
Cognitive-Behavioral Therapy for Individuals at High Risk of Developing Psychosis



Jean Addington

Department of Psychiatry, University of Calgary



Enza Mancuso

Centre for Addiction and Mental Health, Toronto

Early intervention for psychosis has become an established clinical practice. Research is now focusing on identifying individuals in the pre-psychotic period when they appear to be putatively prodromal for psychosis. Criteria have been established for identifying these young people who are at clinical high risk, and there have been some early studies testing both pharmacological and psychological treatments. Cognitive behavioral therapy (CBT) has been tested as a potentially effective intervention in this group. Here, we describe two cases that were treated with CBT. © 2009 Wiley Periodicals, Inc. *J Clin Psychol*: In Session 65: 879–890, 2009.

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Early intervention in psychosis has become a well-established area of clinical practice. Many in early intervention have considered intervening with those at high risk of psychosis—those who may be putatively prodromal for psychosis. The major strategy for identifying young people at risk for later developing a psychotic disorder has been the detection of subthreshold psychotic symptoms, which are suggestive of imminent psychosis.

Three groups appear to be at clinical high risk for developing a psychotic disorder in the near future: recent-onset functional decline plus genetic risk, recent-onset subthreshold, or brief-threshold psychotic symptoms (Yung & McGorry, 1996). Typically, risk for psychosis was addressed only in those who were at genetic high risk, that is, those with a close family member with psychosis. However using these new criteria, the risk of converting to psychosis increases from 5% to 20% in the

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Correspondence concerning this article should be addressed to: Jean Addington, Department of Psychiatry, University of Calgary, 3330 Hospital Drive NW, Calgary, Alberta T2N 4N1 Canada; e-mail: jmadding@ucalgary.ca

genetic high-risk group to approximately 25% to 50% by 1 year, as reported in several studies (Miller, McGlashan, Rosen, Somjee, & Markovich, 2002; Yung et al., 2003). The reliability of these criteria has been excellent, and studies using these criteria support the view that prodromal people are symptomatic and at high and imminent risk for psychosis (Cannon et al., 2008). We call this risk group *clinical high risk* as they are seen to be at risk because of clinical syndromes.

In this article, we will first review what we know from research about the treatment of those who present at clinical high risk for psychosis. Second, we will focus on the use of cognitive behavioral therapy (CBT) in this population, and third, we will present two case studies that will exemplify this kind of treatment in a clinical high-risk population.

Treatment for Clinical High-Risk Patients

Three published studies have addressed intervention in this clinical high-risk population. McGorry and colleagues (2002), who completed the first treatment study, randomized 59 “ultra-high-risk” patients to 6 months of active treatment (risperidone 1-3 mg/day plus a modified CBT) or to a needs-based intervention. By the end of treatment, significantly fewer individuals in the active treatment group had progressed to a first episode of psychosis (9.7% vs. 36%). No significant differences were noted 6 months post-treatment, as more of the active treatment group converted to psychosis (19% vs. 36%). Despite some of the limitations, this was a landmark study.

A second study was a more rigorous randomized, double-blinded trial of 60 help-seeking prodromal patients comparing the efficacy of a low-dose antipsychotic (olanzapine) versus placebo in preventing or delaying the onset of psychosis (McGlashan et al., 2006; Miller et al., 2003). Although not statistically significant, at 1-year follow-up, 16% of olanzapine-treated patients converted to psychosis compared with 35% of placebo-treated subjects. However, olanzapine was associated with significantly greater symptomatic improvement in prodromal symptoms than the placebo (McGlashan et al., 2006).

A third trial was the Early Detection and Intervention Evaluation (EDIE), a single-blinded, randomized trial of CBT with individuals at high risk for psychosis (Morrison et al., 2004). Fifty-eight patients were randomized to either CBT for the first 6 months, or to monitoring. CBT significantly reduced the likelihood of progression to psychosis as defined by ratings on the Positive and Negative Syndrome Scale (PANSS) over 12 months, the likelihood of antipsychotic medication use, and of meeting criteria for a DSM-IV diagnosis of a psychotic disorder. CBT also improved positive symptoms in the sample. One important aspect of this CBT trial is that 95% of the patients consented to participate in this trial, suggesting an interest in and willingness to engage in a psychological therapy.

