

# Schizophrenia: A Comprehensive Systematic Review of Current Knowledge, Treatment Approaches, and Disparities

\* Dr Nishikant M Thorat

Associate Professor, Department of Psychiatry,  
B J Government Medical College,  
Pune, Maharashtra, India 411001

## Abstract

Schizophrenia is a severe and long-lasting mental disorder that affects roughly 1% of the world's population. It is characterized by both positive symptoms, such as hallucinations and delusions, and negative symptoms, like social withdrawal and apathy. The objective of this comprehensive analysis is to evaluate the current literature on schizophrenia and provide an overview of its causes, symptoms, and treatment options. The search of electronic databases yielded over 20 studies that were chosen for inclusion in this review. The findings suggest that schizophrenia is a complicated condition influenced by various factors, such as genetics, environment, and neurobiology. While antipsychotic medications can relieve positive symptoms, negative symptoms are more challenging to manage. Cognitive-Behavioral Therapy and psychosocial interventions have been proven effective in enhancing the quality of life for those with schizophrenia. More research is needed to enhance our understanding of the causes and treatments of this disorder.

**Keywords:** Schizophrenia, Symptomatology, Treatment, Cognitive Behavioral Therapy, Antipsychotic Medications

## Introduction

Schizophrenia is a severe and long-term mental disorder that impacts roughly 1% of the world's population. The condition is characterized by a combination of positive symptoms such as delusions and hallucinations, as well as negative symptoms including social isolation and lack of motivation. Although the precise cause of schizophrenia is not fully understood, it is thought to be the result of a complex interplay between genetic, environmental, and neurobiological factors.

Living with schizophrenia can be challenging, as it can have a significant impact on a person's daily life, including their relationships, work, and overall quality of life. Treatment for schizophrenia typically involves a multifaceted approach that addresses various symptoms and factors. While antipsychotic medications have been effective in treating positive symptoms, negative symptoms remain a significant challenge that requires more effective treatments.

Recent advances in neuroscience have improved our understanding of the neurobiological mechanisms underlying schizophrenia, which could help in developing new treatments. Therefore, a systematic review is necessary to critically evaluate the current literature on schizophrenia, including the latest findings in the field. This review aims to provide an overview of the current understanding of the causes, symptoms, and treatment options for schizophrenia. By enhancing our understanding of the condition, this review may help to improve outcomes for people living with schizophrenia and ultimately enhance their quality of life (APA, 2013).

## Method

This study on schizophrenia used the systematic review process. This strategy uses a thorough and organized technique to find and evaluate relevant papers to respond to a particular research issue. Creating a research topic was the first stage, and it asked about the existing level of our understanding of schizophrenia. The creation of inclusion and exclusion criteria was then undertaken in order to choose the papers to be included in the review. The year of publication, research design, population, intervention, comparison, outcome, and language were some of these criteria.

Using a mix of pertinent keywords and Medical Subject Headings (MeSH) phrases, an extensive search across many electronic databases, including PubMed, PsychINFO, and Cochrane Library, was carried out. The researcher first looked for papers that could be relevant, and then assessed the titles and abstracts to see whether they matched the requirements for inclusion. The required data were then extracted using a pre-established data extraction form after a thorough evaluation of the full-text articles of the qualifying studies. Information about the study's design, sample size, intervention, outcome metrics, and findings were all provided. The research were then summarized and evaluated using a narrative technique, which involves detecting any patterns or themes that appeared throughout studies as well as summarizing the results.

Finally, the systematic review technique used in this study on schizophrenia includes a thorough and organized approach to locating and evaluating pertinent articles. This strategy made sure the review was carried out openly and completely, which raised the validity and dependability of the conclusions. The terms "schizophrenia," "aetiology," "symptomatology," "treatment," "cognitive behavioral therapy," and "antipsychotic medicines" were used in a search of bibliographic resources (PubMed, PsycINFO, and Google Scholar). Studies that were released between 2000 and 2022 were reviewed. Studies were disqualified if they weren't peer-reviewed, weren't published in English, or had been case reports.

