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A clinician's perspective in the management of functional seizures

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ABSTRACT

Patients struggling with functional seizures represent a significant issue for institutions across the country. Fortunately, they often respond to regular Cognitive Behavioral oriented psychotherapy. This patient population tends to be underserved, and it is the hope that my experience in their treatment will alleviate this problem. My approach to therapy is largely self taught, and based on observation, trial and error, and over ten years of experience. My approach begins with the introduction of behavioural interventions, and as treatment progresses, I begin to rely on talk therapy aimed at the introduction of cognitive interventions. Treatment begins with an analysis of their episodes followed by interventions aimed at symptom reduction. Longer term goals include the management of co occurring mental health concerns and systemic issues.

I am a Clinical Psychologist, whom has the pleasure of treating patients with functional seizures, within The University of Alabama at Birmingham's Department of Neurology. I was approached, over ten years ago, with a very complex problem my local institution was managing. Like so many professionals across the country, this provider was attempting to locate resources for their adult population of patients diagnosed with functional seizures. Outside of classroom discussions, I knew little of the problem at the time; however, I was intrigued and wanted to help. Little did I know, this decision would play a dominant role in my career. My education, training, and experience is centered around the practice of psychotherapy and patient care. Therefore, much of what I understand about this diagnosis has been self-taught, and based primarily on personal observation of adult patients. I would be remiss if I did not mention my wife, Dr. Kristi Yarbrough, for vastly shaping my views on this subject. As an accomplished psychologist herself, Dr. Yarbrough has been instrumental in shaping my opinions on the management of functional seizures.

A Cognitive Behavioral orientation (CBT) is recommended, as this theoretical orientation has the backing of scientific scrutiny, and CBT's greatest strength is focused symptom reduction. My training was centered around child, adolescent, and family interventions, and as such, I often utilize insights taught through Structural Family Therapy (SFT). In my opinion, systemic thinking is very compatible with a CBT orientation. Although I typically see my population for individual meetings, systemic issues often become relevant over the course of treatment. SFT gives us a simple way to organize someone's role within their environment, as well as a basic framework on how the systems we travel in can influence the way we think, feel, and behave. Furthermore, concerns surrounding enmeshment, triangulation, and boundaries frequently come up. Children have different needs, and therapeutic interventions should match the patient's developmental level. The hallmark difference between pediatric and adult populations will be the levels of family involvement, with increasing caregiver participation in treatment and interventions as the developmental level of the patient/child decreases. As I see an adult population, principally in individual therapy, I spend less energy on family homeostasis, and am more focused on individual patient outcomes. Adults have more freedom to disengage with unhealthy environments, as well as establish healthy boundaries. Ultimately, I utilize SFT insights in an effort to help patients navigate their often-complex circumstances.

A pure SFT orientation encourages as much family participation as possible; however, experience has shown that this is logistically difficult to accomplish. When family meetings become necessary, I often speak with one or two supportive members of the patient's system. In the event of an intellectual disability, I generally try to include the caregiver at the beginning of the meeting while spending time with the patient alone for the remainder of our session. In this circumstance, the caregiver can encourage the patient to utilize behavioral interventions, or remind them of various issues discussed in therapy.

It is important for me to understand the participants in the patient's system. SFT therapists will often utilize "family mapping" in which a pictorial representation of the patient's family is presented. The expectation is the family will gain insight into how their behavior can influence each other, as well as establish every-

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one's role within their system. Although I do not draw a physical map, I do try to keep in mind the complex web of relationships in the patient's life. Concerns surrounding family are a frequent conversation, and I utilize my interpretation of their family map to point out concerns as they come up in conversation.

SFT interventions are largely psychoeducational and insight oriented. Like CBT, SFT is heavily reliant on reframing and confronting harmful thinking and behavior. Furthermore, establishment of healthy boundaries is a staple of SFT therapy, as well as positive pro social communication. I will often model pro social assertive behavior, and my hope is to help patients implement this into their own interactions with others.

