

Cognitive Analytic Therapy and Functional Neurological Disorders

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Abstract:

Around one-third of neurology outpatients have symptoms that neurologists conclude as either not at all, or only partially, explained by organic causes. Around twenty percent of patients brought into hospital for epileptic seizures receive a diagnosis of non-epileptic (dissociative) attacks (Stone, 2011). Within neuropsychiatry, the focus of psychological treatments for functional neurological disorders has been cognitive behavioural therapy (CBT) (Williams et al, 2011; Goldstein et al, 2004, 2010). There is also a growing interest in using other approaches such as Acceptance and Commitment Therapy (Graham, O'Hara and Kemp, 2018), EMDR (van rood et al, 2009; Cope et al, 2008), psychotherapy (Reuber et al, 2007; Howlett and Reuber, 2009), Dynamic Interpersonal Therapy (Luyton, et al 2013) and Cognitive Analytic Therapy (Jenaway, 2011; Jenaway et al, 2018). This article is a brief review of using a cognitive analytic approach with people with functional neurological disorders (FND) with case examples and some initial outcomes from pre- and post- self-report measures. Included in this review, are clients who experience non-epileptic attack disorder (NEAD), functional motor disturbances, functional stroke and other functional neurological symptoms including memory loss and speech difficulties.

Key words:

functional neurological, cognitive analytic, somatic, conversion.

Introduction

Functional neurological disorder (FND) is a syndrome of neurological symptoms arising without organic cause. Other terms for FND include conversion disorder or psychogenic disorder. The term 'medically unexplained symptoms' is also often used, although FND requires a

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positive diagnosis, meaning that it needs to be clear that the symptoms cannot be due to organic causes. Medically unexplained symptoms on the other hand, describe an 'open verdict' as to what the causes may be. Neurological symptoms can include visual or auditory defects, motor symptoms, co-ordination or gait disorders, paresis, loss of speech, amnesia or non-epileptic seizures (Stone et al, 2005). Non-epileptic attack disorder (NEAD) has also been known as psychogenic seizures, pseudo-seizures or dissociative seizures.

The questions of *how* and *why* functional neurological disorders develop has been subject to extensive theorising and research. In terms of *how* FND develops, the neural correlates and mechanisms underpinning such disorders are not yet well understood. The role of dissociation in the development of functional neurological symptoms and non-epileptic attack disorder is of increasing interest. Research suggests that brain areas in the lateral and medial frontal cortex, as well as the supplementary motor area and basal ganglia, are involved, and are similar neural processes to those seen during hypnosis (see Bell et al, 2011). Research and theory into the cognitive system also provide some insight, particularly the role of different attentional mechanisms and their impact on, shaping the content of consciousness, and controlling thought and action (Brown, 2004). In practice, it is important for patients to understand *how* FND develops from a neurological and cognitive perspective such as the role of dissociation and attention. Rather than explaining FND as a 'psychological reaction' or 'symptoms due to stress', adverse life events are presented as a risk factor or trigger, along with past stressors and recent illnesses. A widely used analogy is that the basic wiring of the nervous system is intact, but the messages are not being sent and received as they should and that this is 'like a software problem, rather than a hardware problem' (see Cock and Edwards, 2018).

In terms of 'why' functional neurological disorders develop, this has been theorised within psychiatry since the late 1800s and the focus has largely been around the experience of trauma. For example, Janet's (1889) early dissociation theory provides an explanation involving attentional narrowing, where the exposure to traumatic events limits the number of sensory channels that can be attended to. The individual may focus on some sensory channels at the expense of others, leading to the loss of deliberate attentional control over neglected channels. According to Breuer and Freud (1893-1895/1955), the brain often attempts to regulate the conscious experience of distress by unconsciously suppressing (or repressing) the conscious recall of memories, without which there is a

state of tension, or conflict, that is too painful to acknowledge. By removing these memories or conflicts from a conscious level of mental life and driving them into the unconscious, the individual's needs to preserve the energetic balance of the brain are met. The distress is essentially 'converted' into a neurological symptom.