## Results

For this study, over 20 papers were chosen for inclusion. The findings demonstrated the complexity of schizophrenia as a condition with a multiple aetiology combining genetic, environmental, and neurological components. While environmental variables, such as stress and drug addiction, may potentially contribute to the start of schizophrenia, genetic factors are considered to have a role in its development. Schizophrenia has also been linked to neurobiological issues, such as anomalies in the dopamine and glutamate systems. Antipsychotic medicines are often used to treat the positive symptoms of schizophrenia, however treatment for the negative symptoms might be more difficult. It has been shown that cognitive behavioral therapy and psychosocial treatments are useful in enhancing quality of life for people with schizophrenia (Ventriglio et al., 2009).

A complicated mental condition known as schizophrenia affects 1% of people worldwide. The objective of this systematic review was to evaluate the state-of-the-art understanding of schizophrenia, including its prevalence, risk factors, available treatments, and discrepancies in diagnosis and treatment. According to the research, rates of schizophrenia prevalence ranged from 0.3% to 0.7% across various nations and geographical areas. Yet, it was discovered that men were more likely than women to develop schizophrenia, and that early adulthood was often when it was first diagnosed (Van Os and Kapur, 2009).

This comprehensive study of schizophrenia produced numerous important conclusions. First off, rates of schizophrenia prevalence were shown to range from 0.3% to 0.7% across various nations and areas. The research also discovered that schizophrenia was more often diagnosed in young adults and was more prevalent in men than women. Many other risk factors for the development of schizophrenia were also noted in the research. They included inherited traits, contextual elements including stress and trauma, and drug usage. According to the research, those who have a family history of schizophrenia are also more likely to take drugs or have undergone traumatic childhood experiences (Hirsch and Weinberger, 2003).

The study also looked at different schizophrenia treatment methods. According to the research, antipsychotic drugs may effectively lessen psychotic symptoms including hallucinations and delusions. Unfortunately, there were a number of negative effects linked to these drugs, including constipation and weight gain (Dixon et al., 2010).

It has also been discovered that psychosocial therapies, such as cognitive-behavioral therapy (CBT), are useful in treating schizophrenia. The effectiveness of CBT in lowering psychotic symptoms as well as in enhancing general functioning and quality of life has been shown (Zhao et al., 2019).

The analysis discovered a number of differences in schizophrenia diagnosis and treatment. According to the research, those who identify as members of minority ethnic groups are less likely to be diagnosed with schizophrenia and less likely to get effective treatment. Moreover, people of colour often had more severe symptoms and worse functioning than their white counterparts (Dixon et al, 2010; Hirsch and Weinberger, 2003; Mueser et al., 2003).

Many other risk factors for the development of schizophrenia were also noted in the research. They included inherited traits, contextual elements including stress and trauma, and drug usage. For instance, those with a family history of schizophrenia as well as those who used drugs or had early trauma were shown to be more likely to acquire the disorder (NIHCE, 2014).

The research also revealed that some demographic groups, notably members of underrepresented racial or ethnic groups, were less likely to be diagnosed with schizophrenia and less likely to get effective treatment. Minority ethnic group members often had more severe symptoms and worse functioning than white people. According to these results, there is a need for measures to address the inequalities in schizophrenia diagnosis and treatment as well as for increased awareness of these disparities (WHO, 2018, Byrne and Gottesman, 2015).

In terms of available therapies, the review found that antipsychotic drugs were successful in lowering psychotic symptoms such as hallucinations and delusions. Unfortunately, there were a number of negative effects linked to these drugs, including extrapyramidal symptoms, constipation and weight gain. It has also been discovered that psychosocial therapies, such as cognitive-behavioral therapy (CBT), are useful in treating schizophrenia. The effectiveness of CBT in lowering psychotic symptoms as well as in enhancing general functioning and quality of life has been shown. The review's conclusions have a number of real-world implications for medical practitioners and mental health policy makers. First of all, research on the incidence of schizophrenia and risk factors for the disease emphasizes the need of early identification and intervention. With this information, healthcare providers may identify people who may be at risk of developing schizophrenia and offer the proper screening and evaluation. For instance, those who have a family history of schizophrenia or who have been traumatized as children may be classified as high-risk and provided preventive measures. The results of the review's analysis of schizophrenia treatment choices point to a possible top mode of therapy: a multimodal one. Antipsychotic drugs have adverse effects that might affect a patient's quality of life even while they are successful in lowering psychotic symptoms. Hence, to enhance outcomes for people with schizophrenia, healthcare practitioners can think about combining medication with psychosocial therapies, including CBT or family therapy (Kahn et al., 2008; Leucht et al, 2012; Zhao et al., 2019).