CBT for High-Risk Patients

With one exception, these three studies attempted to prevent or delay onset of psychosis with medications—mainly antipsychotics. Medication seems to alleviate the early symptoms in those who may be prodromal for schizophrenia and possibly even delay the onset.

However, using medication with prodromal patients has generated a great deal of controversy and debate (Bentall & Morrison, 2002), thus leading to the case for considering psychological treatments for the emergent phase of psychotic disorders.

The evaluation of psychological treatments in the early phase of psychotic disorders might prove more acceptable and a safer first step in the development of preventive interventions, which might, in itself, reduce or avoid the need for medications (Bentall & Morrison, 2002). Furthermore, help-seeking and symptomatic patients may benefit from a psychological intervention even if they are false positives (not at imminent risk of psychosis).

The prodromal period can last for several years and, as such, there are different phases to emerging psychosis. Perhaps different treatments, including *both* pharmacotherapy and psychotherapy, may be effective at different phases during the prodrome. For example, antipsychotics might be quite effective in the later phases of the prodrome when psychotic symptoms are clearly evident and the individual is potentially on the cusp of a conversion to full-blown psychosis. Psychological treatments might be most promising at earlier and less symptomatic stages of the prodrome.

In fact, in the early stages of the prodromal period, patients' presenting symptoms are not only less severe but also less specific. It has been observed that these individuals present with a wider constellation of concerns. Clinically, we see that they want to understand their perceptual difficulties, to manage stress, depression, anxiety, sleep disturbance and decline in functioning, and to be supported through this difficult period of their lives (Addington, 2003; Yung et al., 2003). These kinds of symptoms and concerns may be more modifiable with psychotherapy than with medication.

CBT may be beneficial for this clinical high-risk group for several reasons (French & Morrison, 2001). First, CBT is likely to help with both the attenuated and brief intermittent psychotic symptoms. There is evidence that CBT has demonstrated effectiveness for those with schizophrenia to cope with psychotic symptoms and to reduce associated distress as well as the risk of relapse (Tarrier & Wykes, 2004). Second, CBT is well established as an effective treatment for depression, anxiety, and the emotional problems that are often observed during the prodromal period (Yung et al., 2003). Problems with metacognitions and self-schemas are psychological processes typically targeted during CBT, which have been observed in those at clinical high risk. A further benefit of CBT is that it may be useful in addressing substance use, which is believed to be a common and important contributing factor in the development of psychosis in those at risk (van Os, Bak, Hanssen, Bijl, de Graaf, & Verdoux, 2002). Third, the types of interventions used in CBT fit well with a stress-vulnerability model. The potential value is to teach individuals coping strategies that may protect against environmental stresses that risk conversion.

CBT for those at clinical high risk focuses on the subjective experience of the psychosis and the collaborative understanding of that experience. Hallucinations and delusions are placed on a continuum with normal beliefs, and perceptions are explored and understood in the context of the individual's social, cultural, and psychological world. Attenuated psychotic symptoms can be seen to mirror everyday concerns, such as fear of being excluded, unworthy, ridiculed, or harmed. Psychoeducation and normalization are used to help facilitate adjustment, particularly in young individuals. This is a problem-focused, time-limited treatment. (For extended descriptions of the treatment, see French and Morrison, 2004 and Addington, Francey, & Morrison, 2006).

The two cases we will present to demonstrate CBT with this clinical high-risk population were part of a randomized controlled trial comparing CBT to a supportive therapy. Clients could have up to 26 sessions within 6 months. The treatment was manualized following the text of French and Morrison (2004). The

principal change strategies include normalization, generating, and evaluating alternative beliefs, safety behaviors, and metacognitive beliefs. The treatment strategies are selected within the context of a collaboratively derived formulation and related to the problems that are agreed upon and prioritized by the client.

Case Illustration 1

Client Description and Presenting Problem

John is a 17-year-old young Asian man with a family history of schizophrenia. He currently lives with his mother, stepfather, and 3 younger siblings in a low-income community housing project in a downtown area. John began to demonstrate a decline in school functioning at the age of 14. He failed several classes and subsequently stopped attending school. At age 15, he was removed from mainstream education due to truancy and failing grades, and he was placed in a government education program for underprivileged youths living in at-risk communities. John continued to perform poorly and soon began to withdraw socially and emotionally. He initiated less social interaction with peers and attained less interest, motivation, and pleasure in activities.