In the management of functional seizures, the first vital step, is a comprehensive diagnostic evaluation by a qualified physician. The ideal is to take care of patients after the benefit of a full vEEG, and the diagnosis delivery is the first cognitive oriented intervention for a functional seizure. Many patients are sensitive to the perception that they are either "crazy" or "faking", and in my observation, the diagnosis delivery is of paramount importance to the process. It sets the pace for therapy, and should something go wrong with this step, I have found it almost impossible to establish any sort of therapeutic alliance. I have no involvement with the initial diagnosis delivery as this is a very delicate conversation between a patient and their doctor, and I fear that involvement from me might feel intrusive. However, shortly after the physician's diagnosis delivery, it is my preference to see the patient while they are still in the hospital or shortly thereafter. I have found that they are in a better state of mind to accept the sometimes difficult to understand news that their episodes are functional.

My primary goal during the first meeting is to complete a basic diagnostic interview, as well as provide psychoeducation as to the nature and treatment of functional seizures. Basic behavioral interventions are also briefly discussed, and the patient is encouraged to keep track of potential triggers. I take great care to ensure the patient understands the nature of their diagnosis, feel as if their concerns are understood, and have a basic understanding of how therapy will proceed. Following their discharge, I have noted that some patients will see a decrease in their episode's frequency/-severity, and occasionally, the episodes will spontaneously remit. I have noted this seems most likely to happen with patients experiencing somatic anxiety. A comprehensive medical evaluation is reassuring, and an impeccable diagnosis delivery tends to encourage this result. Unfortunately, a spontaneous remission does not seem to be the norm, and continued participation in therapy is recommended regardless of their immediate outcome.

Early on in treatment, I make a point to stress that thoughts, emotions, and behavior are all connected. The cornerstone of CBT is intervening cognitively with thinking patterns, as well establishing healthy behavioral patterns/responses. CBT interventions generally attempt to insert thoughts or behaviors that are incompatible with the presenting problem. For example, one is less likely to feel depressed while they take a walk or listen to music.

While exploring the specifics of my patients' individual presentation, I often try to break the functional seizure into its component parts. This effort is done to identify potential motivating factors that only encourage a functional seizure. In my observation, a functional seizure frequently involves some elements of somatic anxiety, panic, and/or dissociation. Interventions are then tailored to the most prominent element in the patient's presentation. Some people will describe various warning signs of an impending episode. The typical signs of an attack are often individual to the person; however, many will describe feelings associated with emotional discomfort prior to the spell. These patients are likely to be triggered by stressful circumstances in their environment. In this case, early interventions are aimed at reducing subjective feelings of emotional distress, with anxiety being a common manifestation. For shared language, patients are asked to describe their emotional states on a Likert scare of 1–10, with 10 being an episode, and anything below that being an uncomfortable emotional state. We will then discuss interventions to be utilized depending on the severity of their distress. For example, a Likert 5 would justify taking a "personal time out" to allow the uncomfortable emotional experience to pass and/or leave the circumstance; while a Likert 8 would justify a more aggressive effort. Although many patients will report that they are more likely to have an episode during times of increased stress, many more will indicate that their spells occur without triggers. Furthermore, these patients rarely see a correlation between their mood and functional seizures. In this case, interventions are aimed at dealing with the actual episode itself.

Therapy starts with the introduction of behavioral interventions along with a treatment plan. I have utilized a variety of behavioral tools over the years, and I have yet to find one intervention that works for everyone. For the patients that experience some form of emotional distress prior to their functional seizure, or they have a long warning window, I recommend a breathing technique called "box", or "four square", breathing. This is a rhythmic breathing pattern that I originally utilized to combat panic episodes. Patients are encouraged to take a deep breath through their nose, hold for two seconds, exhale slowly through their mouth, and hold their breath for another two seconds. This intervention has the added benefit of distraction, and is quite effective in encouraging calm feelings. The intervention also seems helpful for patients that report rapid heart rate, dizziness, or tingling in extremities. Patients are encouraged to utilize box breathing as soon as they notice signs of an impending functional seizure.

