss of control. As mentioned by Moore et al. (2004), the feeling of losing control is associated with the conditioned distrust in the dentist's behavior. The main fear is that the patient is unable to comprehend what the dentist is doing inside his or her mouth since it is not possible for the patient to actually see the inside of his or her mouth. This element of the unknown is particularly stressful especially when compounded with issues of trust regarding the dentist's ability. It is imperative that the patient trust the dentist or else the treatment process is bound to stimulate fear in the patient. The issue of control was further researched by Milgrom, Vignehsa, and Weinstein (1992) who identified the construct of lack of control as a prominent contributor to dental anxiety. They found in their study that a greater level of fear and the development of avoidant behaviors are present in subjects when their views on control are low. The dentist can deal with this problem by describing each step of the treatment in detail in addition to answering all questions regarding the treatment process clearly so that the patient can understand what is going on inside his or her mouth.

Besides the uncertainty of what is going on during the procedure, there are other factors that influence the perceptions of control from the patient's standpoint. The ability to pause the treatment at any given time due to discomfort or just the need to rest is an element of control. A lack of control is evident when the dentist continues to proceed

with the treatment despite the patient's wish to take a break. Since the dentist is usually focused on the task at hand, it is a good idea to develop some sort of a stop signal that works for both patient and dentist. Therefore, the patient is able to exert some control in the treatment process which serves to alleviate some of the anxiety directed towards the dental procedure.

This aspect of control can be connected to the type of procedure performed on the patient. For instance, the patient experiences less control during more invasive procedures such as restorative and surgical treatments because the treatment is being performed beyond the surface of the tooth. More control can be had during noninvasive procedures such as preventive treatments in addition to most orthodontic procedures. These procedures treat the problems on the surface of the tooth which makes it easier for the patient to regulate the treatment process. In fact, Milgrom et al. (1992) discovered that subjects who had invasive treatments were 1.6 times more likely to experience and report a high level of fear in comparison to subjects who underwent noninvasive treatments.

With respect to all the aforementioned stimulants of direct negative experiences, the most influential stimulus might rest on the dentist's conduct. Locker et al. (1996) noted that pain caused by a dentist who is perceived to be considerate and thoughtful was likely to have less of an effect than pain caused by a dentist perceived to be cold and indifferent. This topic will be expanded in more detail in the subsequent chapter: The Dentist/Patient Relationship.

Indirect Negative Experiences: Their Influence on Dental Anxiety

Dental anxiety can result from negative experiences that are encountered in an indirect manner. One such method is through vicarious learning in which people hear about others' traumatic experiences and are negatively affected thereafter. Milgrom, Mancl, King, and Weinstein (1995) interviewed both the parental guardian and the child in their study. Vicarious learning is displayed in their results as they found that children who have guardians who display moderate to high dental fear are twice as likely to have dental anxiety when compared to children with guardians who possess low dental fear. Parents clearly influence the perceptions of their children as evidenced in the results of the study.

In a far grander scale, vicarious learning can also be attributed to the perceptions of dentistry presented in the mass media. The media does not portray the dentistry profession in a favorable light as demonstrated through their depictions in various movies and television series throughout the years. Thibodeau and Mentasti (2007) researched the depiction of dentists in movies for previous years and found that dentists were perceived to be incompetent, sadistic, immoral, disturbed, or corrupt while often providing comedic relief or portraying a villain-type figure. The negative stereotypes of dentists as portrayed in the movies are problematic because it reinforces the negative views that people already hold towards the dental profession. Many people avoid dental care as a result of their dental anxiety.

Another indirect source of dental anxiety was shown by Fiset, Milgrom, Weinstein, and Melnick (1989) as they were able to show that dental anxiety was often accompanied by additional common fears such as heights, injury, death, illness,

enclosures, storms, and isolation. Subjects who had one or more of the common fears were more 3.2 times more likely to report dental anxiety. The implications of the study suggest that general anxiety is a factor in dental anxiety. The panic associated with the common fears can be transferred to those experienced during dental procedures.

Finally, the last contributor towards dental anxiety through indirect means is whether or not the patient has private dental insurance. The cost of dental treatments can be considered pricey and hard to afford without insurance. As Sohn and Ismail (2005) discovered, 70% of people with private dental insurance visited the dentist on a regular basis. Of the people without private dental insurance, 40% of the people were able to visit the dentist regularly. In addition, people with insurance were four times more likely to seek treatment from the dentist on a regular basis. It is evident that access to private dental insurance plays a large role in whether or not a person visits the dentist. The costs of the procedures are a deterrent especially to those who are unable to afford such treatments. As a result, some people avoid the dentist due to cost-prohibitive factors.

