



SCHIZOPHRENIA DURING THE COVID-19 PANDEMIC

Dr Arunkumar K

Assistant Professor, Department of Psychiatry Government Nagapattinam Medical College , Tamil Nadu

Dr.N. Naganikka*

Assistant Professor, Department of Psychiatry Government Nagapattinam Medical College , Tamil Nadu*Corresponding Author

ABSTRACT

The coronavirus disease 19 (COVID-19) pandemic is seriously affecting healthcare systems all over the world as well as public mental health; nevertheless, evidence about the COVID-19 pandemic's effects on people with schizophrenia and the emergence of psychotic symptoms is just now starting to emerge. **Recent findings** : Schizophrenia patients exhibit worse COVID-19-related outcomes, including mortality, and are more susceptible to the disease. They exhibit minimal levels of knowledge and worry about the likelihood of infection, but they also displayed significantly stable levels of psychotic symptoms and even an improvement in subjective well-being during the epidemic. In some cases, the onset of psychotic symptoms appears to be related to SARS-CoV-2, extended social isolation, and the propagation of false information. **Summary**: Clinicians should advise and educate their patients on the hazards associated with COVID-19 and the SARS-CoV-2 infection as well as the steps that should be taken to prevent spreading the disease. Maintaining continuity of care is very important, especially for frail patients. Face-to-face visits are sometimes still necessary, despite the fact that telemedicine may be a useful help. Since viral involvement of the central nervous system appears to be relatively uncommon in COVID-19, the idea that viral infection directly contributes to the emergence of psychotic illnesses is currently under discussion.

KEYWORDS :**INTRODUCTION****Background:**

The Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) infection, which is known as COVID-19, first showed up in December 2019. Since then, the outbreak has drawn attention from many nations around the world, prompting the WHO to declare it a pandemic on March 11, 2020, and many governments to focus their public health initiatives on trying to stop the disease's spread. SARS-CoV2, which has been blamed for more than 1.7 million fatalities worldwide, has infected more than 79 million people as of January 2021.

The prevalence and results of COVID-19 appear to be significantly influenced by economic and racial disparities: marginalised populations have the highest rates of morbidity and mortality, and people with severe mental disorders (SMIs) may be disproportionately affected. People with schizophrenia spectrum disorders (SSDs) in particular appear to be at a high risk of infection and unfavourable outcomes because they typically have worse physical health, are more socially and economically disadvantaged, and already have shorter life expectancies and higher excess mortality, primarily from noncommunicable diseases, than the general population.

The association between COVID-19 and mental diseases in general, on the other hand, appears to be ambiguous, as COVID-19 survivors appear to be at higher risk of psychiatric sequelae and psychiatric diagnosis may operate as a separate risk factor for COVID-19. Additionally, the stress brought on by isolation and societal upheaval during a pandemic, especially during lockdown times, may have a negative impact on anxiety and depressive symptoms. From this standpoint, the effect of COVID-19 on the severity and even the incidence of psychotic disorders may be relevant.

Aims:

Although some prior research has addressed how COVID-19 has affected the lives of those suffering from psychotic disorders and has offered recommendations on the subject, these are largely based on literature that was published before the COVID-19 outbreak and were offered as expert opinions during the early stages of the pandemic.

This review aims to present recent evidence on the direct and indirect effects of COVID-19 pandemic and SARS-CoV-2 infection on individuals with schizophrenia and to provide a discussion on how mental health services and professionals might help to address the new needs associated with this specific situation.

COVID-19 INCIDENCE AND RESULTS IN PEOPLE LIVING WITH SCHIZOPHRENIA:

In a study conducted on a large USA database consisting of 61783 950 individuals, of which 15 110 were COVID-19 patients, it was discovered that the incidence of COVID-19 was higher in patients with a recent diagnosis of schizophrenia compared to those without psychiatric diagnoses (adjusted odds ratio 9.89, corrected for medical comorbidities 7.34, $P < 0.001$ in both cases). The same study also discovered a higher hospitalisation rate (27.4 vs. 18.6%, $P < 0.001$) and a higher death rate (8.5 vs. 4.7%, $P < 0.001$) for individuals who had recently received a mental disorder diagnosis.