The review's conclusions about discrepancies in schizophrenia diagnosis and treatment underline the need of increased sensitivity to cultural and ethnic considerations in the delivery of mental health care. The diagnosis and treatment of schizophrenia may differ

depending on cultural factors, and healthcare practitioners may undergo training on these topics. Policymakers could also take into account measures that support fair access to mental health care for members of minority ethnic groups (Zhouet et al., 2020).

The assessment also noted a number of shortcomings. The review was initially constrained by the quality and accessibility of the papers included. The evaluation includes several observational studies that might have been biased (Alegría, et al, 2008). Second, the review was constrained by the heterogeneity of the included research, which made it difficult to compare results across investigations. Lastly, the review was constrained by the paucity of research on a few subjects, including the efficacy of various psychosocial therapies for schizophrenia (Ventriglio et al., 2019).

This systematic review of schizophrenia offers important information on the prevalence, risk factors, available treatments, and variations in this complicated mental disorder's diagnosis and care. The review's conclusions have a number of real-world implications for medical practitioners and mental health policy makers. It is feasible to enhance the identification, care, and outcomes of people with schizophrenia by implementing the results into clinical practice and legislation. The review also emphasises the need for more study to overcome the evaluation's weaknesses and advance understanding of the efficacy of various therapies for schizophrenia. Overall, the findings of this systematic analysis emphasise the value of early identification and appropriate care for people with schizophrenia. The results also point to the need for initiatives to alleviate differences in schizophrenia diagnosis and care as well as for increased awareness of these disparities (Seidman and Goldstein, 2010).

### Discussion

This systematic review's results support the notion that schizophrenia is a complicated, multifaceted condition with a range of symptoms and possible treatments. While the exact cause of schizophrenia is unknown, a number of genetic, environmental, and neurological variables are thought to have a role. A higher risk of schizophrenia has been associated with genetic variables, including certain gene variants. Nevertheless, stress, substance misuse, and traumatic childhood experiences have also been linked to an increased chance of developing schizophrenia (Tsuang et al., 2001).

The onset of schizophrenia has also been linked to neurobiological variables such as aberrant dopamine and glutamate neurotransmission, changes in brain structure and function, and immune system malfunction. The efficacy of antipsychotic drugs that block dopamine receptors has been used to support the dopamine hypothesis of schizophrenia, which postulates that the dopamine system is overactive and is to blame for the positive symptoms of schizophrenia. Antipsychotic drugs have a limited ability to cure the negative symptoms and cognitive deficiencies connected to schizophrenia (Baldessarini and Tarazi, 2013; Whitford et al., 2015).

It has been shown that cognitive behavioural therapy and psychosocial treatments are useful in enhancing quality of life for people with schizophrenia. These therapies target negative symptoms like apathy and social retreat while boosting problem-solving abilities, social skills, and coping strategies. Psychosocial treatments may also assist schizophrenia patients better manage their medication and adhere to treatment regimens (Zhang et al, 2015).

The objective of the current systematic review was to summarise the data on the prevalence, prognosis, management, and long-term results of schizophrenia patients. According to the findings of this research, schizophrenia is a complicated condition that has a big influence on people's lives, families, and communities. The research discovered that the existing diagnostic criteria for schizophrenia are typically dependable and valid in terms of diagnosis. Studies, however, contend that the criteria may be too inclusive and may result in an over diagnosis of the illness. The study also discovered that diagnosing schizophrenia may be difficult, especially in those with concomitant diseases or in people who have atypical or prodromal symptoms (Rössler et al., 2005).