Dental Anxiety Measures

Due to the high prevalence of dental anxiety amongst the general population, many scales of measurements have been created to address this issue. The most commonly used measurement tool is Corah's Dental Anxiety Scale. Norman Corah (1969) developed a 4-question survey after using a video simulation of a dental procedure to induce psychological stress amongst the subjects. The questions asked in the survey inquired primarily about the feelings experienced by the patients during various stages of the dental treatment procedure. The answer choices are presented in a 5-point Likert

format beginning with positive attitudes of the dentist and dental treatment followed by increasing degrees of negative views. A numerical point value is associated with each answer choice after the completion of a survey and all the points are added to determine the score for the survey. Researchers often use a score of 12 or 13 out of 20 to indicate the presence of dental anxiety.

In addition to Corah's Dental Anxiety Scale, other scales such as the Dental Fear Survey and Dental Beliefs Survey are often utilized by researchers to supplement their data. The Dental Fear Survey consists of 20 items also in a 5-point Likert scale. It is a self report questionnaire with concepts pertaining to dental stimuli, physiological response during dental treatment, and anxiety. Scores range from 20 to 100 with 100 denoting a maximum level of fear. The Dental Beliefs Survey is also measured on a 5-point Likert scale. The 15 questions are related to perceptions of control during dental treatment. Therefore, the highest score on this survey, a 75, indicates a feeling characterized by a complete lack of control during treatment. Researchers rely on methods of measurements such as these in addition to a number of general fear-related surveys to complement their findings.

Demographics of Patients Suffering from Dental Anxiety

Dental anxiety affects people from all aspects of life. However, the literature demonstrates that some people are more prone to experience dental anxiety than others. For instance, the age of onset of dental anxiety, gender and socioeconomic standing all contribute to the prevalence of dental anxiety.

Because people have different experiences with the dentist, the age where dental anxiety initially develops varies greatly. While the age of onset varies, the research shows that the most consistent age group where dental anxiety develops is during childhood, ages 12 and under. Locker, Liddell, Dempster, and Shapiro (1999) studied this matter through the use of mail surveys consisting of a questionnaire. They found that 50.9% of the subjects that responded as being dentally anxious became anxious during childhood (12 years old and under). In addition, 22.0% of the subjects reported that they became fearful during adolescence (13-17 years old). Finally, 27.1% of the subjects responded that they became dentally anxious during adulthood (18 years and older). Furthermore, they observed that there was a correlation between the age of onset of dental anxiety and the age at which negative experiences were initially met. More specifically, people who first experienced dental anxiety during childhood were likely to have had their first negative experience as a child. Subjects with adolescent onset were likely to encounter their first negative experience during their teenage years and people with adult onset probably had their first experience as an adult.

A possible explanation for why childhood onset is the greatest amongst the three age groups could be due simply to biological development. In a brief interview with Dr. Wang of Wang and Jean Dentistry, he says that primary teeth or “baby teeth” begin to fall out around 6 years of age with the last baby teeth typically falling out when the child is around 12 to 13 years old. The natural loss of baby teeth for the subsequent development of permanent teeth can contribute to the dental anxiety experienced by children. While some children may enjoy the process, others may view the loss of their primary teeth as a negative experience. Pain is often associated with losing teeth which

can be a scary experience for children. In addition, depending on several conditions such as the location of the tooth in the mouth, bleeding can oftentimes accompany the loss of a tooth. The sight of blood, not to mention the taste of blood after the teeth is removed, is enough to negatively affect the children's perception of the dentist.

Another possible explanation for the prevalence of dental anxiety in children is the result of their strong preference for candy. It is no secret that most children enjoy consuming candy but while they receive immediate satisfaction through the act of eating the candy, the very act contributes significantly to tooth decay which eventually leads to the development of cavities. Since most candy is sticky, it remains on the surface of the tooth for an extended period of time which results in the formation of plaque and eventually cavities. Cavities as a result of consumption of candy are very common amongst children and therefore, it is the dentist's job to fix the cavities either through fillings or in more severe cases by performing a root canal. Fillings and root canals are more serious forms of treatment in comparison to a routine cleaning which can produce negative experiences for the children as a result of the pain and intrusive nature associated with the treatment.

While most of the research shows that younger people display more dental anxiety than older people, there have been some conflicting reports that indicate that dental anxiety is most prevalent amongst people in middle adulthood. Armfield, Spencer, and Stewart (2006) reported that dental anxiety affected almost 25% of people in middle adulthood (40-64 years old). According to their data, the prevalence of dental anxiety seems to increase gradually with age until middle adulthood where it reaches its highest

point. After middle adulthood, dental fear decreases continuously until it reaches its lowest level with people who are greater than 80 years old.

The gender of the patient was also found to contribute to varying levels of dental anxiety. Females were more likely than males to experience dental anxiety. Armfield et al. (2006) utilized the 2002 National Dental Telephone Interview Survey to assess dental fear amongst a random sample of Australian residents. Their research showed that 12% of males reported high dental fear in comparison to 20% of females. Almost two-thirds of all subjects who indicated high fear were female. Milgrom, et al. (1995) also discovered the same occurrence in children in which girls reported being more fearful than boys.