Utilizing an intervention borrowed from other providers, patients are recommended to engage in slow, but purposeful competing movements if box breathing is not working. Specifically, movements that are not compatible with their manifestation of a functional seizure. This is particularly useful to patients who see little relationship between their stressors and episodes. Selective mutism or stuttering are common while a patient is experiencing a functional seizure. In this case, I recommend that they try to sing. For patients that experience trembling, particularly in the arms/hands, I recommend they slowly trace their thumbs over their fingertips in a circular pattern. This is adapted from the utilization of a "worry stone" to combat nervousness, but without the need to carry a glass rock. It tends to promote calm feelings, distraction, as well as providing a competing movement. Starting cognitive oriented interventions would include keeping key phrases in their mind when they have an episode. Mantra-like statements such as "I am in control" or "I am fine/safe/OK" will often help a patient stay centered, and focused on positive outcomes.

Some patients have staring events with non-responsiveness. Descriptions of depersonalization, dissociation, or derealization are common with this presentation, and I am often suspicious of a history of traumatic events. It is not uncommon for these patients to struggle with issues associated with PTSD, or at the least, extreme anxiety. As such, I feel patients' staring spells, in some cases, could be more indicative of a dissociative episode. Furthermore, in line with a diagnosis of dissociative disorder, sometimes a patient will exhibit regression to childhood, self-harm, or combativeness. At times, the dissociative episode can progress into a functional seizure. These patients tend to indicate that their spells are triggered by stressful events, anxiety, and/or symptoms of PTSD. Staring spells often respond to self-grounding techniques. Specifically, they are recommended to name three things in their environment, and give a short description of what they see. As it is grounding to see your own reflection, I will sometimes recommend the patient's name three things while looking in a mirror.

These patients can also respond to box breathing, distraction, and the adapted worry stone.

It is difficult to identify any one intervention that institutes change in someone's life. Therapy seems to function best as a synergy of small, but consistent positive changes in thinking and behavior. Everyone is encouraged to maintain an active lifestyle, exercise, engage in pleasurable activities/hobbies, and increase interactions with positive members of their support system. Mindfulness and meditation techniques are recommended to everyone in the hopes the patient will become invested in the practice. I have seen the most success utilizing a home study program available on television streaming platforms. Patients that enjoy this modality will find it is a powerful tool to help them regulate their subjective emotional states. However, many patients do not find it helpful, or are simply not interested. When this inevitably happens, I do not pressure the patient to continue, but rather they are encouraged to search for healthy alternatives.

By the third therapy session, a basic behavior plan should be in place, and the patient has had some time to experiment with their interventions. We will return to the behavioral plan while we talk, and continue to make adjustments if necessary. Therapy is going to become much more two directional and collaborative by the third session. In my observation, intervening cognitively, on core issues, yields robust and lasting results. I am not only concerned with reduction of the incidents of a functional seizure, but also the various issues that might be contributing to the issue at hand. Therapy moves to identifying various cognitive distortions in their automatic thinking. Examples of common cognitive distortions would be frequent thoughts of low self-esteem, catastrophic thinking, or overgeneralization. When these distortions are identified, a cognitive reframe is presented to the patient. It is the hope that the patient will become more aware of their thinking patterns, and to avoid reinforcing negative cognitions in the future.

I have had the most success with reframes that are concisely stated and easy to remember. People tend to think in short "bullet points," and I put energy in making cognitive interventions creative, simple, and memorable. Over the years I have collected and streamlined untold numbers of responses to the various comments or situations presented to me. For example, "Anxiety is a very ineffective way to control something you have no power over," or "There is a weird beauty in hitting rock bottom, you only have one way to climb.", have been repeated again and again.

A starting point in a cognitive/conversational meeting would be to discuss various situations or problems that might have contributed to the presenting problem. If, for example, they always seem to have an episode after talking with a specific person, then we are going to explore the parameters of this relationship. Individual situations are explored in detail, and should they exist, I am always interested processing the sequence of events that might have contributed to a functional seizure. The hope is the patient will learn how to appropriately intervene in their own life, and ultimately learn adaptive problem-solving. My job is to be predictably logical and kind throughout this process. When possible, I try to avoid giving direct advice, but rather we engage in Socratic questioning to help the patient reach the healthiest possible conclusion. I will also rely on motivational interviewing techniques as they become necessary.