Schizophrenia and other medical and psychiatric conditions were found to be independently associated with a higher risk of COVID-19 in a nationwide retrospective case-control study conducted in Korea, which included 219 961 people, 7341 of whom were COVID-19 patients (odds ratio range: 1.61–1.72, $P < 0.001$). However, assessments of COVID-19 severity and outcomes did not include psychiatric diseases.

In addition to finding a higher in-hospital mortality in this group (25.6 vs. 21.7%; adjusted odds ratio 1.30, $P = 0.009$), a French study of 50 750 hospitalised patients that focused on COVID-19 outcomes in people with schizophrenia also found an interestingly lower ICU admission rate (23.7 vs. 28.4%; adjusted odds ratio 0.75, $P = 0.006$), significantly replicating the findings of a study on a much smaller sample that was carried out by the same these findings highlight the possibility of more severe SARS-CoV-2 infections in people with schizophrenia as well as the possibility of significant healthcare quality discrepancies, even in the context of COVID-19. However, this result might be influenced by the features of the healthcare system and the care environment: in fact, a study carried out in the UK unexpectedly discovered that patients with just a diagnosis of psychiatric condition were checked for COVID-19 more commonly and were generally less likely to test positive. Individuals with prior "psychotic episodes" made an exception, though, since they tended to be more optimistic than controls.

A study found that despite closely observing the nearby shelter-in-place order and side effect testing released in March 2020, 40 (74%) of the 50 facility occupants in March and April 2020 tested positive for SARS-CoV-2. It is important to keep in mind that subjects with SSD frequently represent the majority of the occupants of long-term care psychiatric rehabilitation centres.

IMPACT OF COVID-19 PANDEMIC ON THE CLINICAL SITUATION OF PEOPLE LIVING WITH SCHIZOPHRENIA:

The COVID-19 outbreak raises important questions about the safety profile of psychiatric drugs since some treatments used to treat COVID-19 may have meaningful drug-drug interactions, and some

psychotropic drugs may have side effects that could be extremely severe in COVID-19 patients. On this subject, a thorough review with significant expert suggestions has been conducted: The main recommendations for using antipsychotic medications are to look out for potential drug interactions and steer clear of harmful associations, carefully assess respiratory function, steer clear of molecules that might cause respiratory depression, especially over time, and carefully monitor cardiac parameters including QTc, the risk for secondary infections, and the risk of thromboembolism.

Long-acting injectable (LAI) antipsychotics should continue to be used as a form of treatment for patients as it has a significant positive impact on relapse prevention, even though in-person visits required for injection administration may pose a risk of transmission due to the close physical proximity required. An intriguing retrospective observational study from Romania reveals a significant decline in the prescriptions for LAI antipsychotics during the pandemic in favour of oral forms. The authors speculate that this may be because in-person visits are becoming less common, are more expensive, and take longer for pharmacies to fill prescriptions. As a result, relapses may become more common in the near future. This is a crucial issue that could cause problems in less developed nations in particular. In reality, according to a study, no corresponding decline in the prescription of LAI was seen in Pittsburgh, USA. The authors do note, however, that there were no particularly active SARS-CoV-2 transmission hubs in their area.

Treatment with clozapine in particular raises concerns because it makes people more susceptible to infections and because it may be challenging to monitor absolute white blood cell counts in accordance with the regulations put in place by different nations to reduce the spread of infectious diseases. An expert consensus looked into the matter and concluded that stable patients should only have neutrophil counts performed every three months; those who exhibit any signs of infection should receive urgent medical attention and have a complete blood count done right away; and those who have a fever or other flu-like symptoms should have their clozapine dosage cut in half. Some authors have argued that this decrease may not be sufficient in patients who are likely experiencing COVID-19 symptoms, and they advise lowering the dose to a third or ceasing it altogether. Other authors have suggested giving Vitamin D supplements to all patients receiving clozapine in order to increase protection against respiratory infections. In a retrospective cohort research involving 6309 patients that was undertaken in the UK, the use of clozapine has also been linked to an elevated incidence of COVID-19.