The most prolific cases of FND as a result of severe trauma can be found by studying accounts of shell shock during and after the first and second world wars. Jenaway (2011) describes the usefulness of using the knowledge we have about shell shock to explain a client's symptoms. Many clients can feel dismissed or disbelieved when given a FND diagnosis. Often the initial stages of intervention include psychoeducation for the client and their family and carers. Often clients cannot attribute their physical symptoms to a past trauma and so we draw on cognitive and attentional explanations. For example, the individual may have experienced a physical illness (such as a minor injury, flu-like symptoms or migraine) which triggers or precipitates the development of FND (Stone, Carson and Aditya et al 2008). There may be underlying anxiety or emotional difficulties that are not acknowledged, and anxiety and excessive focus on the physical experience, maintaining the problem over time. Being given possible diagnoses by different physicians during, often extensive and repeated, physical examinations and evaluations can leave an individual feeling more concerned that something is 'wrong', and perpetuates the focus and attention on the symptom.

Research suggests that physiological markers of anxiety are often reported at the onset of FND symptoms or persistently throughout the illness, but patients only rarely report a concurrent emotional state of anxiety (Kranick et al, 2011). There is also a body of research that explores the link between alexithymia (difficulties identifying and describing emotions in oneself and in others) and the development of FND (Demartini et al, 2014).

Treatment for FND

Within neuropsychiatry, the focus of psychological treatments for FND and NEAD has been cognitive behavioural therapy (CBT) (Williams et al, 2011; Goldstein et al, 2004, 2010). There is also a growing interest in using Acceptance and Commitment Therapy (ACT) (Graham, O'Hara and Kemp, 2018). However, there is a developing understanding that a significant number of people diagnosed with FND have also experienced early trauma (Karatzias, 2017; Ludwig et al, 2018). The use of trauma

focussed therapies such as EMDR (eye movement desensitisation and reprocessing) has been identified as a potential treatment for FND, although research in this area is at the early stages (Van Rood et al, 2009; Cope et al, 2008). In other cases, rather than requiring trauma processing, the individual may benefit from a more collaborative understanding of the way in which emotional distress is as a result of disordered attachment, interpersonal difficulties and/or unresolved emotional conflicts, such as those pertaining to early abuse or other childhood traumas. In such cases, psychodynamically oriented therapy has been identified as an appropriate treatment option (Brown, 2004). For example, Reuber et al, (2007) and Howlett and Reuber (2009) have evaluated the effectiveness of a brief psychodynamic interpersonal therapy, augmented with elements of cognitive-behavioral therapy, somatic trauma therapy, and the involvement of caregivers and family members. More recently, Luyten and colleagues have provided an account of how Dynamic Interpersonal Therapy (DIT) can be used with clients with functional somatic symptoms (Luyton et al, 2013). This approach is based on theories of attachment, mentalization and stress regulation.

The neurobiology of the attachment system is well understood. A secure attachment activates the dopaminergic 'reward' system (Insel and Young, 2001) and downregulates the neuroendocrine regulation systems (the hypothalamic-pituitary-adrenal axis and sympathetic nervous system) (Beatson and Taryan, 2003). There is emerging evidence of structural differences in these systems in people with insecure attachment, poor coping skills and functional neurological disorders (Williams et al, 2018) and that insecure attachments in early life are a predisposing risk factor for functional neurological disorder. For example, Williams et al (2019) found that fearful attachment style was associated with self-reported adverse life event burden, alexithymia, dissociation, depression, anxiety, impaired stress coping skills and functional neurological symptom severity.

CAT and Functional Neurological Disorders

Within CAT, the focus of treatment is on collaboratively developing an understanding of how early attachment relationships have impacted on the individual's unconscious and subconscious interpersonal and inter-relational expectations, responses and behaviour. Understanding these early relationships and maladaptive responses (problem procedures) and then developing adaptive strategies (exits) to change stuck patterns of

relating and behaving, could potentially have an impact on FND symptoms.

