

Tests, testing, and tested - we need to critically evaluate the meaning of tests in psychiatry

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ABSTRACT

This article describes clinical pitfalls in our concepts of what it means for an illness, diagnosis, or evaluation and treatment methods to say that they have been “tested”. This article begins with the problems encountered in newborn testing for Krabbe Disease of the nervous system in New York State over the last few years as an example of a test that did not live up to its promise to help the society. Next, the article gives 3 examples of testing in psychiatry, 1. Psychological testing to make treatment decisions in children with depression, 2. Patient’s and parents who have been told, or believe, that they have Asperger’s disorder, and 3. The conclusions made about the efficacy of cognitive behavioral therapy based on clinical studies. The article’s conclusion sums up these examples as reasons why we need to have a more practical and scientific approach to our understanding and implementation of tests used in our field.

Key words: Asperger’s disorder, cognitive behavioral therapy clinical studies, psychiatry, psychological testing, tests

INTRODUCTION

A recent article entitled, “Perils of Newborn Screening”^[1] led me to think of how we in psychiatry and our patients also have some perilous ideas about screening and testing. The article describes testing initiated in 2006 in New York State for Krabbe disease of the nervous system. Krabbe disease is a rare inherited disorder where lack of the enzyme galactocerebrosidase causes the myelin coating on the nerves to break down. Mental and motor development are affected, and muscle weakness, deafness, and blindness may occur.^[2]

Out of the total one-million babies tested, 24 tested positive and out of 24, 4 developed symptoms. One family refused treatment and subsequently the child died; another child died from complications of the treatment; another’s illness is progressing despite treatment, and one baby who had been treated successfully has recently lost his ability to walk. Parents of babies who test positive, are described to be in a constant state of worry,

some pursue risky tests, and the emotional trauma (not to mention the cost) incurred is likely to outweigh the benefits.

This example illustrates how one kind of test may have pros and cons. The pros and cons of ‘testing’ can also be seen in one’s daily practice of psychiatry. The following are personal experiences of my practice in Tokyo.

CLINICAL EXAMPLES

“My 8-year-old child is depressed, should they have psychological (psych) testing to determine if antidepressants are warranted?”

A woman I have been treating for a few years for major depression told me about her 8-year-old son who is irritable, has been crying more, and has written some notes contemplating suicide. She first brought her son to a large local counseling center where they recommended in-person

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counseling with their staff psychologist, school observations, and psych testing (costing about \$4,500), and told the mother that they could not recommend starting antidepressants until the psych testing was complete. The son could not finish the testing because he was unable to maintain concentration.

The mother eventually decided she couldn't wait anymore and asked me to evaluate the child who clearly looked depressed. I explained that if the psych testing assessed the son having a depression, this affirms the obvious. If the psych testing assessed the son without a depression, we are still left with a depressed-looking child who is writing suicide notes, and with an anti-depressant responsive depression in his mother. Neither family dynamics nor school issues could explain the child's depression.

We agreed that there was no logic for psych testing in terms of, 'to treat' or 'not to treat'; and in tandem to a medical work-up for depression, we initiated 2.5 mg of escitalopram a day with a good response.

Scales and tests for depression may indeed provide some helpful information; however, predictive value, sensitivity, and specificity are still far from perfect,^[3] and the National Institute of Mental Health (NIMH) guidance only mentions medical examination and history of symptoms in the evaluation of depression.^[4]

While no test can fully prove a psychiatric diagnosis, we understood that the medication can be construed to be both a treatment as well as a kind of diagnostic test, i.e., improvement on administration, and relapse on discontinuation would support the diagnosis of a major depression.

In addition, while the son was ill with depression, the other aspects of psych testing, i.e., personality or intellectual testing, would not properly reflect these areas of functioning. It would be like asking a person with pneumonia to run around a track, time them, and then make an interpretation of this person's ability to run (not to mention the cost saving of the psych testing).

The next peril is the way the school authorities may use the results of his psychological testing, which may have a negative impact on the child's education in the future. I opined that the school only needed to know that the son would get help, but did not need to know the diagnostic or treatment details.

“My 4-year-old has been tested and diagnosed with Asperger's Disorder, can you counsel him?”

This has been a more frequent inquiry in recent years. Some parents or adult patients almost seem to be proud to have this diagnosis, thinking that it portends high intelligence, but it may actually be a way to avoid a more uncomfortable

mental illness diagnosis. Most of these parents do not realize that there is no test to prove that someone has Asperger's, (the criteria for Asperger's includes: Marked impairment in social relations, often with stereotyped motor movements, and a vast knowledge of some topic of esoteric or impractical value),^[5] and that the incidence of Asperger's is thought to be extremely low (about three in 10,000)^[6] when compared with other disorders whose symptoms overlap with Asperger's (i.e., attention deficit disorder/attention deficit hyperactivity disorder (ADD/ADHD), which may affect up to 10% of children.^[7]) Few of the patients who come in with a supposed diagnosis of Asperger's actually fulfill the criteria for Asperger's.