Some studies have shown that adding mobile-based interventions to evidence-based interventions, like assertive community treatment, has a positive impact on clinical outcomes in people with SMI, including people with schizophrenia. Other studies have shown that digital health interventions intended to improve relapse prevention in people with first episode psychosis are considered feasible and valued by both patients and clinicians. Although some writers believe face-to-face therapies are crucial in the psychiatric care of SSD, particularly for new cases with probable psychosis or for those with technological phobias or delusions, the actual usefulness of such interventions is not yet backed by reliable research.

CONCLUSION AND FUTURE DIRECTIONS

Clinicians should inform and educate their patients about the hazards associated with COVID-19 and the SARS-CoV-2 infection, as well as the precautions that should be taken to avoid or lessen the risk of spreading the disease. Maintaining continuity of care is very important, especially for frail patients. Face-to-face visits are nevertheless sometimes important and must be undertaken with all the necessary care to prevent infection for both patients and clinicians, despite the fact that telemedicine may be a legitimate support. The effects of COVID-19 and the pandemic on people with schizophrenia, the potential risk of psychosis associated with SARS-CoV-2 infection, the safety and potential interactions of antipsychotic pharmaceuticals and COVID-19 treatment options should all be the subject of more thorough research.

REFERENCES:

- Wang C, Horby PW, Hayden FG, Gao GF. A novel coronavirus outbreak of global health concern. *Lancet Lond Engl* 2020; 395:470–473.
- de Girolamo G, Cerveri G, Clerici M, et al. Mental health in the coronavirus disease 2019 emergency: the Italian Response. *JAMA Psychiatry* 2020; 77:974–976.
- World Health Organization. Coronavirus Disease (COVID-19) situation reports. <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports>. [Accessed 1 February 2021].
- Webb Hooper M, Napoles AM, Perez-Stable EJ. COVID-19 and racial/ethnic disparities. *JAMA* 2020; 323:2466–2467.
- Khunti K, Singh AK, Pareek M, Hanif W. Is ethnicity linked to incidence or outcomes of covid-19? *BMJ* 2020; 369:m1548.
- Moreno C, Wykes T, Galderisi S, et al. How mental healthcare should change as a consequence of the COVID-19 pandemic. *Lancet Psychiatry* 2020; 7:813–824.
- Smith K, Bhui K, Cipriani A. COVID-19, mental health and ethnic minorities. *Evid Based Ment Health* 2020; 23:89–90.
- Maguire PA, Looi JC. Vulnerability of people with schizophrenia to COVID-19. *Aust N Z J Psychiatry* 2020; 54:1044.
- Liu NH, Daumit GL, Dua T, et al. Excess mortality in persons with severe mental disorders: a multilevel intervention framework and priorities for clinical practice, policy and research agendas. *World Psychiatry* 2017; 16:30–40.
- Hjorthøj C, Stürup AE, McGrath JJ, Nordentoft M. Years of potential life lost and life expectancy in schizophrenia: a systematic review and meta-analysis. *Lancet Psychiatry* 2017; 4:295–301.