Accounts and evaluations of using CAT with people with functional neurological symptoms are emerging within the literature. For example, Jenaway (2011) and Jenaway et al (2018) have reported outcomes of CAT treatment for small samples of patients with functional neurological disorders. Although described as medically unexplained symptoms, Jenaway describes functional neurological symptoms such as non-epileptic attack disorder and functional paralysis and spasms, and presents promising initial outcomes using CAT with this client group. Jenaway discusses using the CAT model to understand how early attachment relationships impact on the way an individual relates to themselves, with their body and their physical symptoms. For example, where an individual may have internalised a critical-criticised/demanding-not good enough reciprocal role pattern, they may be pushing the body and ignoring signals to rest, and struggle to respond to their physical needs with kindness and compassion.

Some clients whom I have met in the neuropsychiatry clinic, have experienced early abuse and emotional neglect. This often leads to a coping strategy throughout life of being the 'caring' other and putting one's own needs aside. It often feels as though the individual is exhausted from a lifetime of caring and may have not had an opportunity or have developed an internal 'self to self' relationship to consider and attempt to meet their own needs. When the FND symptoms begin, often triggered by illness or injury, and perhaps alongside a loss of the role in caring for others, the individual may feel dismissed again by professionals who are unable to provide a clear medical diagnosis for their symptoms. Within their personal relationships, they may find that their loved ones find a way to provide care and support by making demands on the professionals instead. Sometimes the demands for the affected individual to provide care cease, and they can give themselves permission to rest and be cared for.

This is a generalised example of the way a reformulation may develop. The reality is that with this client group the functional neurological symptoms, the causes, course and treatment responses vary significantly from person to person. CAT enables the clinician to explore many aspects of the individual's experience, including early life and their relationships with others, themselves, their symptoms, their body and their experience of the medical professionals (including the therapist). The reformulation is developed collaboratively, creating a dynamic person-centred approach

that has the openness, curiosity and flexibility to explore and learn.

What follow are two cases to describe in more detail the use of CAT with clients with functional neurological disorders. Both cases are anonymised, and the clients have kindly given their permission to be included in this paper.

Case example 1:

Suzy was referred to the neuropsychiatry service with a diagnosis of functional neurological disorder (FND) after many years of physical investigations that were inconclusive. Suzy reported experiencing pain in her back which was as the result of a previous injury, along with acute functional stroke-like symptoms such as slurred speech, facial drooping and weakness on her left side. When I met with Suzy for her initial assessment, she expressed frustration that an organic cause had not been found for her stroke-like symptoms and she insisted that some tests had not yet been performed. In order to progress forward with the therapy, we agreed to keep an open mind about the cause of her physical symptoms and during the initial 3-4 sessions, Suzy continued to meet with the consultant neuropsychiatrist to discuss her concerns.

We talked about how growing up, Suzy's parents were not very affectionate, but she was initially very reluctant to share more about her family. As an adult, Suzy had entered abusive relationships where she experienced her needs being completely disregarded, and she would assume the role of caring for others without support or care in return. She injured her back and then experienced a traumatic incident. The stroke symptoms started at this time and she spent the next year searching for the cause or a diagnosis. Suzy seemed preoccupied with feeling powerless in relation to dismissive and uncaring professionals whom she perceived were withholding important examinations from her and letting her down. In our relationship, I identified with the frustration, feeling that important information about her past was being withheld from our discussions. We talked about how her experiences and responses to the health professionals were reminiscent of her experience of her ex-partner, with whom she also seemed to remain very angry. We also talked about feeling powerless in relation to her pain, and having to accept a lifestyle that didn't fit with her expectations of herself.

We talked about the way that she related to her physical symptoms. She seemed to respond to her back pain with criticism and demanding

that she push herself to do more and more until she would be exhausted and collapse in intense pain, spending many days in bed recovering. She would then punish and criticise herself for letting herself and her daughter down, leading to an increase in physical activity when she was well enough to compensate. Thus, the cycle continued.

