2021

Schizophrenia

Allison Hopps
Otterbein University, allison.skotis@otterbein.edu

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Allison Hopps, BSN, RN
Otterbein University, Westerville

Introduction

Schizophrenia is a mental disorder that comes with a range of severe cognitive and social deficits. The pathophysiology of schizophrenia is still largely unknown and continues to be widely studied. It is believed that a combination of genes, environmental factors, and psychosocial factors contribute to schizophrenia (World Health Organization, 2021).

- Schizophrenia is one of the top 15 leading causes of disability
- The estimated average potential life lost for individuals with schizophrenia in the U.S. is 28.5 years
- Comorbidities contribute to higher premature mortality rate
- An estimated 4.9% of people with schizophrenia die by suicide (National Institute of Mental Health, 2021)

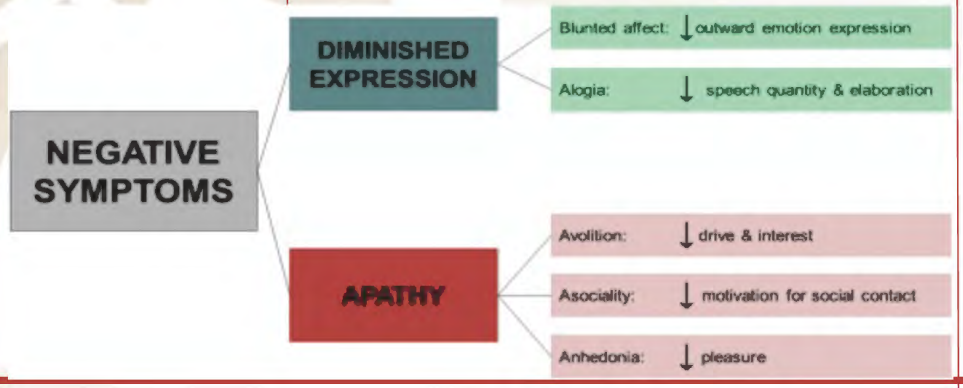
Signs and Symptoms

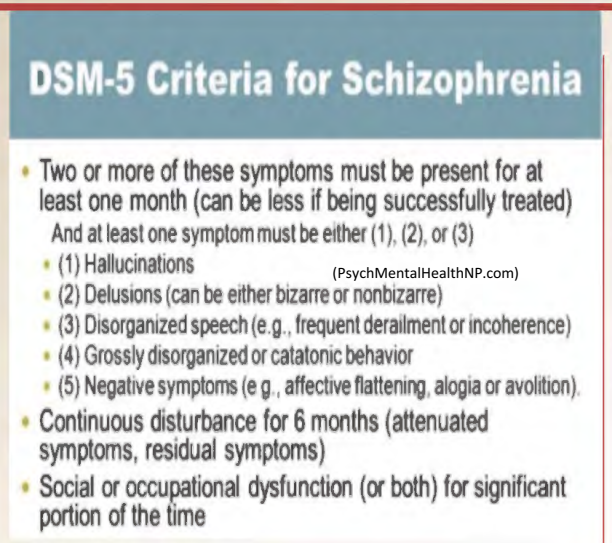
Symptoms of schizophrenia include delusions, hallucinations, and thought disorder, impaired ability to function, psychosis, reduced expression of emotions, reduced motivation to accomplish goals, difficulty in social relationships, motor and cognitive impairment. Research shows that schizophrenia affects men and women equally, but has an earlier onset in males. Symptoms typically start in late adolescence or early adulthood. Cognitive impairment and unusual behaviors sometimes appear in childhood. Schizophrenia is often severely disabling when left untreated.

Negative Symptoms:

- Traditionally grouped into one symptamology domain, but growing evidence shows that symptoms map onto at least two domains : apathy and diminished expression
- Apathy dimension includes asociality, anhedonia, and avolition domains- pertaining to motivation, goal-directed behavior and the experience of pleasant emotions.
- Diminished expression dimension includes blunted affect and alogia, defined as reduction in outward expression and speech

(Begue et al, 2020)





Pathophysiology

It is postulated that the pathophysiology of schizophrenia involves interactions between genetic predisposition and epigenetic mechanisms. These interactions result in altered gene expression, which results in changes in behavior (Dean et al., 2016). The impact of acute psychosocial stress is implicated in the stress-mediated pathway of schizophrenia.

The complete function of dopamine and schizophrenia is not yet understood, but they believe more research would help improve treatment. There is strong support for dopamine dysfunction in schizophrenia through clinical imaging studies that point to dopamine as central in development and expression of psychotic symptoms. Developing a more complete neurobiological framework of dopamine and its disruption in schizophrenia could lead to a better understanding for interpreting clinical findings and developing new treatments (Sonnenschein et al, 2020).

There is evidence that abnormal serotonergic activity is involved in the pathophysiology of schizophrenia. The serotonergic system has a role in cortical development, mood, cognition and impulse control (Dean et al, 2016). Muscarinic receptors are another area being researched. Changes in levels of muscarinic receptors are likely to have an effect on central nervous system activity, and understanding the changes in muscarinic receptor levels in patients with schizophrenia can help us to understand how these changes may cause symptoms (Dean et al, 2016).

The challenge is to increase our understanding of the molecular pathophysiology of schizophrenia which could allow new drugs to be identified and developed so that treatment of a disorder which has been difficult to treat can be advanced.

Treatment

Patient care is best suited with a combination of cognitive-based therapy and medications. Assessments should systematically include behavioral, pharmacological, cognitive and neural mechanisms.

By using new methods of collecting data, such as National Institute of Health Research Domain Criteria, or the European Roadmap for Mental Health Research, diagnosis could be broken down into underlying phenotypes and schizophrenia treatment could be improved (Falkai et al, 2018).

The current method of assessment contains many unexplained variables, and with a better understanding of the underlying methods for treating schizophrenia patients could be improved if they were broken down into both clinical and neurobiological entities. Social-skills training, arts and body-oriented therapies could improve emotional expression and interpersonal functioning (Begue et al, 2020).

Conclusions

It is widely concluded that more research is called for and could contribute to better outcomes with schizophrenia. While much progress has been made to understand behavioral, cognitive and neural mechanisms of schizophrenia, the translation to treatment has not been made and still remains a critical need for patients.

A differentiated view of negative symptom domains on pathophysiological models could improve the integration of biological and psychological treatments, ultimately leading to the development of individualized treatment programs (Begue et al, 2020).

Nursing Implication

Nurses are charged with providing evidence-based practices and always striving to improve the lives of their patients. Treating schizophrenia patients holistically and caring for their mental, neurological and physical health is the best way to treat the needs of the patient.

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