John's decline in school, mood, and social functioning were exacerbated after an incident where John witnessed a violent attack on a man in his neighborhood. He became highly distressed and developed marked sleep disturbances and decreased concentration and attention. He began missing classes and spent increasing time at home and alone. Weeks later, John experienced strange and unusual perceptions, including seeing shadows, hearing his name called daily, and hearing unfamiliar voices and strange noises, such as ringing in his ears. He also sensed that time was moving much more slowly than normal. John relayed these experiences to his social worker, who referred him to the "High Risk Clinic" for evaluation.

John presented to the clinic with the onset of subthreshold psychotic phenomena and was diagnosed as putatively prodromal for psychosis. He complained of poor sleep and concentration, including thought interference and blockage, and diminished interest in activities. Although John denied distress over the content of the unusual perceptions, he held catastrophic fears of "going mad" and viewed himself as "different" from his peers.

Case Formulation

John's individualized formulation began by linking his life events to his underlying genetic and schematic vulnerabilities to precipitating stressors to the emergence of psychotic symptoms. Figure 1 summarizes this formulation.

John experienced a number of stressful life events at a young age. His parents divorced when he was 7 years old (A). Prior to the divorce, John lived with his biological father, who had a diagnosis of schizophrenia (B), placing John at genetic high risk for developing psychosis. His father drank excessively and became verbally abusive when drunk (A, C). After the divorce, John migrated from a small town to an urbanized city (A, D). He felt a sense of loss, particularly from the move away from his father (A). Economic hardship necessitated relocating to a low-income and high-risk neighborhood (A, D), exacerbating feelings of vulnerability and inadequacy (C). John had difficulty adjusting to the big city and "rough neighbourhood" and felt unsafe in his surroundings (C, D). Not surprising, when John witnessed the violent assault, it triggered a chain of maladaptive responses, including hiding in his

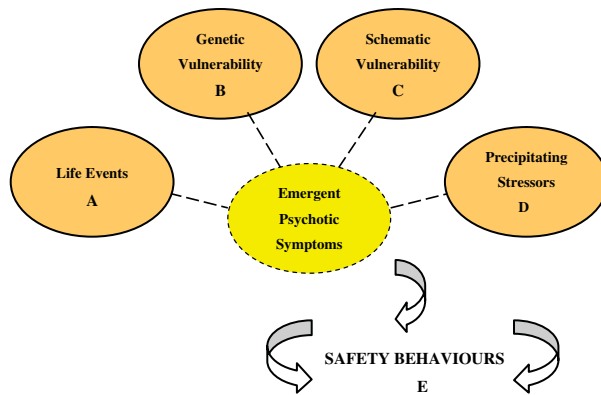


Figure 1. Case formulation.

room (E) and spending increasing amounts of time alone and at home (E). It caused disruptions to his sleep patterns (D) and decline in his concentration and attention (D). The traumatic event, compounded with limited sleep and social isolation in a genetically vulnerable individual, potentially precipitated the onset of the subthreshold psychotic symptoms.

When John began to see shadows and hear unfamiliar voices, he regressed even more socially and emotionally and spent an even greater amount of time alone. John attributed the catastrophic notion of going mad to what was happening to him. The notion of going mad heightened his anxiety and strengthened his belief that he was different from his peers. He imagined that if he told his peers, then they would “laugh and think that” he was “crazy.” Instead, he opted to “avoid people” in the hopes that they would “not notice that something was wrong.” John inevitably coped through social isolation and withdrawal. Although safety behaviours, such as social isolation and dysfunctional thoughts, serve to protect the vulnerable individual, they can also contribute to the maintenance and progression of psychotic symptomatology (French, Morrison, Walford, Knight, & Bentall, 2001). They limit possibilities of obtaining normalizing data that counteract irrational beliefs and limit access to people who help generate alternative explanations. With increasing time spent alone, John experienced an increase in symptoms because he became preoccupied with internally generated thoughts and emotions. With the increase in symptoms, he soon began catastrophizing about their unpredictability and, as a result, felt helpless in their control.