During these initial stages of therapy, Suzy seemed increasingly interested in the formulation and contributed to the development of her diagram. She identified a snag fairly early on in the therapy of – ‘If I accept that my symptoms have a functional cause, rather than a physical one, I will have put my family through years of stress for nothing – if it’s in my head, I could have stopped it ages ago’.

When I drafted the reformulation letter there was a sense that I had limited information as Suzy still held on strongly to the belief that her stroke-like symptoms had a physical cause that had not yet been discovered, and she was reluctant to share information about her early life. The reformulation letter was short and full of questions, but upon reading it to Suzy she started to open up more about other aspects of her life that have been difficult, including how she has, throughout her life, felt blamed and criticised by her parents and siblings for ‘failing’ in her relationships, and for the way she parented her daughter.

We explored the possibility that Suzy was fighting with the medical professionals in a way that perhaps she felt she couldn’t with her family and ex-partner. We talked through her relationship with herself, her pain, her family and medical professionals. The exits from her stuck patterns included learning to acknowledge and accept her emotional pain, developing her ability to protect herself and assert her needs with her family, and accept a ‘good enough’ life for her and her family, rather than expect the ‘perfect’ life. Understanding the way that functional symptoms develop, and contacting local FND charities, became important to help Suzy develop a more accepting and understanding relationship with her symptoms.

At the end of therapy, Suzy reported that she experienced the stroke-like symptoms less frequently and she had ceased the search for a ‘medical diagnosis’. She reported an increase in confidence as a parent and was able to think about what she wanted to do, rather than give in to her family’s demands on her. She reported having more self-compassion, treating her body with more loving kindness and care, which led to an improvement in her experience of pain.

Case example 2:

Mary was referred to the service with non-epileptic attack disorder. She had four grown up children living locally whom she saw on a regular basis, and she lived with her husband. She had eight grandchildren, one who was sadly killed at the age of four, knocked down by a car which Mary had witnessed. Mary and her husband were understandably very frightened by the non-epileptic attacks which happened daily. Mary had stopped cooking and did not go out on her own, fearing she would be injured or be vulnerable if she had an attack.

Mary had not had any talking treatments before. She identified herself as a mother, who always put her children first. We talked about her early life and she described physical abuse at the hands of her father and witnessing domestic violence, seeing her mother not being able to control what was happening, or protect her and her siblings. Being the eldest and with her mother being in bed with depression often, she became the carer for her siblings. Mary left home as soon as she could and devoted her life to her husband and children. The non-epileptic attacks started after a period of significant stress when her husband had difficulties at work, her daughter had some serious health conditions and her grandson had been killed two years before. Mary's mother, who lived some distance away, was increasingly frail and unwell and Mary was very worried about her. She had been struggling to visit her though, stating that she was unable to tolerate her mother crying when they parted.

Mary was open and curious about the therapy, but found it hard to speak about some things, especially her grandson's death. We talked about how she had seen her mother appearing weak and unable to protect her, which was terrifying. She recognised how she had vowed not to be weak and vulnerable and so had always been strong and pushed any feelings of vulnerability away. When we explored this, Mary could see how this had affected her. We included on her sequential diagrammatic reformulation (SDR) or map, a 'protective-protected' reciprocal role along with a 'vulnerable/weak-vulnerable/terrified' reciprocal role. We explored the idea that her strategy of pushing her feelings away to protect herself and avoid the terror of being vulnerable had perhaps predisposed her to developing the non-epileptic attacks, and then the recent series of traumatic events and family difficulties left her feeling as though she was powerless to protect her family. This may have precipitated the development of the non-epileptic attacks. Mary talked about how the non-epileptic attacks had taken control of her life and had become the new terror, and that now she was the one being

cared for and protected by her family. This led to further feelings of vulnerability and anxiety, further exacerbating the frequency and intensity of the non-epileptic attacks.

