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MENTAL HEALTH

Talk Therapies Take On a Vital Role in Treating Schizophrenia

Cognitive-behavioral therapy helps to treat symptoms of schizophrenia for which drugs are ineffective

By Matthew M. Kurtz on March 1, 2023

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Schizophrenia is a mental disorder that, at its worst, ravages the totality of everyday life. It is hard to imagine what people with the severest forms of the ailment experience as anything but biologically driven, a direct consequence of aberrant chemical and electrical activity occurring deep within the brain.

As a neuropsychologist, I have often seen convincing evidence of schizophrenia's biological underpinnings in my dealings with patients. To illustrate what I mean, I will describe “Billy”—a composite profile derived from various patients I encountered in my work at the Institute of Living in Hartford, Conn. Billy exhibits the detachment from reality and emotional agony brought on by a psychotic episode, symptoms experienced by many people with schizophrenia.

Think of Billy as a 35-year-old man who lopes from one corner of a psychiatric hospital to another, gazing down at his feet and repeating, “Billy likes model trains. Billy likes model trains. Billy likes model trains.” When a clinician on the unit asks Billy about his treatment goals, he replies, “Saturn is going to crash into Mother Earth.” Billy was recently flooded with anxiety as he became convinced that the Blob, the smothering gelatinous substance from the 1958 science-fiction movie of the same name, was about to engulf his neighborhood.

Billy's severe psychotic episodes point to a brain in disequilibrium and, correspondingly, to the need for drugs and treatments to alter this pathology as a basic standard of care. Findings from decades of research and clinical practice support the crucial role of antipsychotic medications, which interfere with the transmission of the brain neurotransmitter dopamine, in the attenuation of delusions, hallucinations and other symptoms that are so apparent in Billy's case.

Yet key features of schizophrenia, such as reduced spoken communication and inappropriate expression of emotions, remain entirely untouched by pharmacological interventions. Similarly, these medications make little difference in the social disability that characterizes the disorder: the chronic unemployment, social withdrawal and isolation, high suicide rates, and abbreviated life spans that typically coincide with a diagnosis. None of these medications has been found to help prevent the onset of the disorder in people at high risk because of family history and mild psychological symptoms that are not severe enough to meet criteria for a diagnosis of schizophrenia.

Research in the psychological sciences and related disciplines is now broadening understanding of both the emergence of schizophrenia and its treatment. These newer approaches focus on psychosocial stress and the patients' own belief systems. Methodologically rigorous, large-scale, population-based studies are delving more deeply into environmental factors linked to disease onset. Other research has shown that talk-based psychotherapy may be able to constrain the aberrant beliefs associated with schizophrenia.

Medical professionals are starting to pair therapy with methods to strengthen thinking skills. For the past 20 years my laboratory has studied ways to measure and improve concentration, memory and problem-solving. The results of these studies show that impairment in these thinking skills, even beyond other, more visible symptoms, often stands in the way of

functional improvement for people with schizophrenia and related illnesses. Such work has led to a much more nuanced view of the disorder that highlights psychological factors and complements the biological models that have dominated the field.

THE PATHOLOGICAL PARENT

For much of the 20th century and as recently as 50 years ago, cases such as Billy's were viewed in many professional quarters as resulting from a disorder of the mind that was rooted in pathological parenting styles and influenced by cultural milieus. Sigmund Freud's inordinate influence on psychiatry, particularly in the U.S., led professionals in that field to view illnesses through a lens of environmental factors centered on unresolved family trauma, with talk therapy being the key to relief. But this approach yielded scant success.

The first psychological models of schizophrenia declined in favor for a number of reasons, including stubbornly high psychiatric hospitalization rates and persistently poor outcomes, even among patients with access to the most intensive psychological care and therapy. Charismatic health-care providers developed treatments based on their own theories and supported their claims with isolated case studies rather than exacting scientific data. Many psychotherapists of this era resisted randomized, controlled trials. Solid evidence that the prevailing treatments worked for most patients never materialized.

A watershed event occurred in 1952 with the publication of a clinical trial of chlorpromazine at St. Anne's Hospital in Paris, heralding the arrival of a new class of drugs known as antipsychotic medications. These pharmaceuticals moderated irrational, often paranoid beliefs and hallucinations for many people with schizophrenia, stabilizing them in the hospital and, in many cases, allowing them to reenter the community for the first time in years. The psychological approach to treatment became less dominant as therapists embraced pharmacological therapies targeting the brain.

