

From Science to Practice: The Flexible Use of Evidence-Based Treatments in Clinical Settings

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Psychosocial treatment options are nearly as broad as the behavioral problems that they address. With literally hundreds of treatment approaches available, how should clinicians select the most appropriate and effective intervention? One way is to consider using only those treatments with evidence of therapeutic efficacy. Indeed, funding agencies have invested substantial sums to evaluate the efficacy of many treatments, and the result is a growing list of evidence-based treatments (EBTs) for children and adolescents (e.g., Kazdin and Weisz, 2003). The accumulated data for these treatments support their consideration as first-line intervention options.

Despite the documentation of the efficacy of these EBTs, they have not been widely incorporated by training programs or practicing clinicians (Addis and Krasnow, 2000). The arguments most often made against the clinical use of EBTs are that they are developed and tested in well-controlled research settings and therefore may not be effective with “real patients” treated by “real therapists” in “real clinical settings” (see Persons and Silberschatz, 1998; Wilson, 1998). Some aspects of these arguments are valid. There is much that we do not know about existing EBTs, such as which components are necessary and sufficient, how they work, and under what conditions they are most effective (Kazdin and Nock, 2003; Nock, 2003). Rather than waiting for

the answers to these questions; however, in this paper we describe how clinicians can use EBTs currently, flexibly, and effectively in clinical settings.

METHODS FOR THE FLEXIBLE USE OF EBTs IN CLINICAL SETTINGS

The evidence-base of EBTs derives from randomized, controlled trials that use homogeneous samples, controlled treatment parameters, and detailed treatment manuals to rule out alternative explanations for the observed treatment effects. These methods are necessary in research settings but not in clinical practice with individual patients. Many unfavorable notions about the usefulness of EBTs outside research settings stem from the misperception that such treatments must be administered rigidly without variation, creativity, or flexibility and without consideration of the individual differences with which patients present.

Treatment manuals describe the procedures used in EBTs and provide instructions and guidelines for the clinician but by no means dictate the therapist's every word and action. In clinical practice, these manuals may be modified to best meet the needs of the patient. In the case of child and adolescent psychotherapy, modifications are often warranted based on child factors such as developmental level or presentation with multiple problems/disorders, parental factors such as psychopathology that may affect treatment, and family factors that may also need to be addressed. In other words, because all potential modifications are not listed in the manual, there is no need to discard the EBT in favor of using an unsupported approach.

This concept undoubtedly is not new to many readers. Consider the method in which psychiatric medications are evaluated and used in clinical practice. If a clinical trial demonstrates efficacy of a particular dose of an anxiolytic medication, practicing clinicians do not simply prescribe any patient who presents with

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anxiety the study dose regardless of developmental level, comorbid conditions, and so on. Instead, best practice is to make modifications to the treatment plan given individual factors and to monitor the patient's treatment response, making additional modifications as needed. We propose a similar model for the use of psychosocial treatments.

To be sure, making modifications will result in the implementation of a treatment that is different in content and structure than that supported by the research (e.g., in the case of pharmacological treatment, one is now prescribing "off label"). As a means of ensuring that the treatment is effective as delivered, we strongly advocate the use of scientific method in each case. Decisions about the nature of the modifications should be rooted firmly in psychological science, and each case should be treated as a scientific experiment with systematic data collection and analysis performed to test the effectiveness of the modified treatment (see Kazdin, 1982). The use of this method provides empirical support for the intervention as implemented as well as immediate feedback to the clinician and patient that may be useful in guiding future treatment planning. The following clinical case presentation is offered to illustrate these points. (All identifying information about the patient has been changed.)

CLINICAL CASE PRESENTATION

Michael is a 10-year-old European-American boy who presented to an outpatient child and adolescent psychiatric clinic after missing the final 2 months of school due to the sudden onset of multiple symptoms of panic disorder, including episodes of intense fear, sweating, shaking, feeling faint, chills, and stomach pain. These symptoms had a sudden onset and typically lasted approximately 20 to 30 minutes, although he often experienced repeated panic attacks over a period of several hours. The symptoms caused significant distress to Michael and his parents and interfered with his ability to attend school and engage in social activities outside his home.

Diagnostically, Michael met *DSM-IV* criteria for panic disorder with agoraphobia. There was also a family history of anxiety, as his mother reported two 5-year periods of panic disorder during adulthood and his father reported a vague history of anxiety and depression. In terms of other psychological treatment, Michael had been in play therapy for several months

before visiting our clinic, which focused primarily on exploring Michael's relationships with his parents. Although Michael and his parents were satisfied with the play therapy, they sought treatment at our clinic because this other treatment did not address or decrease the frequency or intensity of his anxiety and did not lead to any observable improvements in his functioning.

Case Conceptualization and Treatment Plan

Michael's presenting problems were conceptualized from a cognitive-behavioral perspective, which suggests panic attacks occur when an individual misinterprets harmless sensations of anxiety or arousal as dangerous or life threatening. In essence, the person develops a "fear of fear." Through repeated avoidance and escape behaviors, individuals do not learn that these sensations are harmless and will subside on their own. The goal of treatment then is to break the association between these harmless sensations and the perception of threat or catastrophe and the performance of avoidance behaviors.