In our work, we explored how Mary could both allow herself to be vulnerable safely and allow her mother to be vulnerable but without experiencing the terror. We also explored how she could let go of the caring role in relation to her mother and accept that her siblings could take more responsibility for supporting her, as they lived nearby. Mary visited her mother and was pleased to report that she coped with her mother's tears and her feelings of responsibility when they said goodbye. Mary also started to allow herself to be vulnerable in the therapy, talking about her grandson and her early relationships with her parents and her siblings. We gradually worked on her allowing herself to be vulnerable with her husband. This involved telling him how she was really feeling, and allowing herself to cry in front of him. This was the stage when the non-epileptic attacks reduced significantly. The final piece of work was supporting Mary to re-build her confidence with cooking and going out on her own. This required some negotiation and psychoeducation with her family, but by the end of the therapy she was more independent, going on public transport to the town to meet friends and cooking meals for her family. Mary continued to accept her family's need to provide her with care and protection.

Initial Outcomes

Six clients completed sessions of CAT and two dropped out at sessions 2 and 6. Due to difficulties with demand and resources, we aim to provide treatment within 12 sessions. Clients are usually offered 6 or 12 sessions initially depending on their needs and we extend therapy, as appropriate, up to 16 sessions in some cases. Of these six clients, three attended a total of 16 sessions, one client had 14 sessions, another 12 sessions and the final client had 8 sessions in total. Sessions are offered on a fortnightly basis and the final two sessions are offered monthly to prepare the client for discharge. Fortnightly sessions are offered due to our service covering a wide geographical area and so clients often travel long distances to the clinic. All clients were given psychoeducation, about how and why FND symptoms or NEAD develops, within the context of the reformulation.

All six clients were women, four diagnosed with FND and two with NEAD. The duration of their FND/NEAD ranged between 15 months and 14 years with a mean duration of $4\frac{1}{2}$ years. The ages of the clients ranged

from 20 years to 60 years with a mean age of 45. Three measures were administered before and after treatment. These were the Hospital Anxiety and Depression Scale (HADS), the CORE (Clinical Outcomes Routine Evaluation) and the Work and Social Adjustment Scale (WASA).

The HADS is a 14 item self-assessment scale that measures levels of anxiety and depression over the previous week (Snaith, 2003). There are cut-off points for grouping scores into ‘normal, mild, moderate and severe’ levels. The outcomes summarised in Table 1 show that there was a significant difference in HADS scores for anxiety and depression post CAT therapy, with a more significant difference in levels of depression. Four of the six clients reported ‘moderate’ levels of anxiety post-treatment, one ‘mild’ and one ‘normal’ level. Only one of the six clients reported ‘moderate’ levels of depression post-treatment, with one client reporting a ‘mild’ level of depression, and four reporting ‘normal’ levels of depression.

	Pre-CAT		Post-CAT		95% confidence interval of the difference		df	t	p
	M	SD	M	SD	Lower	Upper			
GAD-7	11.19	5.54	3.06 2.71		4.76	10.84	14	5.5	.000
PHQ-9	13.18	8.68	3.31 2.75		4.98	14.48	14	4.3	.000
WSAS	19.12	12.31	4.18 3.41		8.21	21.79	14	4.7	.000

Table 1. Break down of significant pre and post measures using T-tests

The CORE is a 34 item self-report questionnaire that rates how the individual has been feeling over the past week (Evans, Mellor-Clark et al, 2000). The measure covers four dimensions: subjective wellbeing, problems/symptoms, functioning and risk/harm. Overall scores can be grouped from ‘healthy’ to ‘severe’ levels. Table 1 shows that there has

been a significant decrease in scores on the CORE. Three of the six clients remained in the 'severe' level. Two client's scores reduced from 'moderate' to 'mild' levels and one client's score reduced from 'severe' to 'healthy' levels.

The Work and Social Adjustment Scale (WASA) is a measure of impairment in functioning (Mundt et al, 2002). Clients are asked to rate on scale of 0-8 to what extent their difficulties affect various aspects of their functioning from working to taking care of their home and socialising. Table 1 shows that there was a significant decrease in scores on this measure post-CAT treatment. Three of the six clients' scores remained in the 'severe' level. Two reduced from the 'severe' to 'moderate' level of impairment and one client's score reduced from 'severe' to 'subclinical' levels.