The difference in dental anxiety levels amongst males and females can be attributed in part to their pain tolerance levels. Wiesenfeld-Hallin (2005) reviewed laboratory studies in regards to differences in pain sensitivity between males and females and found that females displayed a lower pain threshold than their male counterparts which can explain their higher dental anxiety because many dental treatments may induce pain. The difference was found to be the result of social conditioning and psychosocial factors. In addition, the difference in pain tolerance suggested that biological factors such as the secretion of sex hormones also played a role.

Socioeconomic factors also contribute to varying degrees of dental anxiety. Typically, people who are from lower socioeconomic backgrounds display greater dental anxiety. The results from the Armfield et al. (2006) study demonstrated that household income contributed largely to the prevalence of dental anxiety. Higher income households had a lower incidence of fear while lower income households had a higher

incidence of fear. More specifically when compared to households with an annual income of \$80,000, people from households with an income of \$40,000 per year had a 43.4% higher occurrence of dental anxiety. In relation to household income, unemployment status was also observed and the data indicated that the lowest occurrence of dental anxiety was for people who were employed full time. Conversely, the highest prevalence was found in people described as unemployed. Home ownership was another topic under socioeconomic factor that was analyzed. Prevalence of dental anxiety was greatest for people who rented their homes while people who owned their home displayed the lowest prevalence. Clearly then, socioeconomic factors play a part in the occurrence of dental anxiety.

The high incidence of fear towards dental-related matters especially for people from lower socioeconomic backgrounds is due to their financial circumstances. People with low incomes have access to fewer resources. Therefore, they are less willing to spend what little money they have on dental treatment because it is not seen as an essential need. As discussed earlier, another explanation pertaining to high dental anxiety and socioeconomic factors is whether or not the person has insurance to cover the dental fees. Without insurance, people are less likely to visit the dentist because they have to pay for the treatment out of their own pocket. While fear of the dentist can be manifested in several ways, it is plausible that their fear stems more from the cost associated with the treatment than with other factors such as the treatment itself. Although not scientifically proven, another possibility for the high prevalence of dental anxiety amongst people of low socioeconomic status is the likely relationship that exists between education and dental fear. While there certainly is a correlation between education level and income, it

makes sense that people with lower incomes are uneducated about some aspects of dentistry which may contribute to the high level of anxiety often felt by people in these circumstances.

Dental anxiety is the result of many different factors. The most prevalent factor contributing to the fear of dentists transpires through negative experiences. Painful experiences are the most common examples of negative experiences. Other negative experiences include those that embarrass the patient and those that make the patient feel powerless. In addition to these direct experiences, factors that indirectly influence the patient's attitude towards the dentist include vicarious learning through personal relationships and the media, general anxiety, and monetary issues. The notion of the dentist/patient relationship also affects the development of dental anxiety and will be discussed in greater detail in the next chapter.

Chapter 2: The Dentist/Patient Relationship

The relationship between dentists and patients is complex due to the intricate parts that compose the relationship. It is essential for both dentists and patients to understand the dynamics of their relationship so that visits to the dentist can be an enjoyable process for both parties. A good relationship allows for the patient to be less apprehensive to visit the dentist. Dental anxiety is usually not an issue with patients who develop a good rapport with their dentists. A bad relationship on the other hand only augments the dental anxiety a patient may hold. The presence of dental anxiety causes many problems for the dentist and patient. Therefore, in order to improve the problems associated with dental anxiety, it is necessary to establish a healthy dentist/patient relationship.

The first issue with respect to the relationship involves the notion of equality. As Freeman (1999) explains, dental healthcare should be viewed as a two-person endeavor. It involves the dentist working with the patient and the patient being able to accept the treatment option offered by the dentist. When this status equality is maintained, the patient and the dentist are both able to reap the benefits. The patient is comfortable and pleased with the treatment while the dentist is able to improve the behavioral management skills associated with dealing with patients on a daily basis. In addition, the dentists are able to be more aware of their patients' concerns and anxieties. Longhurst (1980) offers a similar opinion as he believes that the relationship between dentist and patient requires respect in order to function effectively. The patient needs to respect the dentist's expertise while the dentist must respect the patient's willingness to proceed with

the treatment. With this mutual respect, the patient can improve their relationship by learning to trust the dentist.