The current psychosocial treatment of choice for panic disorder is panic control treatment (PCT) (Barlow and Craske, 2000), a 14-session manualized treatment that has demonstrated 85% to 87% of patients are free of panic post-treatment. PCT is composed of four primary components aimed at managing anxious sensations and breaking the association between these sensations and catastrophic interpretations. First, psychoeducation and cognitive restructuring are used to correct the patient's misinformation and incorrect thinking about anxious sensations and their potential consequences. Second, somatic control exercises, such as breathing retraining and progressive muscle relaxation, are included to improve the patient's ability to lessen somatic arousal and to change misappraisals of somatic cues. Third, interoceptive exposure, which refers to gradually exposing the patient to the feared somatic sensations in a systematic manner (e.g., if the patient fears experiencing shortness of breath, he or she is instructed to breathe through a straw to induce shortness of breath), is used to increase tolerance of the sensations and to demonstrate that they are harmless. Finally, the patient is exposed to previously avoided situations in which panic attacks are likely to occur, thus decreasing future avoidance of these situations and feared catastrophes associated with them. Although

PCT has been shown to work well with adults, no treatment has demonstrated efficacy with children and adolescents with panic disorder.

Therefore, rather than using a completely unsupported treatment approach, we modified PCT to create a more developmentally appropriate treatment.

Flexible Application of This EBT

Michael was treated with a modified version of PCT. Modifications were made according to several child and parental factors. First, all procedures were adjusted to Michael's developmental level. For example, the adult manual provides handouts describing the evolutionary role of anxiety and details about the physiology of the autonomic nervous system. Rather than giving Michael these handouts, he received developmentally appropriate education during treatment about the function and physical manifestations of anxiety.

Second, Michael's mother played a large role in treatment delivery both in sessions and outside the clinic. For instance, she participated in weekly in-session exercises and monitored his anxious symptoms and his use of anxiety management skills outside the clinic setting. Although third-party involvement is not a major component in the PCT protocol, the inclusion of parents in child therapy can be an important method of increasing treatment adherence and therapeutic change and thus was included for these reasons.

Third, given Michael's mother's history of panic attacks and the potential for her to reinforce his fear of fear, she actively participated in the psychoeducation and skills training components. We openly discussed her history of panic attacks, the possibility of relapse, and the potential influence that her anxiety may have on Michael. She was highly motivated to learn how to gain control over the symptoms of anxiety to help coach her son but also to master the ability to control her own anxiety. Both Michael and his mother participated in interoceptive exposure exercises, breathing retraining, and muscle relaxation in session and for homework. They initially did these as a team, and over time Michael learned to do these on his own, generalizing his skills to situations in which his therapist and mother were not available, such as school.

Finally, because our modifications caused us to deviate from the structure of the manual in terms of content and delivery, we incorporated continuous as-

essment and monitoring of the frequency and severity of Michael's panic attacks and related symptoms throughout the course of his treatment. Michael and his mother both kept daily anxiety logs as well as records of his daily activities and brought them to each session.

RESULTS

Figure 1 shows the frequency of Michael's panic attacks over the course of treatment. The frequency of his panic attacks varied somewhat during the initial psychoeducation and skills training stages of treatment but decreased to zero by the 11th session and remained at that level throughout the remainder of treatment (save one panic attack in the 22nd week during a long car trip). Sessions occurred weekly for the first 11 weeks, then biweekly, then monthly before termination, for a total of only 16 sessions. Thus, the parameters of treatment were modified based on Michael's progress. In addition to a reduction in panic attacks and anxious symptoms, Michael experienced significant changes in his social and academic functioning. He was able to return to school on time in the fall and missed only 6 days over the next school year, typically due to mild physical complaints (e.g., a cold during the winter months). Also, he was able to actively participate in classroom and after-school activities as well as sleepovers with his friends, which he had not been able to do before treatment. Michael and his mother both denied the presence of panic attacks and reported continued social and academic improvements at 6-month follow-up, demonstrating maintenance of therapeutic change.

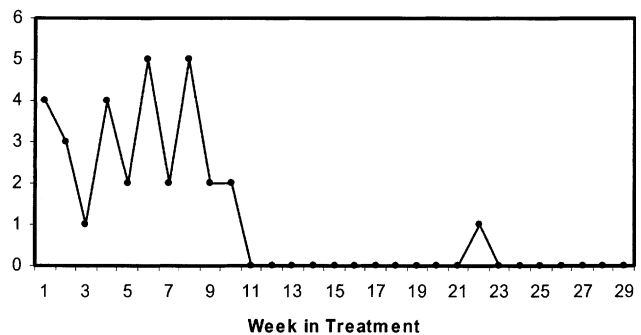


Fig. 1 Frequency of panic attacks each week over Michael's treatment course.

DISCUSSION

Many EBTs have been developed to improve the treatment of child and adolescent behavioral problems. Although best research practice requires limited variability in the patients and methods used in the studies evaluating these EBTs, best clinical practice does not demand the same constraints. Clinicians are encouraged to use these well-specified treatments but to incorporate modifications according to individual differences of the presenting patient. To be sure, these modifications should be grounded in psychological science and supported by continuous assessment of therapeutic change, consistent with the scientific method.

The flexible use of EBTs was illustrated through a clinical case presentation in which an adult treatment package was effectively modified for use with a young boy and his mother. Our goal was to demonstrate how easily and effectively EBTs can be used in clinical settings and to stimulate practicing clinicians to incorporate EBTs into their current repertoires. Although there is a growing list of EBTs from which to choose and an apparent lack of training opportunities in child psychiatry settings, clinicians interested in learning these approaches should be encouraged by the fact that many EBTs are based on the same principles of learning and

include similar treatment components (e.g., psychoeducation and cognitive restructuring, gradual exposure, and somatic control exercises). Thus, as with learning most new clinical methods, once one learns the core set of principles and skills involved, implementation of each specific approach is greatly facilitated. We hope that training programs and individual clinicians will be encouraged to learn and develop these skills, as doing so will undoubtedly help open the pathways from science to practice.

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