

# Complexity in eating disorders: a case for simple or complex formulation and treatment?

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**Abstract.** Eating disorders are commonly regarded as complex psychiatric conditions, although this perception might be a product of the high levels of physical and psychological co-morbidity that are present in many such cases, rather than being about complexity in the eating disorder *per se*. This paper will consider the reasons that eating disorders are seen as complex, and whether or not that perceived complexity should be seen as a genuine reason to deviate from existing evidence-based cognitive behavioural therapy (CBT) protocols. Case examples will be used to illustrate how complex presentations can require clinicians to work skilfully with relatively simple formulations to achieve the best outcome, rather than using unnecessarily complex formulations and treatments. The importance of clear supervision is also stressed, as it can play a role in clinicians' perception of the need for a complex or simple formulation, it can support the clinician in developing a collaborative, focused and efficient formulation, and it can keep the clinician on track with an evidence-based CBT approach.

**Key words:** eating disorders, complexity, co-morbidity, supervision, evidence-based CBT

## Introduction

Eating disorders are often viewed as complex illnesses that are hard to understand and difficult to treat. The most common clinical presentations (anorexia nervosa, bulimia nervosa and atypical cases) share many core cognitive features, including extreme anxiety about eating and uncontrolled weight change, an unrelenting drive for thinness, and body image distortion. Some patients will also present with broader difficulties related to identifying

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and managing emotions, self-esteem and interpersonal relationships (often the case with binge-eating disorder patients). Common eating disorder behaviours include severe dietary restriction, binge eating, self-induced vomiting, laxative misuse and excessive exercise. The physical, cognitive, emotional and social effects of starvation (Keys *et al.*, 1950) serve to maintain the illness in those who become significantly underweight. However, significant ‘semi-starvation’ effects can also occur in those who are not underweight, resulting in similar cognitive and emotional effects. Thus it can be seen that complexity is inherent in eating disorders, even before one considers issues of co-morbidity.

Complexity might be assumed to be a reason for changing the focus of therapy for eating disorders. However, the evidence that therapy outcomes are influenced by pre-treatment characteristics is very limited, compared with the impact of early change in eating pathology (Vall and Wade, 2015). For example, the presence of axis 1 or axis 2 pathology might be expected to make therapy for eating disorders less effective. However, that is not always the case (e.g. La Mela *et al.*, 2013). Indeed, a range of axis 1 and 2 pathologies are reduced by evidence-based cognitive behavioural therapy (CBT) for eating disorders (Turner *et al.*, 2016), despite not having been addressed directly.

One complexity-based issue that has been discussed recently without clear resolution is whether some patients (particularly those with anorexia nervosa) transition into a more difficult to treat variant – labelled ‘severe and enduring eating disorders’. It has been suggested that this construct is clinically useful, particularly in the case of anorexia nervosa (Touyz *et al.*, 2013). However, as Ciao *et al.* (2016) have demonstrated, there is no evidence to date of a clear point at which ‘severe’ or ‘enduring’ acquire clinical meaning. Furthermore, Calugi *et al.* (2017) have shown that the duration of anorexia nervosa was not related to treatment outcome when using an evidence-based CBT approach. Therefore, this hypothesized construct will not be considered further within this review, given its lack of demonstrated validity to date.

### **Co-morbidity as the norm**

Eating disorder presentations rarely appear in isolation. Psychiatric and/or physical co-morbidity of some kind can be seen as the norm rather than the exception (Treasure *et al.*, 2010).

### ***Psychological co-morbidity***

Patients with eating disorders have relatively high rates of co-morbid depression, a range of anxiety disorders, and personality disorder diagnoses. The last of these includes both borderline personality disorder and anxiety-based personality disorders (particularly obsessive-compulsive and avoidant) (see Bulik, 2002; Kaye *et al.*, 2004; Cassin and von Ranson, 2005). Bulimic disorders are commonly associated with borderline personality disorder traits, including emotional dysregulation and impulsivity (e.g. Díaz-Marsá *et al.*, 2000; Wonderlich *et al.*, 2005), self-harm (Paul *et al.*, 2002), alcohol difficulties and/or substance misuse (Holderness *et al.*, 1994; Bulik *et al.*, 2004). In contrast, purely restrictive presentations have been linked to personality disorder features such as obsessive-compulsive traits and perfectionism (e.g. Anderluh *et al.*, 2003; Bardone-Cone *et al.*, 2007), as well as developmental disorders such as autism spectrum disorders (e.g. Wentz *et al.*, 2005; Baron-Cohen *et al.*, 2013; Tchanturia *et al.*, 2013).

### ***Physical co-morbidity***

Eating disorders also present in conjunction with increased physical health risks. As previously noted, the effects of starvation are critical, including cognitive rigidity, problems with decision making, obsessive thoughts about food and gradual social withdrawal, each of which can serve to further maintain anorexia nervosa. Bulimia nervosa and binge eating disorder commonly overlap with obesity (Darby *et al.*, 2009), with its attendant adverse physical health outcomes. One group at particularly high risk of physical complications are those with an eating disorder and diabetes, particularly type 1 diabetes. The most common risks relate to the under-use or omission of insulin as a means of weight control, leading to self-induced glycosuria (i.e. glucose being passed in the urine, which is not normally the case). The initial effect of this behaviour on body weight is rapid, primarily as a result of water loss. In the short term, poor diabetes control can lead to recurrent symptoms of hyperglycaemia (e.g. thirst or tiredness), frequent episodes of ketoacidosis (often requiring hospital admission), or hypoglycaemia (leading to unconsciousness if severe). There is also accumulating evidence that patients with eating disorders are at increased risk of the physical complications of diabetes, including retinopathy, nephropathy or neuropathy (Peveler *et al.*, 2005), which in turn are associated with high rates of physical morbidity and mortality (e.g. Nielson *et al.*, 2002). Increased physical risks can also occur during pregnancy. Pregnant women with an eating disorder are at increased risk of obstetric complications, such as lower birth weight and premature delivery (e.g. Sollid *et al.*, 2004). Women with eating disorders, especially those with bulimia nervosa, are also at greater risk of miscarriage (Abraham, 1998). Whilst eating disorder symptoms often improve during pregnancy, deterioration is common post-partum (Crow *et al.*, 2008).