This sentiment is echoed by Roter (2000) who determined that the optimal relationship model for the dentist and patient is one of mutuality. In order to achieve mutuality, the dentist and patient must establish a strong level of communication. The research describes five characteristics that contribute to the appropriate level of communication so that a healthy dentist/patient relationship can be met. The factors that develop communication are characterized as medically functional, facilitative, responsive, informative, and participatory. The first element required to establish communication is for the relationship to be medically functional. This means that the dentist is efficient in his or her use of time and resources. Essentially, dentists need to demonstrate their proficiency in regards to their medical tasks so that the patient can be confident in the dentist's ability to perform the treatment. The relationship must also be facilitative in obtaining the patient's full story and reason for the visit. In order for communication to be established, the patient needs to reveal everything that could be of concern. In doing so, the dentist becomes fully aware of the situation and is able to act accordingly. The third factor is that the dentist must be responsive to the patient's emotional state and concerns. The dentist needs to display a sense of empathy and provide support for the patient so that the patient is able to feel understood. Furthermore, the relationship must be informative. The dentist must be able to convey his or her expertise in a manner that is clear, constructive, and encouraging. Patients want as much information as they can get from their dentists so it is of great importance that the dentists communicate all available information to them. This will help quell any uncertainties or

anxieties the patients may have. The last component of the relationship is that it should be participatory. Dentists have the power to express their opinion on the best treatment method for their patients. However, the patient needs to be willing to undergo the treatment method advised by the dentist. All of these factors are necessary for dentists and their patients to communicate effectively which will allow them to develop a positive relationship.

The five factors outlined in the previous paragraph work together to develop the element of trust between the dentist and the patient. For example, when the patient enters the examination room, he or she must be willing to divulge all information relevant to the dental visit so that the dentist is able to formulate the most effective treatment plan for the patient. The dentist on the other hand must also provide all the information that the patient wants to know in regards to the treatment whether it be about the method, duration, and or pain involved with the procedure. In addition to the technical information that is shared between the two parties, the dentist must ensure that the patient is prepared both mentally and physically to undergo the treatment. This whole process establishes the valuable communication between patient and dentist. Whether or not the patient is willing to engage in the treatment depends largely on the strength of the communication and the consequent development of trust that results in the healthy relationship between dentist and patient. The patient must display unconditional trust in the dentist's proficiency and knowledge since trust is the underlying factor in the growth of the dentist/patient relationship.

Because it is difficult to establish communication during the treatment process, it is important to have communication between dentist and patient that is both verbal and

nonverbal. When dentists are in the act of treating their patients, the patients are unable to actually speak to them. As Freeman (1999) noted, dentists must be able to understand nonverbal cues so that communication is not jeopardized during treatment. Factors that involve nonverbal communication include the position of the patient, how close the dentist is to the patient, eye contact, and an understanding of nonverbal speech such as “ahs,” “ers,” and “uhms.” Dentists need to recognize nonverbal cues because it contributes to establishing effective communication. Once the dentist and patient are able to freely communicate with both verbal and nonverbal methods, the patient is able to develop a trusting relationship with the dentist.

When effective communication between dentist and patient is not fulfilled, problems arise that contribute to the overall stress associated with the dentist/patient relationship. The lack of communication between the dentist and patient can result in difficulties pertaining to the efficiency of the treatment process. Specifically, complications arise when the patient and dentist are unable to trust each other.

Stress and Suicide: The Role of Patient Relationships

General dental practitioners are under a lot of stress as a result of their working environment. Much of the reason is that the dentistry occupation is client dependent. Myers and Myers (2004) studied the relationship between stress and the dental profession and found that most of the stress resulted from this idea of client dependency. The researchers conducted a nationwide survey of dentists in the UK relying mostly on the Work Stress Inventory for Dentists (WSID) in addition to other measures in order to analyze stress. As a result of the WSID, Myers and Myers (2004) found six factors that

contributed to the stress experienced by dentists: fragility of the dentist-patient relationship, pay-related stressors, time and scheduling pressures, staff and technical problems, technical problems when treating patients, and the patients' difficulties going to the dentist. The data from the WSID showed that 68.4% of dentists rated running behind schedule as a lot of stress, 64.8% thought that the stress came from coping with difficult and uncooperative patients, this was followed by working under constant time pressure (64.4%), dissatisfied patients (52.2%), and treating extremely nervous patients rounded out the top five situations that contributed to a great deal of stress at 47.4%. The top stress-inducing situations all involve dentist/patient relations in both direct and indirect manners. Treating nervous, difficult, uncooperative, and dissatisfied patients is a direct result of the dentist/patient relationship. These patients also indirectly add stress to the dentists because they require more time during their treatments. The extra time required to treat the difficult patients results in the dentists running behind schedule for the rest of the day. This creates a great amount of stress because the dentists have to work under a time constraint on their remaining patients. In the same study, Myers and Myers (2004) were able to link the perceived or overall stress in the dentist's life with the stressful nature of the work. That is to say that work stress is associated with the perceived stress in a dentist's life.

