

Biopsychosocial models for schizophrenia

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This paper will explore one of the most severe mental disorders, schizophrenia, with the goal of providing an actualized understanding of this disorder, including its etiology, course, epidemiology, diagnostic and treatment. Schizophrenia is characterized by an unadaptive pattern of general thought and emotions, including delusions, auditory hallucinations, paranoia, disorganized thinking and disorganized speech. These symptoms cause a significant impairment in personal and social life.

There are a wide range of symptoms that can be present in individuals diagnosed with schizophrenia, for which some researchers have questioned the validity of the concept of schizophrenia as a single disorder (Baier, 2010). Despite of the fact that the symptoms of schizophrenia continue to be considered as representing a unitary disorder, diagnostic manuals do classify schizophrenia into different subtypes: paranoid, disorganized, catatonic, undifferentiated and residual. Diagnosis is usually made on criteria established by the DSM-IV-TR or ICD-10.

This criteria make use of self-reported experiences and clinical judgments of mental health professionals. The etiology of schizophrenia, while not completely understood, is thought to be complex, as multiple factors seem to contribute to the development and the course of the disorder. While psychology-including abnormal psychology-has experience a significant increase of empirical knowledge in the last few decades, no other area of psychology research has developed as much as psychobiology (Baier, 2010).

The technology available today allows researchers to scan brains-both topographical and functional; hence, “schizophrenic brains” have been

studied in order to seek out for structural or functional differences in contrast to ‘normal brains’. Scientists have found several differences of brain structures in 40 to 50% of cases, as well as in brain chemistry during psychotic states (Kneisl & Trigoboff, 2009). Brain imaging technologies-such as PET and fMRI-showed functional differences in frontal lobes, temporal lobes and the hippocampus.

Reduction in brain volume has also been observed in many cases, usually in the frontal cortex and the temporal lobes (Baier, 2010). Since neuronal circuits are altered, some scientists have proposed that schizophrenia is actually a manifestation of a constellation of neurodevelopmental disorders (Baier, 2010). The neurotransmitter which seems to play the most important role in the development in the manifestation of schizophrenia is dopamine, in the mesolimbic pathway (Baier, 2010).

The dopamine hypothesis proposes that the excessive activation of D2 receptors cause the positive symptoms of schizophrenia (Kneisl & Trigoboff, 2009). The dopamine hypothesis of schizophrenia is supported by data which proves the effectiveness of antipsychotics that block D2 receptors, but also on PET and SPET imaging. Nevertheless, as new medication with a different mechanism of action seem to have similar effects (Baier, 2010), the dopamine hypothesis seems to be reductionist. Glutamate also seems to play a role in schizophrenia, as schizophrenic individuals tend to show a reduced function of the NMDA glutamate receptor.

Reduced function of glutamate is linked to lower performance on tasks that require the frontal lobe and the hippocampus. Genetic data suggests that schizophrenia is highly heritable; apparently genetic vulnerability in <https://assignbuster.com/biopsychosocial-models-for-schizophrenia/>

interaction with certain environmental factors are a common cause of the disorder. Twin studies' results estimate an 80% of heritability of the disorders. Concordance rates between twins are around 50% for monozygotic twins and around 17% for dizygotic twins (Kneisl & Trigoboff, 2009).

On the other hand, molecular genetic studies attempt to identify specific genes which may contribute to the etiology of schizophrenia. Until now, allelic variation of two genes show a stronger correlation with schizophrenia: dysbindin (DTNBP2) and neuregulin (NRG1) (Kneisl & Trigoboff, 2009). Several environmental factors can contribute to the development and course of schizophrenia. Prenatal factors, such as obstetric complications, maternal malnutrition, maternal stressor even been born in winter or spring or are common risk factors for schizophrenia,

though they do not represent factors of high-risk (Baier, 2010). Less-common factors for schizophrenia are increased paternal age and gluten intolerance. Studies with small samples have identified certain psychosocial factors that are likely to be risk factors for schizophrenia: living in urban areas, poor family environment, low socio-economic level, disrupt school behavior, low social competence and immaturity (Kneisl & Trigoboff, 2009).

Schizophrenia affects about 0.7% of world population. It is slightly more common in males (1.4 times) and the usually ages of onset are 20-28 years for men and 26-32 years for women. Different countries have slightly different rates of schizophrenia, which reflect the importance of environmental effects in the development of the disorder (Kneisl & Trigoboff, 2009).

Schizophrenia is a societal concern, as it causes considerable costs. Life expectancy is 15 years lower in schizophrenic individuals, in great part due to the comorbidities of the disorder, such as depression and substance abuse. Three-fourth of schizophrenics have disability with relapses (Baier, 2010).

Most people with schizophrenia have an independent life, though sometimes they make use of community support. There is a high suicide rate in the schizophrenic population, around 4.9%, which shouldn't come as a surprise considering that many schizophrenics also suffer from different forms of clinical depression (Baier, 2010). Modern treatment of schizophrenia corresponds to the bio-psycho-social paradigm. About all schizophrenics receive antipsychotics, many times in combination with psychological and social intervention.

Antipsychotics are efficient at reducing positive symptoms, but fail to do the same with negative symptoms and with cognitive functions. There is evidence that a continued use of antipsychotics prevents relapse, but not longer than 2-3 years.

Antipsychotics are classified into typical and atypical, and little evidence suggests that any of them is better than the other (Kneisl & Trigoboff, 2009). Typical antipsychotics tend to provoke a higher rate of extrapyramidal side effects, while atypical antipsychotics are associated with weight gain, metabolic syndrome and diabetes (Kneisl & Trigoboff, 2009).

Psychosocial intervention for those with schizophrenia includes family therapy, cognitive remediation, cognitive-behavioral therapy, assertive community treatment, skills training, supported employment, token

economic intervention and interventions for weight management or substance abuse. Currently new medication and psychotherapies for treating schizophrenia are being investigated. Minocycline's effects in schizophrenia, a bacteriostatic antibiotic, is currently under study, giving its great penetration into the central nervous system (Kneisl & Trigoboff, 2009).

On the other hand, nidotherapy is being applied by some clinicians; this therapy aims at changing the environment of schizophrenic individuals, in order to improve their capacity to adapt (Kneisl & Trigoboff, 2009).

It is to be seen whether these new treatments will prove effective or not. As it has been shown throughout this paper, schizophrenia is a complex disorder, and it cannot be explained or treated from a reductionist perspective. Hence, most researchers and clinicians adopt a bio-psycho-social perspective, which reflects in theories of schizophrenia as well as in its management.