Three additional factors played a pivotal role in reinforcing the view of schizophrenia as a neuroscientific entity. First there was a new focus on psychiatric illnesses as diseases with consistent signs and symptoms, just like other medical illnesses, which meant they could be studied through rigorous biological analysis. This medical model made it much more likely that patients with similar patterns of symptoms would reliably receive the same psychiatric diagnosis.

The second factor was the emergence of highly detailed imaging technologies that researchers used to look first at the brain's structure and later at the function of its various regions. By the early 2000s it was becoming clear that people with schizophrenia had reductions in brain activity and tissue volume across a broad range of neural systems, particularly in the frontal

and side (temporal) brain lobes. Researchers replicated these findings and discerned these changes even in patients experiencing their first episode of schizophrenia, before they had received any antipsychotic therapy.

Third, the mapping of the human genome in the early 2000s and the development of cheaper technology for identifying genetic variants raised the possibility of determining which genes put people at the greatest risk for schizophrenia. Studies have identified more than 100 locations on DNA that confer increased susceptibility to the disorder. If researchers could use this genetic analysis to identify aberrant protein synthesis, new drugs could be formulated to interfere with this process.

A NEW ERA OF PSYCHOLOGY

Scientists have made undeniable advancements in the neurological and genetic understanding of schizophrenia. But over the past 20 years a growing body of work has suggested yet another revised view of the disorder. Much of this research comes from academic precincts neighboring neuroscience—not just psychology but epidemiology and anthropology. This fresh perspective goes beyond the physiology of schizophrenia to encompass personal belief systems, social interactions and the destructiveness of psychological stress. It also emphasizes the importance of the environment in which a patient lives in explaining the origins of symptoms, not just for schizophrenia but for related psychoses, such as bipolar disorder with accompanying psychotic symptoms.

The field's return to a psychological emphasis is a product, in part, of neuroscience's failure to deliver clear answers about schizophrenia despite its promise for identifying the neural underpinnings of psychiatric conditions. Hundreds of informative structural and functional neuroimaging studies have identified locations in the brains of affected people where there is diminished tissue volume or aberrant activity. But huge genome-wide association studies—which recruit thousands of patients to pinpoint genetic variants that may place people at higher risk for schizophrenia—have failed to define the causes of the illness. So far none of these findings has led to the development of drug treatments that meaningfully alter the course of the disorder.

Evidence from recent studies has helped bolster renewed interest in the psychological underpinnings of schizophrenia. These are rigorous, well-designed, large scientific studies in which researchers carefully quantified patients' experiences, using measures that are consistent over time and that have been validated with other forms of evidence. New psychological therapies undergo testing to minimize biases that might affect whether a treatment is judged effective. Markers of patients' improvement in these studies are standardized and made objective, and study participants and their evaluators often do not

know whether participants are in a treatment or a control group. This type of study design helps to ensure that participants don't appear to improve simply because they or their evaluators believe they should be getting better.

Such studies have produced a consensus that adverse experiences and environments contribute in important ways to the development of schizophrenia. For example, rates of psychosis are dramatically higher in some minority immigrant communities compared with those of the native-born populations in their adopted countries. The United Kingdom Aetiology and Ethnicity Study in Schizophrenia and Other Psychoses (AESOP) followed patients who sought clinical treatment starting with their first episode of psychosis. The investigators used census data to obtain estimates of incidence rates, and diagnoses were based on chart notes and a standardized interview and were analyzed by psychiatrists who never learned the patients' ethnicity.

AESOP confirmed previous findings that African-Caribbean and Black African people living in the U.K. were diagnosed with schizophrenia at a rate as much as five to 10 times higher than that of white Britons. A study of the incidence of psychosis in a broader range of immigrant groups—from the Middle East, North Africa, China, Vietnam and Japan—showed that their likelihood of developing psychosis was almost three times greater than that of white Britons. (People from these regions were combined into one study group because the size of each ethnic group alone was too small to be statistically meaningful.) Some aspect of the immigrant experience or a person's minority status, or a combination of these two factors, appeared to be contributing to elevated rates of schizophrenia. More important, these rates were typically much higher than those in the migrants' countries of origin.