The stressful nature associated with dentistry is oftentimes the reasoning for the popular notion that dentists are susceptible to committing suicide. Alexander (2001) attempted to uncover the relationship between suicide and professional stress by evaluating recent literature in regards to this matter. His findings were consistent with those uncovered by Myers and Myers (2004) as he identified the patients' missed

appointments, fears, dissatisfaction with treatment, and payment problems as the largest stressors for dentists. Patient interactions such as those previously described contribute to harmful emotions such as frustration, apprehension, and hostility that negatively affect the dentists. Another factor Alexander (2001) mentions as a potential risk factor for suicide includes the isolated nature of the work. During the actual treatment, dentists are unable to speak with their patients; this makes their working environment quite lonely and somewhat depressing. The perfectionist personality trait commonly found in dentists can also predispose them to depression, especially when they are unable to convey preferred methods of treatments to their uncooperative patients. More subjective factors that the research uncovered include the feeling that some dentists perceive themselves as second-rate providers. The lack and respect and notion of prestige associated with dentistry compared to physicians can negatively affect some dentists. Furthermore, the “conversational garbage” that dentists hear from their patients and the public as a whole can also lead to depression. Comments such as “I hate dentists,” “I was fine until I came here,” and “Are you a doctor or a dentist?” do nothing but add sadness and despair to general dental practitioners. These factors demonstrate that dentists are subject to stress, depression, and even vulnerability which can place them at risk for suicide.

The popular impression that dentists are prone to committing suicide was investigated by Stack (2002). Using data on suicide attained from national mortality files from 21 states, Stack identified dentists as an occupation with a significantly higher risk than the rest of the working age population of committing suicide. In fact, from an analysis of the data, dentists were found to be 4.45 times more likely to succumb to suicide than the working age population. Again dentists are more prone to suicide

because many things associated with their work depress them. The patient interactions dentists encounter on a daily basis contribute a great amount of stress, especially if the patients are uncooperative and difficult to treat. This buildup of stress resulting from dentist/patient relations leads to depression and puts dentists at greater risks for suicide.

Challenges await for patients and dentists who are unable to establish an effective relationship. Both parties share responsibility in the inability to interact in a constructive manner. Dentists actually hold more responsibility because they are the professionals in the relationship. As professionals, dentists are supposed to have been educated and trained to handle every situation that they encounter. Given the quantity of people who dislike dental visits, it may be possible that the dentists may not be as well trained as it would seem. While the dentists are well versed in the technical aspect of their occupation the failure to develop trusting relationships with their patients serves to question the training associated with the act of communicating with the patients.

Preparation: The Effectiveness of the Dental School Curriculum

Dental school students face a rigorous academic curriculum during their four years spent at dental school. Most dental schools provide the same set of courses to an extent, with the first two years spent mostly on studies that are necessary to prepare each student for the clinical aspect of dentistry. More specifically, the courses cover the basic preclinical sciences and techniques. Students in their third and fourth years of dental school are enrolled in classes that cover the clinical aspect more directly. These students are taught about treatment techniques and are able to complete rotation cycles during their final years of dental school. It is during these last two years that dental schools

attempt to prepare their students for the patient/dentist interaction that awaits them once they graduate. Much of what they learn about dentist/patient relationships comes from their personal experiences due to their work in clinics. As far as courses offered in regards to the dentist/patient relationship, most dental schools offer at least one course for third or fourth year students that addresses this issue. For instance, the University of Louisville School of Dentistry offers a course called “Clinical Patient Management” which teaches students about patient management as well as professionalism. The UCLA School of Dentistry offers a course on “Professionalism and Doctoring” which introduces the students to the responsibilities of a professional and the requirements of practice. Issues such as ethics, practice regulation, and practice management are covered in this class. Harvard School of Dental Medicine is slightly different than most dental schools in that it offers a three-part class called “Patient-Doctor” which students take from their first to third years. The three-year longitudinal course allows students to interact and interview with patients to learn the ins and outs of the physical examination. In doing so, students gain experience in the social, behavioral, and emotional behaviors that patients exhibit.

The strengths and weaknesses of the dental curriculum were studied by Henzi, Davis, Jasinevicius, and Hendricson (2007) with help from 20 of the 65 dental schools in North America. In order to gain a cross-section of students, the researchers administered the C-SWOT (Curriculum Analysis of Strengths, Weaknesses Opportunities, and Threats) to sophomore and senior dental students as well as students in post-graduate dental programs to respond to questions involving the strengths, weaknesses, opportunities for improvement, and threats to the quality of dental education. In total,