### ***Summary***

This breadth of medical and psychiatric co-morbidity that is commonly seen when working with patients with eating disorders ensures that such cases are routinely complex at referral and assessment. It highlights the need for clinicians to be aware of when and how they might need to manage/adapt treatment to take account of these additional themes, whilst not losing sight of the eating disorder psychopathology.

### **Evidence-based CBT for eating disorders**

Evidence-based CBT approaches focus primarily on the core maintaining factors that underlie all eating disorder pathology (e.g. Fairburn, 2008; Waller *et al.*, 2007a). It is thought to be suitable for the majority of patients, and is therefore recommended as the first line treatment approach for most eating disorders among adults and a potential secondary option for working with younger cases (Waller, 2016; National Institute for Health and Care Excellence, 2017). It is also effective in the context of co-morbidity (e.g. Karačić *et al.*, 2011). Treatment is time-limited – usually 20 sessions when working with normal weight patients, and 40 sessions when working with significantly underweight patients (to accommodate weight re-gain). If delivered as intended, the recovery rates achieved in efficacy studies (e.g. Fairburn *et al.*, 2009) can be achieved in routine clinical practice (e.g. Byrne *et al.*, 2011; Waller *et al.*, 2014; Turner *et al.*, 2015), although the attrition rate is higher in the non-research setting.

Existing evidence-based CBT treatment manuals (e.g. Waller *et al.*, 2007a; Fairburn, 2008) share similar themes and principles in treatment approach. Whilst there are broad stages of delivery, such manuals are designed to be used flexibly (Wilson, 1996), with individual case formulations central to the selection of interventions rather than a rigid adherence to a set of pre-determined procedures. The common themes are:

- a comprehensive assessment of the key aspects of eating disorder pathology, physical status and medical risk;
- acculturation to therapy, including information about the treatment approach and what recovery entails, used to explain non-negotiable tasks (e.g. diary-keeping, in-session weighing, changing the structure and content of food intake);
- attending to engagement and the alliance, primarily through the positive effects of early behavioural change (Graves *et al.*, 2017);
- psychoeducation regarding issues such as the effects of starvation, the negative impact of bulimic behaviours, etc.;
- development of a case formulation;
- core changes and tasks, including change in dietary intake, weighing, recording intake, exposure with response prevention, behavioural experiments, cognitive restructuring, body image interventions, etc.

Underlying all of these tasks is the need for the therapist to adopt a stance of ‘firm empathy’ (Wilson *et al.*, 1997), and to tolerate their own uncertainty about the demands that they are making of the patient, rather than being excessively cautious (e.g. Waller and Turner, 2016). It is also important for the clinician to be able to direct the patient to appropriate psychoeducational materials.

Obviously patients differ. Therefore, our understanding of each case and how to implement the methods outlined above must be personalized to the individual (Wilson, 1996; Waller *et al.*, 2007a; Fairburn, 2008). The way that this is done within CBT is through the development of a case formulation.

### **Formulation in complex cases**

A clear formulation is a key component of CBT (e.g. Startup *et al.*, 2015), and is essential in working with complex cases. However, a formulation for a client with a complex presentation need not be complex in itself. Over-complication can only contribute to the apprehension of both patient and clinician. In contrast, a clear and simple formulation should enable the patient to feel understood and reassured that the clinician can help, and assist the clinician to determine an effective direction for treatment. For the clinician, such a formulation should shed light on an apparently complex presentation and highlight the way forward.

The formulation might involve a longitudinal perspective (e.g. Kuyken *et al.*, 2009), to show how the patient has been working to cope with issues such as difficulties with emotion regulation or core beliefs. The second level of case formulation is a cross-sectional one, which links ‘here and now’ issues (e.g. the ‘hot cross bun’ model; Padesky and Mooney, 1990), used to plan and discuss progress with reducing maintenance factors and progressing to recovery. Third, ‘mini-formulations’ – often vicious cycles – can help to alert the patient to cycles of unhelpful responding/reacting to situations (e.g. avoidance or over-

compensation; emotion regulation and interpersonal difficulties). In CBT, the longer-term formulation can help to engage the patient and reduce the risk of relapse. However, in weekly sessions, the focus remains on the present, usually in the form of the hot cross bun and mini-formulations.

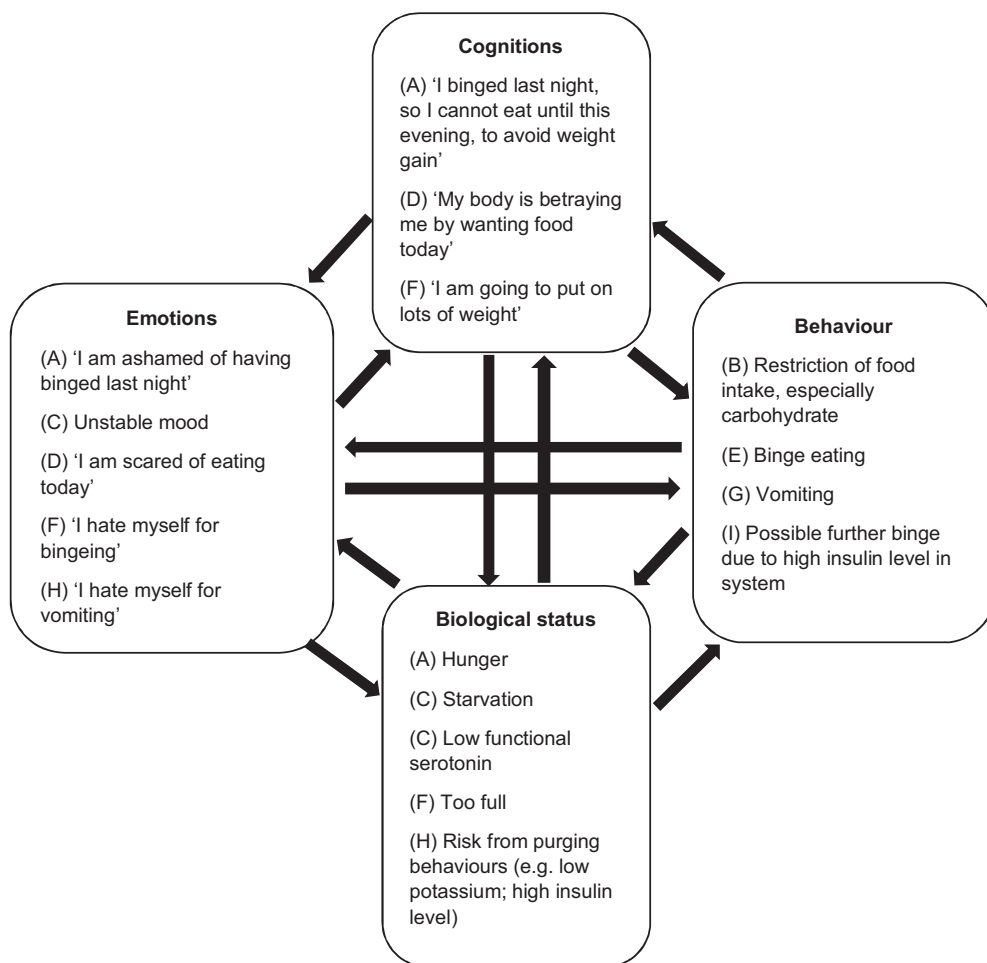
The hot cross bun model (Padesky and Mooney, 1990) stresses the importance of understanding the interplay of the cognitive, emotional, behavioural and biological elements of any symptom or disorder. It is particularly useful, because it reminds the clinician of the need to take into account not only those four core elements (cognition, emotion, biology, behaviour), but also the interaction between them. As with many psychological disorders, it is particularly important to remember that the biological element cannot be overlooked, as issues such as nutrition/starvation play an essential role in cognitive functioning (e.g. flexibility), emotional stability, and behaviours (e.g. the urge to binge-eat) (see below).