The authors found that psychological and social stresses correlated with the increased incidence of schizophrenia in minority ethnic groups. Separation from a parent during childhood was associated with rates of diagnosis two to three times higher than among people whose families had remained intact. A variety of other markers of social disadvantage, including unemployment, living alone, being single, a lack of formal education and limited social networks, all increased the likelihood of schizophrenia onset in various ethnic groups. White Britons showed similar links between psychosocial stressors and the likelihood of schizophrenia, but immigrant minority groups experienced those stressors more frequently.

Social discrimination may also increase a person's chances of developing schizophrenia. A study from the Netherlands looked at all non-Western immigrants seeking services for a first episode of psychosis in The Hague between 2000 and 2005. The researchers studied minority groups from Morocco, the Antilles, Suriname and Turkey, among other regions, and interviewed members of these groups about the perceived levels of discrimination they encountered. Moroccans, the ethnic group that experienced the most discrimination, showed

the highest incidence of psychosis, whereas ethnic groups reporting less bias (Turks, Surinamese and others) had lower rates.

The European Network of National Schizophrenia Networks Studying Gene-Environment Interactions (EU-GEI) took a detailed look at the contribution of immigration in the emergence of psychosis. Using a data set of more than 200 migrants and 200 control participants matched for a variety of variables, including family history of psychosis, the authors defined indicators of social disadvantage for each phase of immigration. In the premigration phase, indicators consisted of parental social class, type of employment and whether the participant lived with their family of origin. In the active migration process, indicators consisted of age, whether the person was detained at any point during immigration and whether they had any plans to return to their country of origin. For the postmigratory phase, the measures included employment during the previous five years, long-term relationships and family structure.

The study found that among first-generation migrants, social disadvantages and adversities during the premigration and postmigration phases doubled a person's chances of developing psychosis even when other risk factors such as cannabis use and age were statistically controlled for. Mismatches between the expectations people held before leaving their native countries and their actual postmigration achievements were also associated with an increased likelihood of psychosis. The risk of illness increased with the number of cumulative adversities. These findings all suggest that providing psychological support to immigrants might alter the onset of schizophrenia in those who are facing high levels of social adversity.

HEARING VOICES

People from different cultures experience psychosis in distinct ways. Psychological anthropologist T. M. Luhrmann and her collaborators have shown that the emotional tone of auditory hallucinations may vary widely across cultures, suggesting that what one hears may be influenced by cultural expectations. Those in subcultures that have encountered the violence of war or other social upheaval may experience loud or disruptive hallucinations, whereas those with dense family ties may have more benign symptoms.

Luhrmann's research team conducted structured interviews of people diagnosed with schizophrenia, most of them ill for years, from the U.S., Ghana and India. The researchers asked people how many voices they heard, how often they heard them, what their opinion of these voices was and what they believed was the source. In general, the results support the idea that schizophrenia is a biologically based condition that manifests similarly across cultures. Participants in all three countries heard “good” and “bad” voices. Some reported having back-and-forth conversations with the voices they heard, and others thought the

voices came from God. At every site, at least some participants disliked their voices and viewed them as an intrusion on their daily mental life.

Many of the symptoms were similar across groups, but the interpretation and consequent emotional tone of these hallucinatory experiences diverged substantially across cultures. Participants in the U.S. were much more likely to use an unadorned clinical diagnostic label —"I am a schizophrenic"—to describe their lives. They tended to report violent imagery associated with their voices more frequently than participants from India or Ghana.

In the other two countries, people were more likely to maintain close relationships with their voices and less apt to describe them as the expression of a mind violated by auditory hallucinations. In Ghana, study participants insisted that voices spoken by an invisible person were controlled by God and that at times evil voices were entirely absent. Rarely did people there describe voices as an intrusion on their everyday mental life. Participants from India often experienced their voices as those of family members. They said the voices conveyed a mix of agreeable and unpleasant utterances but did not have stressful or harsh overtones.

COGNITIVE-BEHAVIORAL THERAPY

If cultural attitudes exert such a profound effect on the experience of symptoms, that insight holds promise for psychotherapies. It raises the possibility that talking to people with schizophrenia and offering them strategies for changing the way they think about their symptoms can reduce the distress those symptoms cause.

An important question is whether altering beliefs around symptoms can improve people's ability to function in society. A growing body of scientific literature suggests such a goal is achievable. A form of cognitive-behavioral therapy (CBT) has been developed specifically to treat psychosis. It focuses on detrimental thinking—intrusive thoughts that crop up such as "Why even try? I always fail."