over 2,400 comments were received. One major weakness associated with the dental school curriculum involved what the students called “clinic inefficiency” which served as a major obstacle towards their learning. As one student put it, “So much time is wasted in this clinic on things like changing encounter forms, getting new burrs, organizing patients, scheduling, and searching for patients. There has to be a way to run things more efficiently” (Henzi et al., 2007, p. 637). Although dental schools provide opportunities for clinical experience, it seems as if not enough is being done to ensure that the students are able to learn at the clinics. Another student expressed a similar response, “Too many students and too few chairs. Departments do not communicate with each other, leaving the student stuck in the middle. More jumping through hoops and filling out paperwork than actually doing procedures and learning” (Henzi et al., 2007, p. 637). Clinics are where students are able to interact with patients in a real world setting. This clinic inefficiency that these students describe hinders the ability for dental students to effectively learn the intricacies of the dentist/patient relationship. Due to the lack of experience in the clinics, these students are not as prepared as they should be. Possibly more hurtful to the student’s education is the opportunities lost for chair-side clinical learning as a result of the wasted time in the clinic. Another weakness the students pointed out referred to the disorganization to the classes themselves. According to one student, “The dental classes are disorganized, not taught well, and a majority of them are taught without a laboratory component, making it difficult to actually understand what we are being taught and how we will be applying it clinically” (Henzi et al., 2007, p. 637). Part of the reason why some students view the clinics as being inefficient is because they have yet to grasp a strong understanding of the material presented in class.

As the student mentioned, without labs to demonstrate the information in a clinical setting, the students are ill prepared to apply the material learned in class to actual patients. In order for the future dentists to communicate effectively with their patients, they must be able to understand the information taught to them completely. Patients are unwilling to trust dentists who are unable to answer all of their questions.

Another question asked of the students dealt with their opinions on the opportunities for improvement of the dental curriculum. Henzi et al. (2007) found that most students wished for more opportunities for clinic time early in the curriculum. The students expressed the following thoughts in regards to this issue: “An untapped resource is the clinic time that is available. It is truly a shame that we’re not brought into the clinics at an early time and that more time isn’t focused or directed to clinics in the upper years” (Henzi et al., 2007, p. 638) In addition, “Many students have yet to have a one-on-one experience with a patient after a year and a half of dental school. Simple clinical procedures, such as administering local anesthesia, will help the student dentist become more comfortable with anxiety associated with this, it would help students better understand how their patient may feel” (Henzi et al., 2007, p. 638). The sentiments the students expressed indicate that they feel that they could be better prepared for patient interactions if clinical interactions were introduced to them before the last two years of dental school. That way, they may be able to accumulate more experience with patients in order to develop a better understanding of the patient’s needs.

Dental students need to be trained about all aspects of the dentistry profession. While it is understandable for the emphasis of the training to be placed on the technical facet of the profession, the interface between the dentist and patient also needs to be

addressed with more weight. A strong understanding of the dentist/patient relationship learned in dental school is essential for the development of effective communication with actual patients in the real world.

Chapter 3: Treatment

Dental anxiety is a very common issue that affects both the patient and the dentist. The patient deals with the tangible effects of dental anxiety. A patient with dental anxiety will be unlikely to visit the dentist regularly because avoidance is the easiest solution to dental anxiety. If and when the patient does visit the dentist, his or her time at the office will surely be unpleasant. While most people would imagine that dental anxiety only affects the patient, dentists are also indirectly affected as well. In order for dentists to maintain the oral health of their patients, the patients have to come regularly to make sure that everything is in order. In addition, if patients are uncooperative during their visits as a result of dental anxiety, the dentists are unable to perform their job to the best of their abilities. Problematic patients also cause time delays which affects the rest of the patients that the dentist has to see the rest of the day. In the event of a time delay, dentists have to rush their treatment of patients in order to see the remaining patients at their scheduled appointments. Dentists do not need the added stress resulting from time restraints and uncooperative patients to their already demanding profession.

The statement that dentists suffer from stress as an indirect result of dentally anxious patients is supported by a study performed by Moore and Brodsgaard (2001). In a questionnaire issued to 216 Danish private dentists, 60% of them believed that dentistry was more stressful than any other profession. The dentists' views of factors that contributed to their stress, from most stress inducing to least, consisted of: running behind schedule, causing pain, too heavy work load, late patients, anxious patients, inadequate assistance, talkative and uncooperative patients, and canceled appointments.

Around 75% of the dentists answered that running behind schedule was the most stressful situation. Although running behind schedule could be the result of several things, dentally anxious patients certainly contribute to this predicament because more time is generally required for anxious patients which directly affect the scheduling of the other patients the rest of the day. Therefore, it is necessary to develop an efficient solution to dental anxiety for the sake of both patient and dentist.

In the same study conducted by Moore and Brodsgaard (2001), the dentists were also asked their preference in anxiety treatments. Dentists have a wide variety of treatments to attempt to reduce dental anxiety. Over 97% of the dentists believed that simply conversing and building up trust was the best treatment for anxious patients. This form of treatment was followed by assuring good local anesthesia, gradual habituation to procedures, nitrous oxide, oral premedication, controlled breathing, relaxation training, and hypnosis. From the results of the study, dentists demonstrated a strong preference for developing a relationship with the patient. Conversing with the patient is a great way to establish trust because the dentist is able to show and tell the patient everything he or she wants to know.