Figure 1 provides an example of a hot cross bun formulation for a patient who undergoes starve–binge–purge behavioural cycles. Using this diagram with the patient, and following the arrows between the boxes, it is possible to explain that this cycle is logical. The following sequence can be explained, based on their own assessment and diary records (letters relate to the sequence in the diagram):

- (A) You woke up feeling embarrassed and ashamed that you binged on Monday night, and that drove your decision not to eat until Tuesday evening, but your body also needed food (particularly carbohydrate).
- (B) Those thoughts and feelings meant that you restricted your intake, in the hope that it would help you lose weight. You particularly avoid carbohydrate because you binged on lots of carbohydrates last night, and you believe that they must be what triggers your binge (although it is more likely to be the lack of carbohydrates that did so).
- (C) After just a few hours, your body starts to starve, your serotonin level is falling, and your mood starts to get unstable.
- (D) Now, all you can think about is food – you believe that your body is letting you down by wanting food when your head is saying ‘no food’, and you feel scared of losing control.
- (E) Eventually, you start to binge-eat because your body’s needs are beating your head’s orders.
- (F) When you can think again (i.e. when your body has stopped pushing you to eat), you become certain that you are going to gain weight, having eaten all that food, and you hate yourself.
- (G) In order to reduce your fear of weight gain and self-hatred, you vomit.
- (H) The vomiting has a number of short- and long-term risks, including low potassium levels but also high residual levels of insulin in your system
- (I) That insulin in your system can make you want to binge all over again.

Most importantly, it is possible to use the same diagram to demonstrate how the bingeing and vomiting could be averted in future, using a simple intervention:

- (A) You wake up feeling bad about having binged yesterday. Now you need to make a choice, because that choice will be the point where your next binge starts – not at 6 pm in the evening, but at 7 am in the morning. If you decide to restrict, you are likely to binge later, as per the previous example we went through. So, if you want to avoid bingeing, keep



**Fig. 1.** Example of a hot cross bun formulation, used to demonstrate the links between cognitions, emotions, behaviours and biology.

your mood stable, be able to think straight, and be physically safer, we need you to start with breakfast ...

It is important that the patient recognizes that this is a choice that needs to be taken at the time – not later, when the cycle is under way. However, it is just as important that the clinician recognizes the impossibility of getting the patient to recover using purely cognitive or emotional targets, as the restrictive behaviours and starvation are likely to swamp any efforts at modifying cognitions and emotions. Both the therapist and the patient need to remember that evidence-based CBT for eating disorders is, essentially, a ‘doing’ therapy rather than a ‘talking’ therapy, just as it is for many other disorders.

### **Working with complex cases by drawing on more or less complex formulations**

The following two cases demonstrate how clinical complexity in terms of history and current symptoms (medical or psychiatric) can require us to connect with the patient by incorporating a wide range of those symptoms into a fuller formulation, but to base treatment itself on a simpler formulation or mini-formulation.

#### ***Case 1: a complex case with a simple formulation and treatment***

Bella<sup>1</sup> was a young professional woman, in her mid-20s at the time of referral. She had been diagnosed as suffering from bulimia nervosa since she was 16 years of age, and received a diagnosis of borderline personality disorder within another year. Her presentation was undoubtedly a complex one, with depression and anxiety symptoms (particularly involving obsessive-compulsive features, which approached diagnosable levels for obsessive-compulsive personality disorder). She reported particular difficulties in maintaining interpersonal relationships, mood instability, and anger control. She also had a history of a range of impulsive, self-harming behaviours. The question that will be addressed here is whether her pathology and treatment needs were actually as complex as her presentation might be taken to suggest.

Bella's referral to our clinic was at the age of 27. It was her eighth referral for psychological treatment. Her previous treatments consisted of counselling, cognitive behaviour therapy, two periods of out-patient psychodynamic therapy, schema therapy, two therapies that were hard to label following discussion of their content, and a range of selective serotonin reuptake inhibitor (SSRI) medications. She had never failed to complete a course of treatment, but none had been effective in any clinically meaningful way (according to her referrer and by Bella's own account). She was referred to our clinic part way through her eighth therapy – an 18-month combined day- and out-patient psychodynamic programme – due to fears about her rising clinical risk now that she had entered the out-patient phase. She had returned to her employment as an accountant, but had soon been signed off as sick due to the physical complications of her purging behaviours (inability to be at her desk; frequent passing out). Her pattern of eating was to starve herself for as long as she could, then to objectively binge, vomit, and take very large numbers of laxatives each day.