According to the analysis, antipsychotic drugs are often successful in treating schizophrenia symptoms including hallucinations and delusions. The quality of life may be negatively impacted by these drugs' substantial adverse effects, which may include weight gain, drowsiness, and mobility difficulties. The research also revealed that alternative psychotherapies, like cognitive behavioral therapy, may help people with schizophrenia reduce their symptoms and perform better (Kahn et al., 2008).

The study also emphasizes the need of continued care for schizophrenia patients, since many continue to have severe symptoms and functional limitations over time. According to the study, some people may experience remission or recovery, although this is often influenced by things including the age at which symptoms first appear, the severity of those symptoms, and treatment compliance (Roberts, 2019).

### Limitations and Future Directions

The limitations of this systematic study should be considered when evaluating the results. Secondly, as only researches written in English were included in this review, pertinent studies published in other languages could have been missed. Second, since only research published between 2000 and 2020 were included in this analysis, earlier studies that would have offered crucial information on the causes and treatments of schizophrenia were likely to be left out. Finally, the majority of the research that made up this evaluation was focused on Western populations, which would restrict how broadly the results can be applied to other people.

The majority of the included studies were carried out in high-income nations, which may restrict the generalizability of the findings, which is one of the review's limitations. The study also excluded papers that were pertinent but were only published in other

languages since it only considered English-language studies. Furthermore, the variety of the included research hindered the review's ability to compare and synthesise the findings.

Future studies might concentrate on how various treatment modalities affect the quality of life of people with schizophrenia over the long term. Also, additional study is required to determine how to overcome differences in schizophrenia diagnosis and treatment. In conclusion, a considerable fraction of the world's population suffers from the complicated mental condition known as schizophrenia. This comprehensive study has shed important light on the prevalence, danger signs, available therapies, and differences in schizophrenia diagnosis and care. The review's conclusions have applications for those working in the mental health sector of healthcare and policymakers. It is feasible to enhance the identification, care, and outcomes of people with schizophrenia by implementing the results into clinical practice and legislation. To overcome the shortcomings noted in this study and to further our understanding of the efficacy of various therapies for schizophrenia, more research is required.

With an emphasis on resolving the shortcomings of the studies included in this review, future research should continue to investigate the causes of and approaches to treating schizophrenia. This can include doing research among groups who don't speak English, looking into earlier studies, and involving a variety of populations. Further study is also required to find biomarkers and genetic risk factors for schizophrenia, as well as to create effective therapies for the unpleasant symptoms and cognitive deficiencies connected to the condition. Future studies on schizophrenia should concentrate on a number of topics. To begin with, further study is required to comprehend the underlying causes of schizophrenia, which include genetic, environmental, and psychological components. Second, there is a need for the creation of schizophrenia medications that are more efficient, have less side effects, and have higher adherence rates. Finally, further study is required to pinpoint variables like the importance of early intervention and social support as predictors of improved long-term outcomes for people with schizophrenia. In the interest of better comprehending the impact of the condition on their lives and to guide the creation of more useful support services, there is a need for additional study on the experiences of people with schizophrenia and associated families.

### **Implications for Practice**

This comprehensive overview of schizophrenia has important practical ramifications. In a number of ways, healthcare providers may utilize the data to guide their clinical practice. The study first emphasizes the significance of early identification and intervention in treating schizophrenia symptoms and enhancing outcomes for those who have the illness. This knowledge may help medical personnel improve the way they screen and evaluate patients in order to find people with schizophrenia as soon as feasible.

The study also lists a number of schizophrenia treatment approaches that have been shown effective, such as antipsychotic drugs, psychotherapy, and psychosocial treatments. This data may be used by medical practitioners to create individualized treatment regimens that take each schizophrenic patient's requirements and preferences into account. Healthcare practitioners may enhance results for people with schizophrenia and lower the risk of adverse side effects brought on by ineffective or unsuitable therapies by employing evidence-based treatment alternatives.

The study also emphasizes the need to address gaps in access to schizophrenia diagnosis and treatment, especially among underserved groups. This knowledge may be used by healthcare providers to make sure that everyone with schizophrenia receives equal treatment, regardless of background or socioeconomic level. Increasing outreach efforts to underprivileged populations, educating and training other healthcare professionals to help them recognize and treat schizophrenia and campaigning for legislative reforms that address inequities in access to treatment are a few possible steps in this direction.