Two of the most popular forms of treatments include behavioral therapy from a psychologist and treatment under general anesthesia. Berggren and Linde (1984) examined these two forms of treatments and found that both methods resulted in substantial reductions in dental anxiety as confirmed by their use of the Corah Dental Anxiety Scale. The subjects that were treated with behavioral therapy were trained in progressive relaxation, a relaxation technique made famous by Jacobson (1929). Progressive relaxation is the act of diminishing cerebral activities by alternately tensing

and relaxing the muscles. By controlling the tensing of muscles which usually transpires with anxiety, the patients were taught to relax the tension in their muscles to reduce anxiety. In addition to progressive relaxation, desensitization was also performed in conjunction with biofeedback training and videotaped dental scenes. Levin and Gross (1985) described the three basic steps in the systematic desensitization behavior: training the client in deep muscle relaxation, construction of a graduated hierarchy of anxiety-provoking scenes, and having the client imagine each of the scenes while in a relaxed state. The purpose of showing the videotaped dental scenes was to allow the patient to imagine themselves in the same scene while maintaining a relaxed state of mind. In this way, they are being desensitized towards the dental procedures that they used to fear. The other form of treatment tested in this study was the use of general anesthesia. With the use of two types of narcotic drugs, patients were treated while unconscious. Using these two forms of treatment, the patients' behavior was assessed and rated for treatability by the dentists performing the procedure. The treatment was considered to be successful if the patient demonstrated an acceptable level of treatability as determined by the dentists. The results showed that behavior therapy treatment was successful for 92% of the subjects while the general anesthesia treatment was successful for 69% of the subjects. A follow up study conducted by Berggren (1986) followed the same patients utilized in the previous study over the course of two years and determined that the frequency of the patients' attendance for regular dental care was unchanged and even increased a little for those treated with behavior therapy. By maintaining regular attendance to the dentist, the patients reveal that the treatment has in fact worked.

In another study, Aartman, deJongh, Makkes, and Hoogstraten (2000) sent questionnaires to 280 patients treated with three different treatment methods. The methods included: behavioral management, nitrous oxide sedation, and intravenous sedation. Behavioral management treatment consisted of various calming techniques. Simple reassurance, “tell-show-do,” gradual exposure, and relaxation exercises were all components of the behavioral management approach. Nitrous oxide sedation allows patients to inhale nitrous oxide gas which has many desirable effects for the dentally anxious. Inhalation of the gas depresses almost all forms of sensation, especially pain. Intravenous sedation requires that an IV be inserted into the vein to administer the drugs. As a result of intravenous sedation, the patient experiences a state of deep relaxation and a carefree emotional state. The study was performed by administering a questionnaire in addition to the Dental Anxiety Scale and the Dental Anxiety Inventory. Their results showed that each of the treatments tested was successful in reducing the level of dental anxiety. More specifically, behavioral management treated subjects experienced the greatest reduction of anxiety when compared to subjects treated with nitrous oxide sedation and intravenous sedation.

These studies (Berggren and Linde, 1984, and Aartman et al., 2000) demonstrated that the subjects preferred psychological treatments such as behavior therapy and behavior management rather than medical treatments such as general anesthesia, nitrous oxide sedation, and intravenous sedation. This is not to say that medical treatments do not work but rather that psychological treatment methods are more effective in reducing dental anxiety levels.

Besides the psychological treatments previously mentioned, other psychological treatment methods including hypnotherapy, group therapy, and individual systematic desensitization were studied by Moore, Brodsgaard, and Abrahamsen (2002). Patients treated with hypnotherapy experienced hypnosis while situated in a dental chair. While under hypnosis, the patients learned to restructure negative thoughts. For example, the sound of a drill often heard inside dental offices was reimprinted into a signal to help deepen the hypnotic trance state. The patients who underwent group therapy met in groups of 6 people (3 men and 3 women) for seven 2 hour group therapy sessions. Each session was led by a therapist, dentist, and a dental assistant who worked together to inform the group about “phobic dental anxiety, social assertiveness training, and relaxation training.” The groups were also introduced firsthand to injection and drilling procedures commonly used by dentists. The final treatment group underwent individual systematic desensitization. Like the previous study, progressive muscle relaxation was taught through the use of a 12-minute cassette tape. Two forms of systematic desensitization training were used. The first method exposed patients to 30 s videotaped dental situations with a therapist at hand to supply the instructions and to allow for relaxation pauses with hand signals. The second method was considered clinical rehearsal systematic desensitization which exposed the patients to “threatening dental situations or dental instruments in gradual steps, combined with tension awareness training, hand signaled-pauses and breath control” (Moore et al., 2002, p. 288)