The request to our clinic was for a period of in-patient treatment for bulimia nervosa, which is uncommon in the UK NHS system. However, given the level of clinical concern, it was agreed to offer Bella a chance to try CBT on an out-patient basis in the first instance, and move to more intensive patient treatment if she was as severe, complex and intractable as she was described as being at referral.

At her initial CBT session, a formulation was developed, including consideration of why Bella had not responded to previous treatments. Such consideration is essential in reaching a clear hypothesis about what is wrong for the patient, as it should help us to stop repeating mistakes. While it was anticipated that Bella would be a complex case, it came as a surprise to realise that Bella had not ever been asked to undertake some basic tasks of therapy for an eating disorder – particularly being weighed and changing her food intake. While not part of

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<sup>1</sup>All names are pseudonyms, and some clinical details have been changed to ensure anonymity.

some of the therapies that she had undertaken, they should have been present in her previous CBT. In that first session, the role of weighing and the importance of carbohydrate within a balanced dietary intake were explained as being integral to evidence-based CBT for eating disorders (Waller *et al.*, 2007a; Fairburn, 2008; Waller and Mountford, 2015). She did not express any reluctance to make these changes – simply surprise at the novelty of being asked to undertake them. She also reported that she did not understand why she was being asked to keep food diaries, as she had done this previously in therapies, but there had been little or no interest in them on the part of her therapists. However, she agreed to complete them once a rationale was given.

This missing element of previous therapies might be understandable in light of the fact that Bella undoubtedly had a complex history, including parental separation, emotionally invalidating environments, a sexually and physically abusive relationship in her mid-teens, and a variable relationship with her four siblings. However, it can be an error to assume that a complex history results in the need for a complex formulation. The formulation that emerged in this session incorporated those experiences as part of her historical antecedents, but there was more emphasis on the here-and-now element of the formulation, which was based on the ‘hot cross bun’ model (Padesky and Mooney, 1990). This model was used as a parsimonious starting point for understanding both the bulimia nervosa and the borderline personality disorder symptoms. However, it was accepted that if Bella’s case really was complex in the way that had been suggested then there would need to be a development of this model to incorporate more schema-level cognitions that linked her history to her present behaviours, emotions and cognitions.

Therefore, the first few sessions of CBT were an experiment, to determine whether a relatively simple, evidence-based approach to the bulimia nervosa could be effective. If that simple here-and-now formulation was appropriate, then one would hope to see a substantial early reduction in pathological eating behaviours and restrictive eating attitudes (e.g. Raykos *et al.*, 2013; Turner *et al.*, 2016). However, one would also hope to see a reduction in the level of emotional instability (as carbohydrate intake resulted in enhanced serotonin levels; Steiger *et al.*, 2001; Bruce *et al.*, 2009) and greater cognitive flexibility (in response to reduced starvation effects; Keys *et al.*, 1950). If those changes were not seen, then the plan was to either broaden the formulation and change the out-patient CBT approach accordingly (e.g., address schemas directly; address emotional intolerance; Corstorphine, 2006; Waller *et al.*, 2007b), or to intensify her treatment with an admission to day-patient care.

The first four sessions of evidence-based CBT were highly successful. They involved focusing on the key therapy elements of exposure, nutrition, psychoeducation and risk management. Bella regularly expressed surprise – particularly that by eating in a structured way she not only binged less but did not gain weight. However, she reflected on the fact that this was one of the possible outcomes of her changing her eating that had been predicted, based on the relatively simple here-and-now formulation. Equally important, her mood stabilized rapidly, her impulsive behaviours ceased (outside of her bulimic behaviours, which carried on until about the 14th session, although at a much lower level), her anxiety levels fell, and her cognitive capacity increased. In short, her bulimic features changed at the speed that one would expect in a relatively straightforward case of bulimia nervosa, but her apparent complexity (co-morbid axis 1 and axis 2 disorder features) fell away even more quickly. This is compatible with the finding of Turner *et al.* (2016) that early change in eating attitudes in evidence-based CBT is associated with reduction in personality disorder pathology.



Bella remained in routine CBT until her eating difficulties had resolved and her body image had normalized (approximately 25 sessions). At 6-month follow-up, Bella had not relapsed, even though she had had to cope with the anxiety that she experienced as she formed and maintained a relationship (which went on to be long term).

### *Reflections*

In Bella's case, it could be argued that the label of 'complexity' did not arise from her pathology or from her level of depression, but had been used in order to explain her lack of change in the face of therapeutic approaches that were sub-optimal. It is quite possible that CBT is not the only therapy that could have been effective for her, given that both interpersonal psychotherapy and dialectical behaviour therapy have evidence for being effective in some cases (Safer and Joyce, 2011; Fairburn *et al.*, 2015). However, the failure of clinicians to implement the basic task of ensuring adequate nutrition resulted in Bella being seen as complex, and being offered therapies that had little chance of success without that basic work having been done.

What had gone wrong in Bella's case management? Several of her previous formulations were available with the referral. They all proved to be complex, lacked parsimony, focused on past events, and contained large elements of speculation about cognitive, emotional and interpersonal processes (many of which were felt to be inappropriate or inaccurate by Bella herself). Most consistently, they all lacked any consideration of the physiological element (starvation, narrowed thinking, emotional instability). This deficit and pattern of complex formulations was also true of her previous CBT treatment, which appeared to have missed many crucial elements (Waller *et al.*, 2012). In short, clinicians' failing to formulate at a very simple level (particularly the helpful 'hot cross bun' model) resulted in important treatment options being omitted over multiple therapies. Thus neglecting the simple, straightforward option for understanding and treating the case meant that Bella had spent many years failing to respond to treatments based on formulations that were increasingly and inappropriately complex.

### *Case 2: a case with physical co-morbidity*

There are a number of issues that need to be considered when working with patients with eating disorders and diabetes mellitus (Peveler and Fairburn, 1992; Fairburn, 2008), as detailed earlier. Complexity arises from the interaction between the two disorders, the potentially serious physical health complications, and the subsequent implications when using a cognitive behavioural approach. Close liaison and a shared understanding of the treatment rationale between teams is crucial, particularly as improvements to food intake may affect glycaemic control, potentially requiring amendments to be made to the patient's insulin regime during treatment (Peveler, 2000). Finally, the patient's previous experience of diabetic services and pattern of engagement in their own care can also affect engagement (Peveler and Fairburn, 1992; Peveler, 2000; Custal *et al.*, 2014; Colton *et al.*, 2014).