The aim of CBT is to help people deal with their emotional and behavioral responses to psychological experiences that cause distress. Atypical or disproportionate responses, which are often among the most debilitating of schizophrenia's symptoms, can make it difficult to carry out daily tasks. Patients undergoing CBT are taught to think about their symptoms in a new way. They might tell themselves, "The voices in my head don't have to make me anxious; it is the way I think about them that makes me anxious."

People with schizophrenia commonly believe their voices are all-knowing, all-powerful and uncontrollable. CBT can generate alternative explanations for these auditory hallucinations.

It can begin a process of interrogating and weakening unhelpful beliefs. A clinician might suggest that a voice a client hears could be that of a family member as opposed to a deity or the devil. The doctor might frame this for the patient in a simple question and statement: “Are we certain that the voice you hear is not your father? Many of the statements the voice makes seem to be similar to ones you have attributed to your father in the past.” Such reconsideration of a voice's meaning can lead to a significant decrease in the distress associated with the hallucination.

Other strategies include behavioral tasks to show that voices are not in fact uncontrollable. A therapist might lead a client in an activity—walking outside or listening to music on headphones—to help the person quiet the constant chatter, gain mastery over their symptoms, and disrupt their beliefs about the voices being an inevitable, eternal intrusive presence. The client also might try simply ignoring the stream of commands issued by their inner voices. This can undermine their belief that the commands from hallucinations must be followed or terrible consequences will ensue. When the client discovers that ignoring voices does not produce some feared catastrophe, the realization supports the counterargument that their voices are not all-powerful.

Research provides evidence that this suite of interventions may be effective even for people with the most severe symptoms. In one of the most remarkable demonstrations of the benefits of therapy for psychosis to date, CBT pioneer Aaron Beck, in some of the most influential work he conducted before his death in 2021 at the age of 100, worked with Paul Grant and their colleagues at the University of Pennsylvania to evaluate the impact of a modified approach to CBT that addresses the needs of low-functioning people with schizophrenia. Their study was published in 2012 in *Archives of General Psychiatry*.

The patients they worked with had moderate to high levels of what are labeled negative symptoms of schizophrenia: low motivation, diminished pleasure in life, near absence of spoken language, and reduced emotional expressiveness to the point that they maintained a “wooden” expression during social interactions. Among the most disabling, these symptoms are also the hardest to treat with medication and are disproportionately represented in the most persistently ill patients. People with a high intensity of negative symptoms also typically have the most elevated levels of cognitive distortions and biases. To date, there is no pharmaceutical treatment for negative symptoms.

In the study, participants were randomly assigned to either a control group, in which patients were given standard treatment, including prescribed drugs, or a test group, in which they received CBT in addition to the standard therapy. The CBT was intended to help clients establish long-term goals (seeking independent housing, relationships or a job) as well as intermediate- and short-term goals (calling a friend that day).

Therapy can quiet the train of negative thoughts—beliefs such as “taking even a small risk is foolish because the loss is likely to be a disaster” and “making new friends is not worth the energy it takes.” Participants in the CBT group also took part in exercises, games, role-playing and community outings designed to instill belief in their own abilities. The benefits of this therapy persisted for months after treatment ended. Clients assigned to CBT had meaningful improvements in functioning—better motivation and reduced delusions and hallucinations—compared with patients who received only standard treatment.

From what researchers have learned in recent years, adverse experiences increase the likelihood that someone will develop schizophrenia. In addition, the cultural context in which people experience symptoms may affect their ability to come to terms with those symptoms. All these findings support the argument that key aspects of schizophrenia are rooted in the psychology of stress and trauma and in attitudes and biases that are shaped by the persistent lingering of a patient's mental anguish. Treatments designed to address negative biases and societal discrimination and stigma can improve symptoms and functioning in people with schizophrenia, which further highlights the key role that psychology is starting to play in understanding and treating the disorder.

None of these findings throws into question the changes in brain structure that accompany schizophrenia or the genes currently implicated in the disorder. What they suggest is that if methods of prevention and treatment for schizophrenia are to progress, increased public health focus on mitigation of damaging social experiences, along with therapies focused on psychological beliefs and attitudes, is critical.

Psychological therapies need to be prioritized by both practitioners and federal funding agencies and placed on more equal footing with gene and brain-imaging studies. Psychoactive medications will only take a person with schizophrenia so far in adapting to the personal struggles their condition brings. That is why an interaction with a therapist able to question their ideas and basic beliefs is also essential to make peace with the din of voices in their head.

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