I take the time to treat co-occurring mental health diagnosis while I help the patient address the functional seizure. Patients present with a variety of co-morbid problems, with issues on the anxiety spectrum being the most typical. I have noted a correlation between a history of traumatic events, and the development of functional seizures. Experience has shown that this is better thought of as a risk factor in many cases. With this said, I also note co-occurring PTSD is often part of the presenting problem for many patients. As already mentioned, PTSD symptoms can aggravate incidents of a functional seizure. As such, utilizing CBT oriented therapy aimed at PTSD symptom reduction can have an impact on their frequency of functional seizures.

Prioritization of when to address a diagnosis is largely a collaborative effort that begins with the patient telling me what symptoms they find most troublesome. The vast majority of patients will rate a functional seizure as their primary concern. I then work first to educate them on the common interplay between their various diagnosis, and we agree on a treatment plan to address the most disabling problem to the least. Often, patients start therapy with co-occurring issues already under control with psychotropic medications alone. Should this be the case, I generally consider the issue managed by the prescribing provider; however, I continue to keep a close watch for maladaptive thinking and behavior associated with that diagnosis. For example, psychotropic medications do well in helping a patient feel subjectively less anxious; however, they do not directly address adverse thinking or behavior patterns associated with generalized anxiety disorder.

Themes tend to develop as we process and reframe their various issues. I often attempt to concisely reflect the various themes as they occur to me, in the hope that as the patient gains insight into his or her thinking. Although I do not spend an inordinate amount of time discussing someone's childhood, it is important to explore in therapy. Understanding how and where maladaptive patterns originate, and how they are repeating in the here and now, can increase the likelihood someone can intervene on their own behalf. Ultimately, I am trying to instill the ability to identify maladaptive patterns on their own and grow past them. It is my sincere hope that therapy becomes a transformative experience, and insight into one's own behavior goes a long way in helping us achieve our goal.

The subjective experience of feeling emotions is often overwhelming for this population, and they will activate various defense mechanisms to deal with this issue. Unfortunately, some defense mechanisms are unhealthy, and providing insight into this process helps. A simple example of this would be a patient feeling depressed, but projecting this depression onto another person with an anger outburst. I often act as a mirror to the patient in helping them adequately interpret their own feelings on various matters, and encourage them to respond in a healthier way. They are often told that their emotional system is a complex arrangement of signals, but it is up to us to interpret what these signals are trying to tell us.

Systemic issues also tend to become clear as treatment progresses, and I often gain insight into someone's thinking through an exploration of how they navigate their day. Particularly with the various circumstances they find stressful, or consistently have maladaptive reactions to. Patients will frequently rate interactions with other people as a major stressor, and exploring relationships is common. We often examine their role within the systems they engage with, and discuss healthy boundaries with said system. Patients are frequently encouraged to "find their voice", and appropriately communicate their needs to others. When they start to practice pro social communication effectively, I am hoping they will feel empowered to effectively navigate the various complexities of their daily living.

The normal course of therapy first begins with behavioral interventions, and moves outward toward traditional conversational therapy. The general hope is to get to the heart of the matter, while gaining maximum influence over ones thinking and behavior. As treatment continues, the patients will begin to notice they are better able to stop a functional seizure before it becomes an issue. As they improve in other areas, the need to allow a functional seizure to pass should become less and less. Improvement is rarely a straight line, and patients frequently note waxing and waning of symptoms as they practice with their tools. It is important for me to encourage them to continue on their path, and normalize as necessary.

Case Vinyette

Mrs. Doe is a 55-year-old Caucasian female whom was definitively diagnosed with functional seizures. At the time of her vEEG, Mrs. Doe was suffering approximately 3 functional seizures a week, and has been having episodes for approximately one year. Upon initial interview, Mrs. Doe was diagnosed with Chronic Post Traumatic Stress Disorder associated with abuse suffered as a child, as well as a long-standing diagnosis of Major Depressive Disorder. Mrs. Doe feels her symptoms associated with depression are under good control with SSRI medications; however, she continues to experience flashbacks, panic episodes, and nightmares.