Sally was referred to the eating disorders service by her family doctor, who had known her for over 20 years. Although Sally had requested the referral herself, the referral letter conveyed a sense of apologetic defeatism – emphasizing Sally's long history of non-engagement with services and chronic self-neglect regarding the management of her diabetes, which had resulted in a number of serious physical health conditions. The physical risks arising from

her co-morbidity resulted in Sally being assessed urgently. It should be noted that clinicians working with eating disorders are likely to need adequate knowledge about diabetes and the associated medical risks, so that they can assess and treat such a case regardless of their professional background (Fairburn, 2008).

Sally is a single mother in her mid-30s, with three children. At assessment, she was diagnosed with bulimia nervosa of 18 years duration, with type 1 diabetes mellitus that had started two years prior to the onset of her eating disorder. Sally was following a restricted eating regime, bingeing two to three times a week, and engaging in a number of compensatory behaviours (vomiting, laxatives, exercise). She had typical weight and shape concerns, and was highly fearful at the prospect of weight gain. Until recently, Sally had never disclosed her eating disorder and had therefore never received any help in the past. She acknowledged omitting insulin as an additional method of controlling her weight, which she was trying to maintain under a BMI of 19.5. She reported high levels of perfectionism, low self-esteem, and poor emotion regulation skills.

After initially engaging with her insulin regime on being newly diagnosed with Type 1 diabetes – which resulted in a rapid weight gain – Sally thereafter only sporadically engaged with diabetic services and her recommended insulin regime. Poor engagement with her diabetes regime had resulted in numerous admissions for diabetic ketoacidosis (the build-up of toxic levels of ketones, as the body digests fatty acids, due to the lack of access to or ability to process carbohydrates, resulting in confusion and cerebral oedema). Over time, the diabetes led to a number of longer-term medical complications, including a below-knee amputation, extensive retinal damage and urinary incontinence. At the time of her assessment, Sally was omitting her insulin on approximately half the days of the week, often in response to feelings of anger, resulting in very unhealthy HbA1c levels of over 13% (target range <6.5%; National Institute for Health and Care Excellence, 2015). She had not told the diabetes team about her eating disorder.

Given the long duration of bulimia, her poorly controlled diabetes, and her poor engagement in treatment and self-care, it was easy to see Sally's case as a complex one. The initial session focused on identifying and developing her goals for treatment, which included improving insulin compliance and reducing bulimic symptoms but without weight gain. A simple hot cross bun formulation was used at this stage, to reduce the risk that Sally would be overwhelmed if it were more complex. The session also addressed the rationale of the CBT approach and the necessary tasks of treatment (e.g. food diaries; reading relevant psychoeducation material; monitoring injection use and blood sugar levels; making changes to the structure, quantity and variety of her food intake; Waller *et al.*, 2007a; Fairburn, 2008). These tasks were presented to Sally as a choice and an experiment, and she agreed to undertake them. She also consented to the diabetic team being made aware of her eating disorder, the initial treatment plan and the underlying rationale.

Clinically, there was a concern that Sally might be agreeing to engage in change based on the relatively simple formulation, but might actually implement it for extraneous reasons (e.g. feeling angry at her position). The reason for this concern was that Sally had been given straightforward advice about managing her diabetes on many occasions over the years, but had not engaged with those management plans. Therefore, it was decided that engaging her by making her actions feel understood might be more successful than simply telling her what she needed to do. In particular, it was clear that Sally herself did not see the bulimia nervosa and diabetes as having been linked over the years.

Consequently, the second session included the development of a more detailed, longitudinal formulation that considered functional links between the diabetes mellitus and bulimia nervosa. A key early trigger to the onset of the bulimia was losing a significant amount of weight as her diabetes developed, which she experienced as highly positively reinforcing. In contrast, the treatment for her diabetes (i.e. using insulin) resulted in rapid weight gain, which she found distressing. She also disliked having to monitor her sugar levels and experienced other people's reaction and involvement in the management of her condition as intrusive and controlling. Sally felt 'different' and ostracized by her peers for 'being diabetic' and quickly began to feel very negative about her diagnosis. Teasing for the rapid gain in weight precipitated her first attempt to lose weight via dieting. Sally quickly discovered that she could lose more weight by omitting to take her insulin, but this resulted in episodes of binge eating, and then the use of a range of compensatory behaviours. Current triggers to her bulimic behaviours were identified using monitoring sheets, and centred on insulin omission and hunger due to restriction. Other triggers included emotional cues, resulting from interpersonal dynamics and difficulties asserting or expressing herself. Restriction and insulin omission also seemed to function to regulate difficult emotions, often in a self-punishing way. Finally, a dichotomous cognitive style underpinned an 'all or nothing' approach to the management of her insulin, strict food rules and exaggerated emotional response.

This more complex longitudinal formulation reflected the complexity of Sally's history and presentation, and played a key role in helping Sally feel that her difficulties made sense. However, it was the more straightforward 'hot cross bun' formulation that was used to direct the key elements of Sally's treatment, again reflecting the theme that relatively complex cases can often be best treated using a more straightforward approach, even where physical conditions might slow progress.

The treatment began with stabilizing her nutritional state and hypoglycaemia in order to reduce her bulimic symptoms, teaching her about healthy eating and use of insulin. Intake monitoring, dietary change and gradual improvement in her insulin use (in collaboration with her diabetes team) were used to achieve that goal. This dietary change was achieved by starting with relatively 'safe' foods that Sally could tolerate and using distraction techniques to assist with her anxiety over delivering her insulin injections. After 3–4 weeks, she had achieved regular eating, leading to a rapid reduction in the number of binge eating episodes and providing her with an early sense of success and self-efficacy. She also started to notice some small but significant improvements in her physical wellbeing as a result of improving her food intake and increasing the regularity of long-acting insulin injections.

The next few sessions were interrupted by hospitalizations due to urinary tract infections. However, Sally continued to use her understanding of the core formulation of her difficulties to work on increasing her use of short acting insulin (raised to three injections a day). She experienced some dramatic changes in her weight over this time, but the weight chart was used to help Sally learn that her weight began to stabilize as her insulin use became more regular.