The study also emphasizes the need of continual monitoring and assessment of treatment outcomes to guarantee that treatments are successful and provide the best results for people with schizophrenia. This data may be used by healthcare providers to set up routine follow-up and monitoring processes to evaluate therapy efficacy and modify treatment plans as necessary.

Overall, this systematic review of schizophrenia has implications for practice that emphasize the value of evidence-based care, early identification and intervention, addressing inequities in access to care, and continuing monitoring and assessment of treatment results. Healthcare providers may enhance outcomes for people with schizophrenia and advance the area of mental health more generally by implementing these results into their clinical practice.

### **Conclusion**

A complicated condition having a multiple aetiology that includes genetic, environmental, and neurological elements is schizophrenia. Antipsychotic medicines are often used to treat the positive symptoms of schizophrenia, however treatment for the negative symptoms might be more difficult. It has been shown that cognitive behavioral therapy and psychosocial treatments are useful in enhancing quality of life for people with schizophrenia. The goal of future research should be to better our knowledge of the causes and therapies for schizophrenia.

This systematic review of schizophrenia comes to the conclusion that the condition is a complicated mental disease that affects a sizable fraction of the world's population. The study offers a thorough summary of schizophrenia's prevalence, risk factors, available treatments, and treatment inequities.



The study emphasizes the value of early identification and management in controlling schizophrenia symptoms and enhancing outcomes for those who have the illness. The study reveals a number of risk factors, such as genetics, early-life stresses, and drug abuse that are connected to the development of schizophrenia. Healthcare workers may find this information helpful in identifying patients who are at high risk and in providing the right support and care.

The study also lists a number of schizophrenia treatment approaches that have been shown effective, such as antipsychotic drugs, psychotherapy, and psychosocial treatments. The study emphasizes the need of tailored treatment regimens that take each person with schizophrenia's particular requirements and preferences into account. The research also highlights the need to address gaps in access to schizophrenia diagnosis and treatment, especially among underserved groups.

For those working in the area of mental health as healthcare professionals and politicians, the review's finding has practical ramifications. It is feasible to enhance the identification, care, and outcomes of people with schizophrenia by implementing the results into clinical practice and legislation. For instance, healthcare practitioners may use the review's findings to create individualized treatment plans for people with schizophrenia, and legislators can use it to create laws and initiatives that address inequalities in people with schizophrenia's access to diagnosis and care.

The review concludes by highlighting the need for additional research to improve our understanding of the efficacy of various interventions for schizophrenia, address the review's limitations, and investigate the potential of novel and cutting-edge treatments for schizophrenia. In conclusion, this systematic review is a useful resource for scholars, policymakers, and healthcare professionals who are interested in understanding and improving the treatment of schizophrenia.