- Taquet M, Luciano S, Geddes JR, Harrison PJ. Bidirectional associations between COVID-19 and psychiatric disorder: retrospective cohort studies of 62 354 COVID-19 cases in the USA. *Lancet Psychiatry* 2020; 8:130–140.
- Rajkumar RP. COVID-19 and mental health: a review of the existing literature. *Asian J Psychiatry* 2020; 52:102066.
- Pfefferbaum B, North CS. Mental health and the Covid-19 pandemic. *N Engl J Med* 2020; 383:510–512.
- Brown E, Gray R, Lo Monaco S, et al. The potential impact of COVID-19 on psychosis: a rapid review of contemporary epidemic and pandemic research. *Schizophr Res* 2020; 222:79–87.
- Kozloff N, Mulsant BH, Stergiopoulos V, Voineskos AN. The COVID-19 global pandemic: implications for people with schizophrenia and related disorders. *Schizophr Bull* 2020; 46:752–757.
- Fonseca L, Diniz E, Mendonça G, et al. Schizophrenia and COVID-19: risks and recommendations. *Braz J Psychiatry* 2020; 42:236–238.
- Wang Q, Xu R, Volkow ND. Increased risk of COVID-19 infection and mortality in people with mental disorders: analysis from electronic health records in the United States. *World Psychiatry* 2020; 20:124–130.
- Ji W, Huh K, Kang M, et al. Effect of underlying comorbidities on the infection and severity of COVID-19 in Korea: a nationwide case-control study. *J Korean Med Sci* 2020; 35:e237.
- Fond G, Pauly V, Leone M, et al. Disparities in intensive care unit admission and mortality among patients with schizophrenia and COVID-19: a national cohort study. *Schizophr Bull* 2020; doi: 10.1093/schbul/sbaa158.
- Fond G, Pauly V, Orleans V, et al. Increased in-hospital mortality from COVID-19 in patients with schizophrenia. *Encephale* 2020; doi: 10.1016/j.en-cep.2020.07.003.
- van der Meer D, Pinzón-Espinosa J, Lin BD, et al. Associations between psychiatric disorders, COVID-19 testing probability and COVID-19 testing results: findings from a population-based study. *BJPsych Open* 2020; 6:e87doi: 10.1192/bjo.2020.75.
- Xiong GL, Atkin A, Moquin K, et al. COVID-19 transmission in a psychiatric long-term care rehabilitation facility: an observational study [Prim Care Companion. *Prim Care Companion CNS Disord* 2020; 22:0–0.
- González-Blanco L, Dal Santo F, García-Álvarez L, et al. COVID-19 lockdown in people with severe mental disorders in Spain: do they have a specific psychological reaction compared with other mental disorders and healthy controls? *Schizophr Res* 2020; 223:192–198.
- Muruganandam P, Neelamegam S, Menon V, et al. COVID-19 and severe mental illness: impact on patients and its relation with their awareness about COVID-19. *Psychiatry Res* 2020; 291:113265.
- Solea B, Verdolinia N, Amoretti S, et al. Effects of the COVID-19 pandemic and lockdown in Spain: comparison between community controls and patients with a psychiatric disorder. Preliminary results from the BRIS-MHC STUDY. *J Affect Disord* 2021; 281:13–23.
- Holzle P, Aly L, Frank W, et al. COVID-19 distresses the depressed while schizophrenic patients are unimpressed: a study on psychiatric inpatients. *Psychiatry Res* 2020; 291:113175.
