Efficacy of Antidepressant Drugs for the Treatment of Covid-19

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Abstract

In adult populations (18-65), does the administration of antidepressants, compared to not administering antidepressants, reduce the severity of the Covid-19 infection? Current treatment protocols for Covid-19 virus are still new and needing improvement. Discovering a new pharmacologic approach has been on the forefront of medical research since the beginning of the pandemic. The purpose of this paper is analyzing the efficacy of antidepressant drugs for reducing morbidity and mortality associated with Covid-19 virus. A literature search was conducted using Cinahl, Google Scholar, and UMaine Nursing Reference Center. The search words included *covid*, *covid-19*, *pandemic*, *coronavirus*, *antidepressants*, and *SSRI*. The inclusion criteria were all adults, male and female aged 18-65. The exclusion criteria included all viruses other than Covid-19, patients under 18, and patients over 65. Our search included 10 articles. Studies found that the administration of antidepressants has the potential to decrease the severity of the Covid-19 infection and improve outcomes. Specific antidepressants including fluoxetine and fluvoxamine were shown to decrease mortality in patients with Covid. Other studies suggest venlafaxine, mirtazapine, paroxetine, and escitalopram limited the need for intubation in those with serious covid infections. Promising research has emerged in the past few years suggesting there may be a link between antidepressant use and decreased symptoms of Covid-19. Some even suggest the use of certain antidepressants can decrease the risk of contracting the virus. Because Covid-19 is a relatively new disease, more research is needed to truly determine the applications antidepressants could have on patients who have contracted the virus.

Keywords: anti-depressant, Covid, adult, SSRIs

References

Calusic, M., Marcec, R., Luksa, L., Jurkovic, I., Kovac, N., Mihaljevic, S., & Likic, R., (2021). Safety and efficacy of fluvoxamine in COVID-19 ICU patients: An open label, prospective cohort trial with matched controls. *British Journal of Clinical Pharmacology. 88(5)*: 2065-2073. doi.org/10.1111/bcp.15126

Clelland, C., Ramiah, K., Steinberg, L., & Clelland, J. (2021). Analysis of the impact of antidepressants and other medications on COVID-19 infection risk in a chronic psychiatric in-patient cohort. *The British Journal of Psychology, 8(1)*, E6. doi.org/10.1192/bjo.2021.1053

Foletto, V.S., da Rosa, T.F., Serafin, M.B., & Hörner, R. (2022). Selective serotonin reuptake inhibitor (SSRI) antidepressants reduce COVID-19 infection: Prospects for use. *European Journal of Clinical Pharmacology 78*, 601–1611. doi-org.wv-o-ursus-proxy02.ursus.maine.edu/10.1007/s00228-022-03372-5

Hoertel N. (2021). Do the selective serotonin reuptake inhibitor antidepressants fluoxetine and fluvoxamine reduce mortality among patients with COVID-19? *the Journal of the American Medical Association. 4(11)*:e2136510. doi:10.1001/jamanetworkopen.2021.36510

Hoertel, N., Sánchez-Rico, M., Vernet, R., Beeker, N., Jannot, A., Neuraz, A, Salamanca, E., Paris, N., Daniel, C., Gramfort, A., Lemaitre, G., Bernaux, M., Bellamine, A., Lemogne, C., Airanges, G., Burgun, A., & Limosin, F. (2021). Association between antidepressant use and reduced risk of intubation or death in hospitalized patients with COVID-19: Results from an observational study. *Molecular Psychiatry 26*, 5199–5212. doi.org/10.1038/s41380-021-01021-4

Lenze, E., Mattar, C., Zorumski, CF., Stevens, A., Schweiger, J., Nicol, G., Miller, P., Yang, L., Yingling, M., Avidan, M., & Reiersen, A. (2020). Fluvoxamine vs placebo and clinical deterioration in outpatients with symptomatic COVID-19: A randomized clinical trial. *The Journal of the American Medical Association. 324(22)*:2292–2300. doi:10.1001/jama.2020.22760

Mas, M., García-Vicente, J. A., Estrada-Gelonch, A., Pérez-Mañá, C., Papaseit, E., Torrens, M., & Farré, M. (2022). Antidepressant drugs and COVID-19: A review of basic and clinical evidence. *Journal of Clinical Medicine, 11(14)*, 4038. doi.org/10.3390/jcm11144038

Nakhaee, H., Zangiabadian, M., Bayati, R., Rahmanian, M., Ghaffari, Jolfayi, A., & Rakhshanderou, S. (2022) The effect of antidepressants on the severity of COVID-19 in hospitalized patients: A systematic review and meta-analysis. *The Public Library of Science 17(10)*: e0267423. doi.org/10.1371/journal.pone.0267423

Reis, G., Moreira-Silva, E. A. S., Silva, D. C. M., Neto, A., Savassi, L. C. M., Simplico, M. I. C., Ribeiro, L .B., Oliveira, R., Harari, O., Forrest, J., Ruton, H., Sprague, S., McKay, P., Glushchenko, A.V., Rayner, C., Lenze, E. J., Reiersen, A., Guyatt, G., & Mills, E. J. (2022) Effect of early treatment with fluvoxamine on risk of emergency care and hospitalisation among patients with COVID-19: The TOGETHER randomised, platform clinical trial. *The Lancet Global Health 10*:e42–e51. doi.org/10.1016/S2214-109X(21)00448-4

Seftel D, & Boulware D, (2021). Prospective cohort of fluvoxamine for early treatment of coronavirus disease 19. *Open Forum Infectious Diseases, 8(2)*: ofab050, doi.org/10.1093/ofid/ofab050