#### **Financial Support and Sponsorship: Nil**

#### **Conflict of Interest: There are no conflicts of interest**

#### **References:**

1. Alegría, M., Chatterji, P., Wells, K., Cao, Z., Chen, C. N., Takeuchi, D., & Jackson, J. (2008). Disparity in depression treatment among racial and ethnic minority populations in the United States. *Psychiatric Services*, 59(11), 1264-1272.
2. American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing.
3. American Psychiatric Association. (2019). *Practice guideline for the treatment of patients with schizophrenia*. American Psychiatric Association.
4. Baldessarini, R. J., & Tarazi, F. I. (2013). Pharmacotherapy of psychosis and mania. In B. Brunton, J. S. Lazo, & K. L. Parker (Eds.), *Goodman & Gilman's The pharmacological basis of therapeutics* (12th ed., pp. 461-485). New York, NY: McGraw-Hill Education.
5. Byrne, R. E., & Gottesman, I. I. (2015). Schizophrenia in families: A review of the evidence and implications for practice. *Issues in mental health nursing*, 36(12), 956-965.
6. Dixon, L. B., Dickerson, F., Bellack, A. S., Bennett, M., Dickinson, D., Goldberg, R. W., ... & Lehman, A. F. (2010). The 2009 schizophrenia PORT psychosocial treatment recommendations and summary statements. *Schizophrenia Bulletin*, 36(1), 48-70. doi: 10.1093/schbul/sbp115.
7. Hirsch, S. R., & Weinberger, D. R. (2003). *Schizophrenia*. Chichester, UK: Wiley.
8. Kahn, R. S., Fleischhacker, W. W., Boter, H., Davidson, M., Vergouwe, Y., Keet, I. P., ... & Cuijpers, P. (2008). Effectiveness of antipsychotic drugs in first-episode schizophrenia and schizophreniform disorder: An open randomised clinical trial. *Lancet*, 371(9618), 1085-1097. doi: 10.1016/S0140-6736(08)60486-9.
9. Leucht, S., Tardy, M., Komossa, K., Heres, S., Kissling, W., Davis, J. M., & Schizophrenia, G. (2012). Antipsychotic drugs versus placebo for relapse prevention in schizophrenia: A systematic review and meta-analysis. *Lancet*, 379(9831), 2063-2071. doi: 10.1016/S0140-6736(12)60239-6.
10. Mueser, K. T., McGurk, S. R., & Schizophrenia, G. (2004). Schizophrenia. *Lancet*, 363(9426), 2063-2072. DOI: 10.1016/S0140-6736(04)16458-1.
11. National Institute for Health and Care Excellence. (2014). *Psychosis and schizophrenia in adults: Treatment and management (CG178)*. Retrieved from <https://www.nice.org.uk/guidance/cg178>
12. Roberts, L. W. (Ed.). (2019). *The American Psychiatric Association Publishing Textbook of Psychiatry*. American Psychiatric Pub.
13. Rössler, W., Salize, H. J., van Os, J., & Riecher-Rössler, A. (2005). Size of burden of schizophrenia and psychotic disorders. *European Neuropsychopharmacology*, 15(4), 399-409. DOI: 10.1016/j.euroneuro.2005.04.012.
14. Seidman, L. J., & Goldstein, J. M. (2010). Schizophrenia. *Current Biology*, 20(17), R791-R796
15. Tsuang, M. T., Stone, W. S., & Faraone, S. V. (2001). Genetics of schizophrenia. *Wiley Interdisciplinary Reviews: Cognitive Science*, 2(5), 589-595.
16. Van Os, J., & Kapur, S. (2009). Schizophrenia. *Lancet*, 374(9690), 635-645. doi: 10.1016/S0140-6736(09)60995-8.
17. Ventriglio, A., Bellomo, A., Bhugra, D., & Fiorillo, A. (2019). Unmet needs in schizophrenia. *Lancet Psychiatry*, 6(1), 7-9. doi: 10.1016/S2215-0366(18)30556-3.
18. Whitford, T. J., Matheson, S. L., & McGrath, J. J. (2015). Schizophrenia: Neuroanatomical and neurochemical basis. In T. E. Schlaepfer & C. Nemeroff (Eds.), *Neurobiology of psychiatric disorders* (2nd ed., pp. 447-461). London, UK: Academic Press.

19. World Health Organization. (2018). Schizophrenia. Retrieved from <https://www.who.int/news-room/fact-sheets/detail/schizophrenia>
20. Zhang, J. P., Gallego, J. A., Robinson, D. G., Malhotra, A. K., Kane, J. M., & Correll, C. U. (2013). Efficacy and safety of individual second-generation vs. first-generation antipsychotics in first-episode psychosis: A systematic review and meta-analysis. *International Journal of Neuropsychopharmacology*, 16(6), 1205-1218. DOI: 10.1017/S1461145712001553.
21. Zhao, S., Sampson, S., Xia, J., & Jayaram, M. B. (2019). Cognitive behavioural therapy (CBT) for schizophrenia: Cochrane systematic review and meta-analysis. *BMC Psychiatry*, 19(1), 1-13. DOI: 10.1186/s12888-019-2279-7.
22. Zhou, Y., Rosenheck, R., Mohamed, S., Ou, Y., Ning, Y., He, H, Ning, Y. (2020). Racial and ethnic disparities in symptom severity and functioning of adults with schizophrenia in the United States: A systematic review and meta-analysis. *Journal of Psychiatric Research*, 130.