- Quitkat HL, Düsing R, Holtmann F-J, et al. Perceived impact of Covid-19 across different mental disorders: a study on disorder-specific symptoms, psychosocial stress and behavior. *Front Psychol* 2020; 11:586246.
- Pinkham AE, Ackerman RA, Depp CA, et al. A longitudinal investigation of the effects of the COVID-19 pandemic on the mental health of individuals with preexisting severe mental illnesses. *Psychiatry Res* 2020; 294:113493.
- Glancy D, Reilly L, Cobbe C, et al. Lockdown in a specialised rehabilitation unit: the best of times. *Ir J Psychol Med* 2020; 37:169–171.
- Ma J, Hua T, Zeng K, et al. Influence of social isolation caused by coronavirus disease 2019 (COVID-19) on the psychological characteristics of hospitalized schizophrenia patients: a case-control study. *Transl Psychiatry* 2020; 10:411.
- Liu X, Lin H, Jiang H, et al. Clinical characteristics of hospitalised patients with schizophrenia who were suspected to have coronavirus disease (COVID-19) in Hubei Province, China. *Gen Psychiatry* 2020; 33:e100222.
- Palomar-Ciria N, Blanco del Valle P, Hernández-Las Heras MÁ, Martínez-Gallardo R. Schizophrenia and COVID-19 delirium. *Psychiatry Res* 2020; 290:113137.
- Palomar-Ciria N, Alonso-Alvarez D, Vázquez-Beltrán P, Blanco del Valle P. commentary to 'Schizophrenia and COVID-19 Delirium', an update. *Psychiatry Res* 2020; 294:113555.
- Palomar-Ciria N, Blanco Del Valle P, Hernández-Las Heras MÁ, Martínez-Gallardo R. Schizophrenia and COVID-19 delirium. *Psychiatry Res* 2020; 290:113137doi: 10.1016/j.psychres.2020.113137.
- DeLisi LE. A commentary revisiting the viral hypothesis of schizophrenia: onset of a schizophreniform disorder subsequent to SARS CoV-2 infection. *Psychiatry Res* 2020; 295:113573.
- Smith CM, Komisar JR, Mourad A, Kincaid BR. COVID-19-associated brief psychotic disorder. *BMJ Case Rep* 2020; 13.
- Ferrando SJ, Klepac L, Lynch S, et al. COVID-19 psychosis: a potential new neuropsychiatric condition triggered by novel coronavirus infection and the inflammatory response? *Psychosomatics* 2020; 61:551–555.
- Jaworowski S, Weiser M, Gropp C, Malka M. Three cases of COVID-19-related first onset brief reactive psychosis. *Isr Med Assoc J* 2020; 22:612.
- Haddad PM, Abdulla MA, Latoo J, Iqbal Y. Brief psychotic disorder associated with quarantine and mild COVID-19. *BMJ Case Rep CP* 2020; 13:e240088.
- Correa-Palacio AF, Hernandez-Huerta D, Gómez-Arnau J, et al. Affective psychosis after COVID-19 infection in a previously healthy patient: a case report. *Psychiatry Res* 2020; 290:113115.
- Gillett G, Jordan I. Severe psychiatric disturbance and attempted suicide in a patient with COVID-19 and no psychiatric history. *BMJ Case Rep CP* 2020; 13:e239191.
- Caan MP, Lim CT, Howard M. A case of catatonia in a man with COVID-19. *Psychosomatics* 2020; 61:556–560.
- Escobá-Gascón Á, Marin F-X, Rusiñol J, Gallifa J. Pseudoscientific beliefs and psychopathological risks increase after COVID-19 social quarantine. *Glob Health* 2020;