Course of Treatment

Treatment began with a paramount focus on engagement with not only the therapist but also the cognitive model. John’s initial engagement was poor; he attended the first three therapy sessions, and then discontinued for 6 consecutive weeks. Thereafter, John attended once a month for 2 months and then weekly in the 5th month of treatment. Important considerations for this stage included his young age, his difficulty articulating his needs and thoughts, and his lack of insight into symptom development and maintenance.

The first three sessions involved assessment, psychoeducation, and a focus on activity scheduling. Normalization through psychoeducation was achieved with a

review of the stress-vulnerability model that illustrated interactions between stressful life events and individual vulnerabilities to the onset of unusual experiences. Examples were used to help illustrate circumstances where unusual experiences occur, as in sensory deprivation experiments, or under undue physical and emotional stress, as when an individual stranded in the desert experiences a "mirage." John conceptualized that under certain conditions, perceptual abnormalities can occur in the absence of "going mad" and that unusual experiences are best understood within a particular context. John's individual circumstances were then examined and placed on a continuum of psychotic experiences (Strauss, 1969). John objectively assessed the catastrophic severity of his perceptual anomalies, and came to the realization that he was not alone, thereby somewhat counteracting his belief that he was different from his peers.

At this point in therapy, it was difficult to pull together a shared formulation because it was a struggle for John to access thoughts and underlying assumptions. A decision was made to implement activity scheduling to address social avoidance and increase mastery and pleasure. Unfortunately, this method did not go well, possibly because it was implemented prematurely. John did not complete the assigned activity task due to "boredom." He subsequently stopped attending sessions for 6 consecutive weeks. The break-in sessions provided an opportunity to review John's behavioral and cognitive reactions to perceived failures; John's withdrawal from therapy paralleled his withdrawal from other life situations, and this was included in the formulation.

When John reengaged in therapy, he attended one session per month for 2 consecutive months. During this time, we emphasized collaborative formulation building, with particular attention to safety behaviors. The development of a shared formulation in this way strengthened engagement and helped socialize John to the cognitive model while building insight into his confusing experiences.

At this point, the therapy was approaching month 5 and John began attending weekly. With greater engagement and trust, John began to examine underlying assumptions for their accuracy and role in promoting dysfunctional behavior. For instance, John examined his beliefs: "If I tell other people, then they will laugh or think I'm crazy" and "If I avoid people, then they won't know something is wrong with me." John was asked to list the benefits of holding such beliefs and to list the evidence for and against the beliefs. Behavioral experiments were devised to help elicit evidence for and against the beliefs. The outcome of the behavioral experiments promoted some cognitive flexibility and problem-solving skills while lessening the conviction of beliefs.

Safety behaviors were then collaboratively identified and examined for their role in maintaining and progressing symptomatology, with reference made to the vicious circle. John learned that his emotional withdrawal and social avoidant behaviors, in fact, drew more attention to him because they were cause for concern by others. John interpreted the additional attention and concern from others as signs that he was surely going mad. This, then, caused John to become more isolated, withdrawn, and even more preoccupied with internally generated thoughts and emotions, increasing his chances of detecting frightening and confusing perceptual anomalies. John, thus, began to reassess his safety behaviors that he had previously perceived as helpful.

To address John's concern about the unpredictability of his catastrophic experiences, a behavioral experiment was devised to increase time spent alone and to note the frequency and intensity of symptoms. The outcome of the experiment

demonstrated that John indeed experienced an increase in symptoms with more time spent alone and the paradoxical effect occurred when he spent time with family and friends. John was pleasantly surprised to discover that he could manipulate experiences he had once assumed to be out of his control, dispelling some of the catastrophic cognitions about their unpredictability. Activity scheduling, to combat social avoidance and increase mastery and pleasure, was then implemented and better adhered to at this stage of the therapeutic process.

In summary, the subthreshold psychotic phenomena were examined in a manner that was easily understood by John, thus facilitating his use of the treatment. Normalization through psychoeducation was a critical component of his treatment, and targeting some of the underlying assumptions and behaviors proved fruitful. Activity scheduling was useful in combating social avoidance but only after he realized that social isolation potentially increased the attenuated psychotic phenomena. This was achieved through targeted behavioural exposures. Of paramount importance throughout was the focus on engagement and collaboration, which involved a shared understanding of John's problems and of the factors maintaining them. Unfortunately, as these were becoming solidified, time in therapy was becoming short. When termination was addressed, John's willingness to persevere with treatment was reflected by his comment, "It feels like we just got started."