On examination, most of these children have symptoms suggesting ADD or ADHD; some have depression or anxiety, and others a shyness or awkwardness that may be normal or may evolve into social anxiety disorder later in life. On rare occasion some do look like high-functioning autistic children, although it seems parsimonious and logical to assume that these children have the far more common diagnosis rather than a rare diagnosis if the symptoms overlap significantly.

The peril here is when the parents or an adult patient does not accept having a diagnosis or treatment other than that for Asperger's. If a child also seems to have a comorbid ADD or ADHD, it needs to be treated first; to ascertain what Asperger's symptoms may be left. Otherwise, it would be like making a diagnosis of asthma in a child with pneumonia (i.e., it is impossible to see if Asperger's is there while the person is clearly impaired with ADD or ADHD).

In addition, once a child gets a diagnosis in their educational record, it tends to have a life of its own as definitive, and neither parents, educators, nor even psychologists or psychiatrists, endeavor to change the record.

“Cognitive behavioral therapy has been tested and proven to be effective for depression; can you give it to me?”

This is another situation where the use of the word 'tested' comes in and is an inquiry that can be a challenge for the psychiatrist to handle when the patient has vegetative symptoms, a strong family history, and a chronic course of depression because these patients usually require antidepressant medication in addition to any therapy.

Cognitive behavioral therapy (CBT) aims at repairing negative thoughts that are thought to cause depression.^[8] Clinically, it is easy to observe; however, that negative cognitions improve when depressed mood improves, be it with antidepressants or the natural cycling course out of depression.^[9] This is analogous to delusions improving, when one is given an antipsychotic, so that negative thoughts are more likely the result of depression

rather than the cause, just like a runny nose and a cough are the result of a cold. If negative thoughts were the cause of depression, then this would be the only Diagnostic and Statistical Manual of Mental Disorders (DSM) Axis I condition where the symptoms are also construed to be the cause.

However, it can often be seen that CBT may help persons with depression function better. Degree of depression is usually evaluated by a rating scale that assesses both neuro-vegetative symptoms as well as misery (i.e., cognitive symptoms such as despair and helplessness). Giving persons hope and support can alleviate some of the misery symptoms decreasing depression scores. Allowing some time to pass where the persons improve by themselves or cycle out of depression can also decrease scores. In either case, the person functions better and their depression scores decrease over time. Even a few points lower on a depression test can result in a call of a “statistically significant difference” compared to a supportive therapy control group, but that does not mean the illness is really treated. For example, I broke my arm by falling on the ice. I had real pain and also misery because I couldn’t do things I normally liked to do. When my orthopedist told me, “I see many fractures like this, you will be fine in a few months,” all my misery disappeared, but the fracture did not change. Patients in misery can respond well to an authority figure which gives them hope.

A more important problem with using the word ‘tested’ is that it is not easy to study psychotherapy as a modality of treatment because the studies cannot be double blinded like a drug study that has a placebo arm—an extremely crucial point. A study on bias in treatment outcome studies concluded that the results of unblinded randomized clinical trials (RCTs) tended to be biased toward beneficial effects if the RCTs’ outcomes were subjective (as they are in psychotherapy studies) contrary to being objective.^[10]

Patients and even professionals assume that the words “randomized and controlled” mean that the studies looking at a therapeutic modality are fully evidence based, even if they are not double blind. They may be single blinded, i.e., the rater may not know the treatment the patient received, but the patient themselves cannot be blinded to the type of therapy, thus potentially biasing the results. Depression studies notoriously have large random errors due to the wide variety of subjects many of which have mild forms of low mood, investigator and patient preference and economic incentive, or non perfect rating instruments, etc. Bias can lead to a result very far from the true value.^[11]

A recent meta analysis^[12] examined how effective CBT is when placebo control and blindedness are factored in. Pooled data from published trials of CBT in schizophrenia, major depression, and bipolar disorder that used controls

for non-specific effects of intervention were analyzed. This study concluded that CBT is no better than non-specific control interventions in the treatment of schizophrenia and does not reduce relapse rates, treatment effects are small in treatment studies of major depression, and it is not an effective treatment strategy for prevention of relapse in bipolar disorder.

This does not mean that CBT has no value, it only means that we need to consider CBT as an adjunctive modality to help functional impairment and suffering vs. an illness course-changing intervention. It is imperative that our field does not allow studies that are unblinded to be called “evidence based tests.” They need to be in a different category, i.e., “uncontrolled clinical data”, or “clinical impressions” (of CBT practitioners and/or their patients).

CONCLUSION

To the lay-person, the word “test” implies some absolute truth. The value of a test or a diagnosis given by an authority is very hard to evaluate by the average lay-person, and when it comes to testing of a therapeutic intervention, even most mental health professionals do not understand why it is crucial to control bias by double-blinding in a clinical trial of an intervention, whether psychotherapy or drug. The words “controlled” or “randomized” seem to carry more weight than they are worth if there is no placebo or double blind to back them up. We must also not avoid a critical discussion of the economic incentive to do a test or to “prove” the evidence base of a certain therapy.

{Ed.: Dr. Berger is in private practice in Japan and consultant on pharmaceutical clinical trials. Web page is at: www.japanpsychiatrist.com. This article is intended as a personal opinion piece and not a scientific analysis.}

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