By session 18 (held over 26 weeks, due to her illness), Sally was eating regularly with no reported incidents of binge eating over the past 19 weeks, and only two to three isolated incidents of self-induced vomiting. She was 90% compliant with her insulin regime and HbC1a levels had fallen to 9%. Attention then turned towards targeting food avoidance (using a food re-inclusion programme based on the list of feared foods that Sally had previously compiled) and the emotional dysregulation that was associated with the residual incidents of self-induced vomiting.

Around this time, Sally was re-admitted to hospital and had to miss the next four sessions due to illness. She did not respond to appointment letters or attempts to contact her, and was subsequently coded as having dropped out of treatment. However, she was re-referred to the service two years later with a query regarding a re-emergence of bulimic nervosa after a recent hospital admission following a violent episode of vomiting. At this further assessment, Sally emphasized that she did not think she had an eating disorder any longer. Since dropping out of treatment with the eating disorders service, she had maintained her insulin regime well, as shown by her current HbA1C level of 5.5% and reported feeling much more positive about her diabetes management. Her eating disorder symptoms had remained at the level where she had ended treatment – no bingeing, no laxative abuse, and vomiting only once or twice a month. Her weight was relatively stable and in the normal range. However, she had retained her focus on ‘safe’ foods. Her referral had resulted from her remaining vomiting episodes, which were emotionally driven and were occasionally severe and resulted in hospitalization. In short, her initial treatment, based on a straightforward CBT formulation and approach, had resulted in stable gains, even though not all symptoms had been alleviated.

Sally was accepted for further treatment to address the residual problems. Following a review of how well she had progressed with her ‘hot cross bun’ formulation, a ‘mini formulation’ was used. It demonstrated how negative mood states were often precipitated by interpersonal interactions during which Sally felt unable to assert herself. Subsequent work focused on targeting residual food avoidance and introducing emotional regulation skills using the standard CBT approach (Fairburn, 2008), supplemented with some related dialectical behaviour therapy skills (Linehan, 1993). Finally, a problem-solving approach was adopted towards interpersonal triggers, using assertiveness techniques such as role play and interpersonal behavioural experiments. Sally was subsequently discharged from the service having attended a further 18 treatment sessions. She was able to eat a wide variety of foods with little or no anxiety, and there had been no further incidents of self-induced vomiting. Sally also reported an increased sense of interpersonal effectiveness, resulting in a reduction in the number of urges to engage in self-punishing behaviours and had a range of other strategies with which to manage her emotions.

### *Reflections*

Despite the complexities surrounding Sally’s Type 1 diabetes mellitus, her bulimia nervosa was effectively treated using the evidence-based CBT approach, including interpersonal issues and distress tolerance skills (e.g. Fairburn, 2008). Some knowledge about diabetes and how the two disorders interact was required to make necessary adaptations, illustrating how clinicians need to have an understanding of the role and interplay between eating, eating disorder symptoms and physical disorders such as diabetes.

Patients with eating disorders and diabetes are required to make greater behavioural change than those without diabetes (Colton *et al.*, 2015). Such change is likely to take more time if the management of diabetes has previously been neglected. Greater flexibility around appointments and length of treatment are typically required as patients are also more likely to be affected by physical health complications (e.g. hospital admission), and this can affect therapeutic momentum and the likelihood of drop-out. Key aspects of routine CBT practice would seem particularly essential when working with this population, including a clear formulation (encompassing the functional role and common maintaining factors underlying

the two disorders), early behavioural change and good therapeutic alliance. An awareness and action plan to counter a history of disengagement did not prevent drop-out in Sally's case, but she managed to maintain her progress. More importantly, the good working alliance generated via early behavioural change during her first treatment episode appears to have fostered a willingness to later re-engage with the service.

### **Complexity in a sociocultural context**

Work with eating disorders can also be made more complicated by a range of social and cultural factors. For example, expertise in the field has developed largely with female patients, but an increase in the number of male cases can expose our lack of relevant experience, resulting in the possibility that we will make inappropriate adjustments for their gender. Similarly, we are in the early days of understanding how to work with individuals with other sexuality and gender identity issues. It is important to recognize the impact of specific risk factors for some individuals (e.g. the pressure for weight loss among groups such as models, jockeys and gymnasts; the pressure for muscularity in other groups). Severe dietary restriction that is driven by an obsessive focus on 'healthy eating' has also become more widespread ('orthorexia'), and we have come to understand how such a desire to adhere to a specific set of dietary rules can be driven by a desire to improve health, yet can yield outcomes such as malnutrition, obsession, emotional distress and impairment of daily functioning (Dunn and Bratman, 2016).

With the next case, we will address the complexity that is identified when an eating disorder appears to present or masquerade as a physical health condition, often accompanied by significant and concerning weight loss. Such presentations might reflect the increased awareness and attention paid to food within general society and in particular, on social media. Some patients have had extensive physical investigations or been 'bounced' around many services, and the eating disorders service referral may be the last resort. They may be individuals with low weight, numerous physical ailments, post-gastric surgery, or with strong, overvalued or even delusional beliefs about food. Some patients report intolerances or food choices (e.g. veganism) which lead to highly restricted dietary intake. In part, the potential complexity here arises from the heterogeneity of such patients, and the extent to which they see their difficulties as an eating disorder. It is beyond the scope of this study, but a thorough assessment is essential in determining first, whether the individual has an eating disorder, and second, whether they will benefit from an eating disorder-based psychological therapy. In some cases, it may not be an appropriate referral for an eating disorder service.

Here, we will focus on the formulation and treatment of a case that is made more complex by the fact that the diagnosis is a new one (in this case, avoidant/restrictive food intake disorder, ARFID), where there is little evidence regarding its aetiology, maintenance, or its best treatment. In addition to this complexity, the case is one of an adult, rather than the more normal presentation to services in childhood.