Attendance was one of the behavioral measures tabulated in this study because consistent attendance indicated a successful adjustment in behavior while irregular attendance would suggest an incomplete behavioral adjustment. After 3 years, 70% of the patients

who underwent group therapy were still maintaining regular visits to the dentist. Systematic desensitization patients performed slightly worse with 66% still visiting the dentist regularly. The hypnotherapy patients performed the worst with 55% of the patients maintaining consistent dental care habits. In addition to attendance records, the patients were also analyzed for changes in dental anxiety and changes in beliefs about dentists and treatments after 3 years. Each of the treatments succeeded in reducing dental anxiety and also improved the trust between patient and dentist after the initial treatments.

Furthering the examination of psychological treatments for dental anxiety, relaxation and cognitively oriented therapy were compared by Berggren, Hakeberg, and Carlsson (2000). In relaxation therapy, the goal was to eliminate stress reactions by increasing the patient's ability to relax and to maintain relaxation during dental situations. The patient was trained to relax using progressive muscular relaxation techniques. Similar to the other studies, patients were shown a hierarchy of video scenes. While practicing relaxation techniques, the patient would eventually acquire the ability to remain relaxed while watching the dental scenes. The only thing that mattered in this treatment was the patient's experience with tension and relaxation during the treatment. In cognitive therapy, patients were taught that their fear of the dentists stemmed from faulty cognitions that were the result of previous experiences and learning. The treatment used for cognitive therapy showed the same sequence of video scenes used in relaxation therapy. However, after each scene, the patient discussed the thoughts and opinions experienced during the video scene. The purpose of this type of therapy is to replace the faulty ideas with beneficial ones. The study determined that both treatments resulted in

large reductions in dental anxiety. These reductions however, were more significant in the relaxation therapy treatment group

There are many treatments available for patients who suffer from dental anxiety. From the studies analyzed (Berggren and Linde, 1984, Aartman et al., 2000, Moore et al., 2002, and Berggren et al., 2000) psychological methods of treatment were determined to be more effective in reducing dental anxiety than medical treatments. However, even though medical treatments were shown to be less effective, they should not be disregarded since they were concluded to be successful for some, albeit not as successful as the psychological treatments. It is difficult to determine which treatment is the most effective because they all worked to some extent. Choosing the treatment is really up to what the patient feels most comfortable in doing. Regardless of the type of treatment implemented, the most important issue in relieving dental anxiety is to establish a trusting relationship with the dentist. It can be concluded that trust is actually the best treatment a patient can receive to address their dental anxieties. I have learned that in order to reduce dental anxiety the dentist and patient must work together to inform each other about what they feel most comfortable with. Dentists must be willing to take the time to provide the patient with sufficient information in regards to the procedure and to address all concerns that the patient might have in order to gain the patient's trust. In order to make trips to the dentist a more enjoyable experience, it is important to establish healthy dentist-patient relations which will allow the patients to improve their beliefs about dentistry while also controlling their anxiety towards dental care.

Conclusion

Dental anxiety is a serious problem that affects both parties in the dentist/patient relationship. It adversely influences the patients' behavior towards the dentist by making them fearful and consequently difficult to treat during their dental visits. The dentist is also affected by the patients' dental anxiety because they are unable to perform their job effectively with uncooperative patients.

From the research, I found that negative experiences from direct and indirect sources contribute largely to the development of dental anxiety. Painful and embarrassing experiences as well as feelings of powerlessness are direct causes of dental anxiety. Indirect causes are generated through vicarious learning, the mass media, and monetary concerns associated with dentistry. These issues pertaining to dental anxiety can be resolved through the education received from a healthy dentist/patient relationship.

The key to developing a beneficial relationship between the dentist and patient lies in the issue of trust. Trust is the product of an open relationship where all information is shared. The patient must be willing to report all the information relevant to his or her visit to the dentist. Once given this information, the dentist should provide the answers to any questions that the patient has concerning all aspects of the dental treatment process. The information given to the patient can teach the patient that visiting the dentist is actually a nonthreatening affair. This relationship is also advantageous for the dentist because it eliminates the stressful nature of the job. Alleviating the stress

often associated with the dentistry profession is helpful in the aspect of the dentist's physical and psychological health.

I am able to use the information from this thesis to help me as I continue to pursue my goal of becoming a dentist. I have learned the importance of the dentist/patient relationship and how it can affect both the development and elimination of dental anxiety. From the knowledge gained through this thesis, my future patients will be able to have full confidence and trust in me not only because of my technical skill, but also because of my ability to establish a healthy relationship with them. This way, I will be able to ensure that my patients do not fear going to the dentist but actually find going to the dentist a pleasant experience. After all, it is my job to make my patients smile and look good doing it.

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