Outcome and Prognosis

The CBT methods developed in collaboration with John produced a good clinical outcome. It was in the 5th month of treatment that John began to demonstrate some clinical improvement, as reflected in outcome measures. Specifically, outcome measures documented decreases in cognitive-attentional impediments (inability to divide attention and slowed down thinking) and decreases in cognitive disturbances, as reflected by the Schizophrenia Prediction Instrument for Adults (SPI-A). These were maintained 6, 9, and 12 months post-treatment. On the Scale of Prodromal Symptoms (SOPS), perceptual abnormalities decreased, as did trouble with attention and focus (P4: 5 to 0; D3: 3 to 1). Other SOPS items, however, did not improve, e.g., avolition, occupational functioning, and sleep disturbances. On the Positive and Negative Syndrome Scale (PANSS), emotional withdrawal decreased from mild to minimal, but it was not maintained 1-year post-treatment. Global Assessment of Functioning (GAF) remained consistently low throughout the course of treatment and 1 year beyond treatment (GAF = 50–60). The 1-year post-treatment GAF rating was 60.

Although John did demonstrate some gains in clinical outcome, he would have likely achieved greater gains with additional time spent in therapy. The concern is that termination may have been premature and additional gains may have been compromised by the 6-month therapy window, particularly on other SOPS items and in general functioning. John's decrease in emotional withdrawal was not sustained 1-year post-treatment. This is an additional concern if we are to consider emotional withdrawal as a potential factor in the maintenance and progression of John's attenuated psychotic presentation. With greater behavioral exposures, it is possible that emotional withdrawal could have been decreased to a minimal or absent rating.

In summary, John demonstrated some clinical gains from treatment despite his delayed engagement. Additional gains may have been realized with an increased duration of psychotherapy, particularly given his willingness to persevere with treatment.

Case Illustration 2

Client Description and Presenting Problem

Sarah was a 31-year-old nurse with no family history of psychosis. She lived with her older sister in a quiet suburban neighborhood. Sarah began to demonstrate a decline in occupational and social functioning at the age of 29, while in her 5th year of nursing.

At that time, Sarah experienced a change in her job role and was transferred to the acute care unit of her hospital. She found the needs of the acute care patients overwhelming. She particularly found the care of an elderly patient difficult to manage and began doubting her ability to perform effectively in her new role. Sarah believed, “there are some nurses who can handle the high demands of the job; I am not cut out to be a nurse.”

Sarah’s self image and confidence in her abilities deteriorated. She formed a faulty self-image and viewed herself as weak and ineffectual. She became dysphoric and doubted her ability to effect positive change. Sarah’s negative self-image was reinforced when she overheard a colleague comment on her poor patient management skills. Sarah subsequently became anxious and highly sensitive to the criticism of others. She felt unappreciated and less respected than her colleagues. This impacted negatively on her work relationships; she refrained from extracurricular activities and work functions. Her sleep patterns deteriorated and she developed problems with concentration and attention.

Her interpersonal difficulties transferred to other areas of her life. As Sarah was experiencing work-related stress, she was also experiencing relationship stress with her long-term partner and was in the midst of a separation. The combination of work and relationship stress became overwhelming. One evening, while Sarah was in her home alone, she heard the sound of “crackling” laughter. The sound was peculiar and lasted for several hours. Sarah was frightened and wondered if the sound had emerged from a “witch.” She called the concierge of her building to investigate the disturbance.

This was the start of a gradual onset of subthreshold auditory and visual hallucinations, which included seeing shadows in the corner of her eye, and hearing odd sounds, such as high-pitched echoes, beeping, crying babies, and loud voices in the room. The perceptual abnormalities occurred weekly and were highly distressing, causing Sarah to cover her ears to silence the sounds. Sarah experienced an increase in déjà vu phenomena—events occurring in Sarah’s dreams would seemingly play out in her work environment. Sarah became highly anxious over her experiences and began performing poorly at work and withdrawing from friends and colleagues. She subsequently took a 3-month sick leave of absence. She consulted with her family physician who referred her to the “High Risk Clinic” for diagnostic clarification and treatment recommendations.