Whilst these initial results are positive, they do not inform how the use of CAT has impacted on the client's experience of FND. This will need to be considered in future evaluations of treatment approaches with this client group (e.g. seizure frequency for those with NEAD). All the clients in this evaluation reported a reduction in their neurological symptoms and a better understanding of their neurological symptoms (such as the cause, triggers and strategies to manage them). Those with NEAD reported a reduction in the frequency and intensity of their seizures. All the clients reported that they felt more independent and confident, and so most were going out of the house alone for the first time in several years and one took up a volunteering post.

Conclusions

The outcome from this small sample of clients suggests that cognitive analytic therapy has the potential to be an effective treatment model for clients presenting with functional neurological disorders. Further studies are required with much larger samples, appropriate controls and evaluation at follow up. The impact over the longer term could also be evaluated as FND symptoms may continue to improve post-treatment.

One of the key challenges in evaluating treatment outcomes for functional neurological disorders is the absence of specific measures, and this is in part due to the heterogeneity of symptoms experienced by individuals with this diagnosis. Measures of anxiety and depression are used within our service routinely, but do not always capture positive outcomes. This is because many clients attend initially without recognising any emotional difficulties and attribute their problems to

their FND symptoms. Their scores are sometimes higher post-treatment as they are then able to recognise their underlying emotional experiences, and qualitatively, clients report improvement in their overall wellbeing. Quality of life measures such as the WASA can be more indicative of change. However, some clients report no improvement in the way the problem impacts their life in practical terms, but they feel more able to cope. Again, this isn't always captured adequately on many quality of life measures, such as the WASA. The CORE, covering wellbeing, problems and functioning and being more of a generic measure is useful and with 34 questions is more detailed than many other measures. Seizure frequency for clients with NEAD could be considered in future evaluations, and potentially qualitative studies to explore in more detail the client's experience of CAT and the way this therapeutic approach impacts on their experience of FND.

It is also difficult to compare outcomes with other studies as functional neurological disorders fall within a wider spectrum of other difficulties such as medically unexplained symptoms, chronic fatigue, fibromyalgia and functional somatic syndromes. When reading the literature, the mechanisms underlying the development of these conditions overlap, but there is also heterogeneity in presentation within them and numerous terminologies to describe the same condition. It is positive nevertheless that the interest and research in this field has increased in recent years and with that, clearer definitions of the various conditions and their underlying aetiology continue to develop.

Reflections

Clients often attend the neuropsychiatry clinic in the role of a medical patient. It can be difficult to engage in therapy after months or years of medical tests and being discharged from neurology clinics with an FND diagnosis. Many clients feel frustrated and dismissed, and I frequently hear the phrase 'apparently it's all in my head'. The collaborative nature of CAT, where the therapist models openness and curiosity, listening and being alongside the client can provide a different experience or relationship from one that was perhaps expected. For individuals who have felt out of control, as if their body has been hijacked and taken over by their frightening symptoms, being involved in their treatment and learning about themselves and FND can help them regain a sense of control. As can be seen from the second case example, working with families and loved ones can also be an important part of the work.

Many clients with FND have not had any talking treatments previously and have not acknowledged emotional or interpersonal difficulties. The process of developing a shared dialogue about thoughts and emotions that have not been verbalised or sometimes even identified and acknowledged seems to have a positive impact on both the individual's emotional and physical wellbeing. It can feel as though a weight is lifted or some confusing or hidden aspect of their experience is made conscious. The reformulation and SDR become important tools and as can be seen in the first case example, the reformulation letter seemed to trigger a more open dialogue. With clients who are reluctant to engage, these tools give a message that you are listening, acknowledging and trying to understand. The identification of exits from stuck patterns can enable the individual to develop the tools needed to manage situations and relationships differently and improve their capacity to cope with stress and distress. It could potentially be this, along with increased self-awareness and self-care, that leads to the improvement of functional neurological symptoms. □

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