- 16:72.
44. Shanbour A, Khalid Z, Fana M. Psychosis and infodemic isolation resulting in first inpatient hospitalization during the COVID-19 pandemic: a case series. *Prim Care Companion CNS Disord* 2020;22:0-0.
 45. D'Agostino A, D'Angelo S, Giordano B, et al. Brief psychotic disorder during the national lockdown in Italy: an emerging clinical phenomenon of the COVID-19 pandemic. *Schizophr Bull* 2021;47:15-22.
 46. Ostuzzi G, Papola D, Gastaldon C, et al. Safety of psychotropic medications in people with COVID-19: evidence review and practical recommendations. *BMC Med* 2020; 18:215.
 47. Kopelovich SL, Monroe-DeVita M, Buck BE, et al. Community mental health care delivery during the covid-19 pandemic: practical strategies for improving care for people with serious mental illness. *Community Ment Health J* 2020; 1-11. doi: 10.1007/s10597-020-00662-z.
 48. Ifteni P, Dima L, Teodorescu A. Long-acting injectable antipsychotics treatment during COVID-19 pandemic - a new challenge. *Schizophr Res* 2020;220:265-266.
 49. Gannon JM, Conlogue J, Sherwood R, et al. Long acting injectable antipsychotic medications: ensuring care continuity during the COVID-19 pandemic restrictions. *Schizophr Res* 2020; 222:532-533.
 50. Siskind D, Honer WG, Clark S, et al. Consensus statement on the use of clozapine during the COVID-19 pandemic. *J Psychiatry Neurosci* 2020; 45:200061.
 51. de Leon J, Ruan C-J, Schoretsanitis G, De las Cuevas C. A rational use of clozapine based on adverse drug reactions, pharmacokinetics, and clinical pharmacopsychology. *Psychother Psychosom* 2020; 89:200-214.
 52. Gee S, Gaughran F, MacCabe J, et al. Management of clozapine treatment during the COVID-19 pandemic. *Ther Adv Psychopharmacol* 2020; 10:2045125320928167.
 53. Govind R, Fonseca de Freitas D, Pritchard M, et al. Clozapine treatment and risk of COVID-19 infection: retrospective cohort study. *Br J Psychiatry* 2020; 1-7. doi: 10.1192/bjp.2020.151.
 54. Butler M, Bano F, Calcia M, et al. Clozapine prescribing in COVID-19 positive medical inpatients: a case series. *Ther Adv Psychopharmacol* 2020; 10:2045125320959560.
 55. Grover S, Mishra E, Chakrabarti S, et al. Telephonic monitoring of patients on clozapine in the resource-poor setting during the COVID-19 pandemic. *Schizophr Res* 2020; 222:489-490.
 56. Kahl KG, Correll CU. Management of patients with severe mental illness during the coronavirus disease 2019 pandemic. *JAMA Psychiatry* 2020; 77:977-978.
 57. Ben-Zeev D, Buck B, Meller S, et al. Augmenting evidence-based care with a texting mobile interventionist: a pilot randomized controlled trial. *Psychiatr Serv* 2020; 71:1218-1224.
 58. Lal S, Gleeson J, Rivard L, et al. Adaptation of a digital health innovation to prevent relapse and support recovery in youth receiving services for first-episode psychosis: results from the Horyzons-Canada Phase I Study. *JMIR Form Res* 2020; 4:e19887.
 59. Maguire PA, Looi JC. COVID-19 telehealth challenges for patients with schizophrenia and other psychoses. *Aust N Z J Psychiatry* 2020; 48:67420968887.
 60. Melamed OC, Hahn MK, Agarwal SM, et al. Physical health among people with serious mental illness in the face of COVID-19: concerns and mitigation strategies. *Gen Hosp Psychiatry* 2020; 66:30-33.
 61. Vita A, Barlati S, Deste G, et al. The influence of autistic symptoms on social and nonsocial cognition and on real-life functioning in people with schizophrenia: evidence from the Italian Network for Research on Psychoses multicenter study. *Eur Psychiatry* 2020; 63:e98.
 62. Tariku M, Hajure M. Available evidence and ongoing hypothesis on corona virus (COVID-19) and psychosis: is corona virus and psychosis related? A narrative review. *Psychol Res Behav Manag* 2020; 13:701-704.
 63. Watson CJ, Thomas RH, Solomon T, et al. COVID-19 and psychosis risk: real or delusional concern? *Neurosci Lett* 2021; 741:135491.
 64. Caparros-Gonzalez RA, Ganho-Avila A, de la Torre-Luque A, Torre-Luque A. The COVID-19 pandemic can impact perinatal mental health and the health of the offspring. *Behav Sci (Basel)* 2020; 10:162.
 65. Zimmer A, Youngblood A, Adnane A, et al. Prenatal exposure to viral infection and neuropsychiatric disorders in offspring: a review of the literature and recommendations for the COVID-19 pandemic. *Brain Behav Immun* 2021; 91:756-770.66. Pan te l i s C, Jayaram M, Hannan AJ, et al. Neurological, neuropsychiatric and neurodevelopmental complications of COVID-19. *Aust N Z J Psychiatry* 2020; 48:67420961472.