Case Formulation

Sarah was diagnosed as putatively prodromal for psychosis. Her formulation began, similarly to John’s, by linking life events to underlying genetic and schematic vulnerabilities to precipitating stressors to the emergence of subthreshold psychotic symptoms (Fig. 1). Underlying schematic vulnerabilities were highlighted in Sarah’s formulation. Maladaptive core and compensatory schemas were identified along with the affective states and problematic behaviors they aroused. Dysfunctional

schemas were then incorporated into the overall formulation and examined for their role in the maintenance and progression of subthreshold psychotic symptoms.

Sarah's impression of her childhood was positive (A). Her parents were educated, working professionals who held high expectations of Sarah and placed high demands on her (C, D). Sarah continually strived to meet her parent's expectations and gain their approval (C). Over time, Sarah developed the compensatory belief "I must be perfect all the time" (C). She subsequently engaged in compensatory behavioral strategies, such as avoiding saying no and trying to do things perfectly (E). When Sarah underwent a job change (A, D), she found some aspects of the role difficult to perform effectively (D). This triggered dysfunctional schema, such as "I am weak and ineffectual" (C). It also triggered maladaptive emotional and behavioral responses, such as dysphoria (C, D), anxiety (C, D), and social withdrawal and avoidance (E). Sarah subsequently experienced difficulties with respect to her occupational and social functioning (D), difficulties in her sleep patterns (D), and in her concentration and attention (D). Negative affective states such as anxiety and depression and ruminative self doubt compounded with limited sleep, social withdrawal, and psychosocial stressors in a vulnerable individual potentially precipitated the onset of subthreshold psychosis.

Course of Treatment

Treatment involved schema-focused, formulation-driven interventions for Sarah. The process began by uncovering automatic thoughts, underlying assumptions, and central core beliefs. Factors that facilitated schema level work included Sarah's age, her facility in articulating thoughts and feelings, and her willingness to persevere with a cognitive way of working that uncovered core schemas. The establishment of good rapport was paramount for the process to occur.

Sarah's initial engagement was poor. She attended the first two psychotherapy sessions. The day before the third scheduled session, Sarah sent a brief e-mail informing of her decision to withdraw from therapy. Sarah's decision was respected. However, because the method of communication was via email, she was offered the opportunity to discuss her decision in person. Sarah was receptive, and the appointment was rescheduled.

Sarah described how her anomalous experiences had dissipated soon after the first appointment and that she no longer required treatment for her symptoms. Sarah wished to put the experiences behind her. This indicated a sealing-over coping style (McGlashan, 1987). Sarah also described that in the last session, she had generated a problem list, which included social anxiety and difficulty with assertiveness. Sarah explained that these were two key problem areas that she had struggled with for many years. Previous attempts at working on them with another therapist were unsuccessful, and she withdrew from therapy. Sarah's repeated desire to withdraw from therapy provided a good opportunity to review her pattern of managing threatening material. Not surprising, Sarah's method of e-mail communication was a safe and subtle way in which to express her wishes without direct confrontation. Sarah's avoidance of confrontation paralleled her avoidance in other situations, and this was included in her formulation. Sarah subsequently was encouraged to contract for four additional sessions to examine her pattern of avoidance, and other safety behaviors, along with her underlying assumptions and central core beliefs. She agreed and persevered for an additional eight sessions with no significant gap between sessions.

The next four sessions involved psychoeducation, goal development, and an initial exploration of her avoidance patterns and core beliefs. The psychoeducation component focussed on the relationship between stress and vulnerability, and on warning signs of relapse. The uncovering of automatic thoughts and underlying assumptions was facilitated by utilizing thought records. Sarah identified the thoughts: "I can't handle my job" and "I am not cut out to be a nurse." The downward arrow or vertical technique (Greenberger & Padesky, 1995), an inductive questioning process, facilitated uncovering underlying assumptions and beliefs. Questions included: "If that negative thought were true, what would that say about me?" This questioning continued until Sarah identified the core beliefs: "I have no voice"; "I am a tiny person"; "I am weak and ineffectual"; "If I'm not perfect, then I'm incompetent"; and "I'm worthless."

The therapist emphasized shared formulation building and on connecting maladaptive schema, affective states, dysfunctional (and safety) behaviors to the onset of psychotic presentation. Evidence suggests that affective states, such as depression and anxiety symptoms, directly influence the development of psychosis in those at high risk (Valmaggia, Tabraham, Morris, & Bouman, 2008).