### ***Case 3: a less typical presentation***

John, 28 years old, has never received any psychological intervention before. He described being a 'fussy eater' since his early childhood. However, his difficulties had become more pronounced approximately four years ago. At assessment, John had a BMI of 16, having

gradually lost weight from a BMI of 20 over the preceding years. He described a very rigid and restrictive diet and was extremely fearful of the consequences of changing his eating. However, he had no body image issues beyond a desire to get back to a normal weight, nor did he demonstrate the cognitions that would normally underpin a diagnosis of anorexia nervosa. Rather, his concerns centred on anxiety. John reported severe abdominal pains, including beliefs that certain foods might harm him. He was pre-occupied with his bowel movements and was fearful of both diarrhoea and constipation (which he did experience, most likely connected to his disturbed gastrointestinal functioning). John reported that he was unhappy with his appearance and would like to weigh more. He was no longer able to work and was increasingly pre-occupied with researching his physical health on the internet. John had visited several nutritionists over the years and had become increasingly confused by the varying and sometimes contradictory advice he received. John did not think he had an eating disorder, but was open to the idea that psychological therapy might be of benefit. He was diagnosed with ARFID, although the clinician was open in acknowledging his ambivalence regarding this. Given that there was no evidence for the over-evaluation of control of eating, shape and weight that underpins most models of CBT for eating disorders, a CBT model for health anxiety/obsessional problems was utilized.

In the early sessions, time was taken to build the therapeutic relationship, take a history, and understand John's perspective and beliefs regarding his difficulties. Together, a hot cross bun formulation was developed with a particular emphasis on physical symptoms and John's beliefs around these. Following this, psycho-education was used via a Socratic approach. John and his therapist explored the impact of semi-starvation on his gut functioning and cognitive ability, explaining how his low weight made flexible thinking harder and increased development of rigid rules around eating. The therapist discussed the ways in which increased physiological arousal, highly focused attention on the body and misinterpretation of bodily symptoms were maintaining John's beliefs. The therapist then used the CBT model to show that there might be two possible hypotheses regarding what was driving John's difficulties. First, as John believes, there could be something seriously wrong with his physical health (Theory A). Second, it could be that he is *worried about and believes* that there is something seriously wrong with his physical health (Theory B). This can be framed as Theory A *versus* Theory B. These alternative explanations are linked to the hot cross bun formulation and to psycho-education. The therapist also explained how changing his eating is likely to alter gut functioning, increasing his focus on his physical sensations, at least in the short term. Although John strongly believed Theory A, he was willing to engage with the therapist in behavioural experiments to evaluate the two theories. John also met with the dietitian, who was able to help resolve some of John's confusion regarding the multiple sources of advice he had received. Therapy continued with the main elements of CBT (food diaries, recording and monitoring of thoughts and physical sensations, behavioural experiments to test out beliefs and rules, and graded hierarchy to increase quantity and variety of food), focusing on the exposure to anxiety element of such treatment. There was an active focus on weight gain. Towards the end of therapy, a broader approach was adopted to support John to explore voluntary work and build social networks to reduce the risk of relapse and pre-occupation with his body and physical sensations.

John attended for 20 sessions. His belief in Theory B gradually increased and his eating is much improved. He improved his weight to BMI = 18, and continued to gain during follow-up.

### *Reflections*

As stated above, ARFID is a new diagnostic classification under DSM-5 and as yet there are no universally agreed treatment guidelines. Clinics are increasingly receiving such referrals. The key to effective treatment in this case was not to try to make the CBT model more complex, despite the non-traditional presentation of the case. It is unlikely that John would have responded to a traditional eating disorders CBT model, because it did not target the correct beliefs. The therapist needed to respond to the core anxiety pathology, formulating around that. The therapist was willing to work with John's belief that he did not have an eating disorder by openly having the two theories.

### **Supervision – the development of knowledge and competence**

While evidence suggests that CBT can be an effective treatment for a range of eating disorders (Fairburn and Harrison, 2003), these interventions are often delivered inadequately in routine clinical settings (Wallace and von Ranson, 2012; von Ranson *et al.*, 2013). It is not uncommon for core CBT techniques to be omitted from treatment, and evidence suggests that more anxious clinicians are less likely to deliver the effective components of treatment (Waller *et al.*, 2012).

In view of our tendency to view complexity as a reason to overcomplicate treatment, it is important to consider how the appropriate delivery of CBT can be supported in routine practice. Clinical supervision is one means through which we can maximize the effectiveness of treatment. In practice, supervision is likely to cover a range of topics, including knowledge base, the development and use of core clinical skills, therapeutic alliance and process issues, and therapists' own beliefs about CBT and its delivery. As in therapy, it is important that the tasks of supervision are collaboratively agreed, and that the supervisor–supervisee relationship is one that allows for openness and honesty. Given the potential for therapist drift (Waller, 2009) it is also important that all cases are regularly discussed.

Therapists working in this field must have a sound knowledge of the physical consequences associated with eating disorders, such as the physical and psychological effects of starvation, and the impact of vomiting/laxatives on body weight. A thorough knowledge of nutrition and health conditions (e.g. diabetes) is also key. Whilst therapists will need to be directed towards the relevant reading material, it is important that supervision time is given to discussing how such information can be applied in practice, in order to maximize behavioural change, particularly during the early phase of treatment.

Supervision is also essential in relation to ensuring the development and use of core CBT skills. Clinicians' tendency to omit key skills or to undertake an unproven (but probably less effective) therapy needs to be addressed directly in supervision, rather than simply assuming that CBT is being delivered adequately. In the early phase of treatment, those key skills will include engagement, clearly explaining the model, agreeing appropriate therapy goals, and having clear expectations regarding 'who will be doing what' during treatment. Explaining the rationale underlying some of the key components of CBT for eating disorders (e.g. regular weighing, keeping food diaries) is particularly important in relation to maximizing the potential for change. This rationale should be regularly revisited, alongside techniques that are aimed at facilitating cognitive change (e.g. behavioural experiments, surveys). The use of case examples, role play, and regular use of live supervision can all support the

development of core competencies and help therapists to stay ‘on model’. Supervisors should also actively encourage therapists to use therapy manuals (e.g. Waller *et al.*, 2007a; Fairburn, 2008) and online training material as a means of further supporting skills development. Treatment manuals not only outline the rationale for the use of specific therapeutic techniques, but also provide detail relating to *how* to deliver these techniques in session (e.g. use of predictive weighing, how to set up a good behavioural experiment). Supervision can also provide an important space to troubleshoot the management of therapy interfering behaviours (e.g. irregular attendance, avoidance of weighing) and how these might be managed in practice.