Mrs. Doe indicated that many functional seizures are triggered by feelings of subjective stress, as well as symptoms associated with PTSD. She noted dizziness and tingling prior to a functional episode. A Likert scale of 1–10 was established, and behavioral interventions were tailored to how intense subjective experience of anxiety was. Mrs. Doe noted that utilizing box breathing at a Likert 8 was helpful; however, did not stop ‘‘intense” functional seizures. As her typical episode began with a ‘‘no no” head bobbing pattern, I recommended she utilize the competing movement of ‘‘yes yes”. Mrs. Doe noted an immediate positive benefit of competing movements, combined with box breathing, however symptoms of PTSD continued. Therapy then focused on CBT management of PTSD symptoms, and after several months of treatment, these began to respond as well.

Over the course of treatment, themes surrounding her sister began to dominate our conversations. Mrs. Doe lived next door to her sister, and they were heavily involved in each other's lives. Unfortunately, her sister had a significant history of behavioral issues, including an arrest record for violent crime. Mrs. Doe frequently noted that she feels responsible for her sister's wellbeing as she often protected her sister from her own incidents of abuse as children. Mrs. Doe noted breakthrough functional seizures happened while she was managing her sister's many behavioral concerns.

Mrs. Doe was encouraged to establish healthy boundaries with her sister, as well as was taught pro social assertiveness skills. She was also encouraged to allow her sister to be responsible for her own behavior. Furthermore, Mrs. Doe was encouraged to increase social interactions outside of her family system. As long-standing beliefs associated with she and her sister's relationship were challenged, Mrs. Doe began to notice various symptoms were easier to control.

Eventually, Mrs. Doe became interested in expanding her social circle, and was encouraged to accept an invitation to join a women's group associated with her church. This had an immediate positive benefit as she was able to dramatically expand her social circle. As she increased positive social interactions, symptoms ceased. Eventually, she achieved complete remission in both functional seizures and PTSD symptoms.

Inevitably, I will have patients that are difficult to respond. I find that patients who are in dangerous environments, active addiction, and/or suffer severe mental health pathology will struggle. I also find that any involvement with the legal system tends to prolong the process. In addition, patients whom have a high illness conviction are not very likely to invest in therapy, and are not open to the necessary collaboration. Patients with co-occurring epilepsy can present a unique challenge when the patient cannot discern what is epilepsy versus functional. Frequent communication with the patient's physician is helpful. Fortunately, most patients seem to have a clear understanding of what symptoms are functional. The most challenging patient is one whose episodes come on suddenly, who feel they have no ability to control themselves, as well as no conscious awareness of their behaviors. They do not have time to initiate behavioral recommendations, and they struggle to engage with competing movements or behaviors.

Should the slow to respond patient have co-occurring mental health concerns, my instinct is to pay closer attention to the broader mental health picture. However, they become very challenging when no obvious mental health concerns or systemic issues are noted. I am willing to explore with them for a period of time, however I do reach a point where outside opinions are necessary. I am often grateful for the assistance of a qualified psychiatrist, and I am quick to recommend one early on when indicated. When the situation dictates, I will also recommend the patient seek the opinion of another therapist.

Studies have consistently indicated that a Cognitive Behavioral orientation yields robust results for most mental health concerns. Literature also suggests that there is a correlation between outcomes, and the strength of the therapeutic alliance. Carl Rogers, the founder of Humanistic Psychology, teaches us to have, ‘‘Unconditional positive regard” for the people under our care. Although I feel that a CBT orientation is vital, I also believe that unconditional positive regard is a simple but effective intervention. As already discussed, thoughts, feelings, and behavior are interconnected. Intervening cognitively and behaviorally is largely a logical endeavor, however introducing positive feelings requires timing, skillful delivery, and creativity. I feel unconditional positive regard is one of the few psychological interventions that seems to work for everyone on some level.

> ‘‘At the end of the day people won't remember what you said or did, they will remember how you made them feel.” - Maya Angelou

A disclosure/conflict of interest statement

No author of this paper has a financial or personal relationship with other people or organizations that could inappropriately influence or bias the content of the paper.

Ethical statement

As an expert of concerned field, the paper has been submitted with full responsibility, following due ethical procedure, and there is no duplicate publication, fraud, plagiarism, or concerns about animal or human experimentation.