The remainder of the sessions focused on challenging and modifying core beliefs. Although the identification of dysfunctional beliefs was facilitated by Sarah's verbal facility, the modification of her beliefs was met with more resistance. The underlying schemas of vulnerable individuals tend to be more rigid and concrete than the schemas of normally functioning individuals (Kovacs & Beck, 1978).

Sarah began cognitive restructuring by operationally defining the term "incompetent." She placed "competent/perfect" and "incompetent" at opposite ends of a spectrum. She placed herself on the spectrum where she thought she best fit, in light of the attributes of the polar extremes. This led to an initial reappraisal of her competence, lessening the conviction and distress of her belief that she was incompetent. Sarah's belief was then challenged by using Socratic questioning.

A mini formulation (a situation-specific analysis linking thoughts, feelings, and behaviors) was designed for a recent incidence in which Sarah felt incompetent. This created a visual of how Sarah's moods and behaviors were affected by her underlying assumptions (the thought-feeling link). Behavioral experiments were then implemented with graded difficulty wherein Sarah could gain mastery and pleasure.

Sarah examined and challenged the belief: "I must be perfect all the time." She listed the benefits and limitations of holding such a belief. Sarah discovered that when high demands and expectations were placed on her, she strived to meet them. In doing so, she continually reinforced the schema "I must be perfect all the time." Sarah linked imperfection to incompetence and then to worthlessness. Sarah realized that her compensatory belief of "I must be perfect all the time" led to unrealistic outcomes and inevitably set herself up for disappointments, and ultimately reinforced anxiety, self-doubt, and depression.

Sarah then began evaluating the evidence for and against other negative beliefs by using thought records. Sarah generated more realistic thoughts and began searching for evidence that negated her distorted thinking. Behavioral exposure as homework helped to test the accuracy of Sarah's beliefs and perceptions.

The final three sessions involved assertiveness training, particularly to modify the belief that "I am weak and ineffectual" and "I am inferior and unimportant" and to modify compensatory behaviors such as "I am unimportant, so I will remain quiet." In vivo role-plays provided a safe and structured environment for Sarah to practice assertion techniques.

Outcome and Prognosis

By the end of treatment, Sarah's condition improved as reflected on the outcome measures. There were decreases in cognitive-attentional impediments, thought interference, and disturbances of reflective speech. These were maintained 3, 6, and 12 months post-treatment. Tension and anxiety ratings on the psychopathology subscale of the PANSS also decreased and were maintained 1-year post-treatment. There were trends toward improvement on the Social Interaction Anxiety Scale (SIAS). The Anxiety Index Rating from the Self Rating Anxiety Scale (SAS) was in the normal range post treatment and beyond, compared to minimal to moderate range elevations at pre treatment. At post treatment, Sarah's GAF rating increased by over 20 points to 84. At 1-year post treatment, the GAF rating decreased to 70, but was higher than at baseline (61). Overall, Sarah demonstrated a good clinical outcome. She returned to work and was re-engaging with some of her friends.

Clinical Issues and Summary

These two cases indicate both the clinical potential and treatment challenges in working with a population at high risk for developing psychosis. We know that a proportion will go on to develop psychosis, but we do not know the outcome of those who do not develop psychosis. It is possible that CBT will prove valuable for addressing the presenting problems of those who present as "at risk" but do not go onto develop psychosis.

This makes outcome difficult to define. On one hand, the outcome of preventing conversion is specific. On the other hand, the problems to be addressed to possibly prevent conversion can be varied, such as symptoms, stress, or anxiety.

Engagement in treatment regularly emerges as a challenge in these cases, as reflected in the case illustrations of John and Sarah. It is not clear if young people at risk take longer to engage in a treatment for an illness "yet to come." In our clinical trial, delays in engaging interfered with a full quota of treatment. Perhaps with these cases, outcome may have been better if therapy could have been extended so that they received more sessions. Thus, we recommend increasing the therapy window beyond 6 months, particularly with younger individuals, to maximize adherence and to improve eventual outcomes. The results from these cases are indeed encouraging but further clinical and research work is required to more fully understand this population in terms of their needs and their long-term outcome.

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