Furthermore, supervision should address the possibility that it is the therapist rather than the patient whose behaviours are interfering with therapy. Perhaps one of the more important elements of supervision relates to being aware of how supervisees tolerate uncertainty and manage treatment-related anxiety. Therapists may find some of the behavioural elements of therapy more difficult to deliver (e.g. exposure, getting patients to start eating), possibly due to concern that this may negatively impact the therapeutic relationship. It is important that there is a space in supervision for therapists to reflect on their own beliefs about implementing some of the core tasks of CBT. Agreeing supervisee homework (e.g. behavioural experiments) between supervision sessions can be a constructive way for therapists to test out some of their therapy-related beliefs (e.g. ‘if I push for behavioural change, none of my patients will come back’). As such, supervision has an important role to play in supporting therapists to reflect on their own safety behaviours and how these may impact the effectiveness of therapy.

Supervision can also support the process of drawing therapy to a close. Towards the end of treatment, therapists should encourage on-going ‘self-therapy’ with the patient taking on the role of ‘therapist’. In such cases, recovery is seen as continuing past the end of therapy, the patient’s task being to use their new knowledge and skills to build on the gains of therapy, as well as being aware of potential relapse triggers and how they might deal with these. Alongside exploring the therapist’s role in cases that go well, supervision can also provide an opportunity to reflect on patients who are keen to attend sessions but demonstrate little consistent change. The task of drawing treatment to a close earlier than planned is difficult for some therapists. Reflecting on and discussing therapists’ beliefs about their role in the treatment process can be a helpful way of ensuring that the focus of therapy remains on change, rather than slipping into chronic support.

Supervision should also include regular monitoring of clinical effectiveness and patterns of clinical change over the course of therapy. This is often done through the use of outcome questionnaires that measure eating disorder symptoms as well as general mental health. Reflecting on clinical outcomes in the context of the evidence base can be a helpful way of ensuring that therapists are delivering the core components of treatment. For example, early behavioural change (particularly a reduction in dietary restraint) has been identified as an important predictor of outcome (Wilson *et al.*, 1999; Agras *et al.*, 2000; Raykos *et al.*, 2013; Turner *et al.*, 2015), and so it is important for supervisors and supervisees to be aware of whether treatment leads to positive early change. If not, this can be explored in more depth in supervision. Overall, outcome monitoring can be a helpful way of identifying what is working well in treatment, as well as informing ongoing areas for development. Such monitoring should not be omitted and such change should not be unexpected just because the case has been labelled as ‘complex’.



## Conclusions and learning objectives

A common reason that clinicians give for not delivering evidence-based approaches is that the case is 'too complex', and should therefore be treated in a more individualized way, even though the evidence is that adherence to protocols is more likely to benefit patients overall. A key issue that we have addressed here is that clinicians routinely see complexity, because most cases include co-morbidity, complex histories, etc. We also have a tendency to expect complex formulations to be more effective, despite the lack of evidence that this is a beneficial approach. However, complexity of case presentation and history does not mean that most eating disordered patients need a complex formulation or treatment. Rather, we have made the case here that relatively straightforward 'here-and-now' formulations' are more likely to lead use to a clear and effective therapy, drawing on the evidence base for CBT interventions rather than bypassing it.

Reliance on non-evidenced, judgement-based treatment approaches has been shown comprehensively to be less effective than relying on a more straightforward approach (e.g. Grove *et al.*, 2000). Therefore, clinicians should initially try out the evidence-based approaches to eating disorders and find out whether they work, rather than failing to learn them (e.g. Royal College of Psychiatrists, 2013) or opting not to use them but using an unevidenced or preferred therapy instead (e.g. Waller and Turner, 2016). Training, attention to the evidence base and supervision are all critical to this approach, but all need to be done well, with the patient's benefit in mind.

## Main points

- (1) Complexity is a part of the nature of eating disorders, with their substantial physical complications and psychological co-morbidity.
- (2) Physical risk factors require particular attention, but need not prevent CBT from being implemented unless the risk is high.
- (3) There is little evidence that case complexity impairs the outcome of evidence-based CBT for eating disorders. However, clinicians commonly respond to complexity by changing the therapy to a more individualized, unevidenced form.
- (4) Complex cases might tempt us to develop complex formulations, but often we should strive to keep the formulation relatively simple, to allow us to deliver effective CBT.
- (5) Clinical supervision can be critical for ensuring that we deliver CBT in a case-appropriate way, but that supervision needs to be responsive to the evidence base too, in order to keep the supervisee working effectively.

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## Conflicts of interest

The authors have no conflicts of interest.

## Ethical standards

All of the case material in this paper has been suitably anonymized.

## Recommended follow-up reading

Before considering going ‘off protocol’, make sure that you are aware of the evidence-based protocols and the fact that they have in-built flexibility to suit individual patients, including many complex cases. For example:

- **Fairburn C** (2008). *Cognitive Behavior Therapy and Eating Disorders*. New York, NY: Guilford.
- **Waller G, Corderly H, Corstorphine E, Hinrichsen H, Lawson R, Mountford V, Russell K** (2007). *Cognitive Behavior Therapy for the Eating Disorders: A Comprehensive Treatment Guide*. Cambridge, UK: Cambridge University Press.

If there is a need to go ‘off protocol’ due to the complexity of the case, then the following is a good resource for how to understand the case and shape therapy accordingly:

- **Startup H, Mountford VA, Lavender A, Schmidt U** (2015). Cognitive behavioural case formulation in complex eating disorders. In Tarrrier N and Johnson J (eds), *Case Formulation in Cognitive Behaviour Therapy: The Treatment of Challenging and Complex Cases* (pp. 239–264). Hove, UK: Routledge.

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**Learning objectives**

- (1) In eating disorders, co-morbidity with physical and other psychological disturbances is the norm rather than the exception, and does not equate to complexity *per se*.
- (2) Such perceived complexity is not normally a reason to deviate from evidence-based CBT for eating disorders, which is based on such cases rather than 'simple' ones.
- (3) Many complex cases often require uncomplicated formulations.
- (4) Supervision can be crucial in allowing the CBT therapist to keep on track in the face of complex presentations.