

■ Letter to the Editör

The psychiatric symptoms in covid-19 inpatients and 2-month follow-up: an exploration of the relationship with neutrophil-to-lymphocyte ratio (NLR), platelet-to-lymphocyte ratio (PLR), and D-dimer

Covid-19 sebebiyle yatışı olan hastaların psikiyatrik belirtiler açısından 2 aylık takibi ve psikiyatrik belirtilerin nötrofil-lenfosit oranı (NLR), trombosit-lenfosit oranı (PLR) ve D-dimer ile ilişkisinin incelenmesi

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Abstract

The study by Turan et al. [1] explores the relationship between psychiatric symptoms and inflammatory markers in COVID-19 inpatients over a 2-month follow-up period. The research highlights the importance of monitoring psychiatric symptoms such as anxiety, depression, and sleep quality during the COVID-19 process and their correlation with inflammatory parameters. The study found that patients with a history of psychiatric diagnosis had significantly higher platelet (PLT) and platelet-to-lymphocyte ratio (PLR) values. Additionally, hospitalization duration was positively correlated with NLR, PLR, Ferritin, D-Dimer, and CRP values, while negatively correlated with lymphocyte count. The study underscores the need for continuous psychiatric care during and after hospitalization for COVID-19 patients. However, the study has limitations, including a small sample size, lack of a control group, and short follow-up duration. Further research with larger sample sizes and longer follow-up periods is recommended to validate these findings.

Keywords: pandemic; anxiety; depression; sleep quality; COVID-19

Öz

Turan ve ark. [1] tarafından yapılan çalışma, COVID-19 nedeniyle hastanede yatan hastalarda psikiyatrik semptomlar ile inflamatuvar belirteçler arasındaki ilişkiyi 2 aylık bir takip süresi boyunca incelemektedir. Araştırma, COVID-19 sürecinde anksiyete, depresyon ve uyku kalitesi gibi psikiyatrik semptomların izlenmesinin önemini ve bu semptomların inflamatuvar parametrelerle olan ilişkisini vurgulamaktadır. Çalışmada, psikiyatrik tanı öyküsü olan hastalarda trombosit (PLT) ve trombosit-lenfosit oranı (PLR) değerlerinin anlamlı derecede yüksek olduğu bulunmuştur. Ayrıca, hastanede kalış süresi NLR, PLR, Ferritin, D-Dimer ve CRP değerleri ile pozitif, lenfosit sayısı ile negatif korelasyon göstermiştir. Çalışma, COVID-19 hastalarında hastanede yatış sırasında ve sonrasında sürekli psikiyatrik bakımın önemini vurgulamaktadır. Ancak, çalışmanın küçük örneklem büyüklüğü, kontrol grubunun olmaması ve kısa takip süresi gibi sınırlılıkları bulunmaktadır. Bu bulguları doğrulamak için daha geniş örneklemli ve uzun takip süreli çalışmalar önerilmektedir.

Anahtar Kelimeler: Pandemi; anksiyete; depresyon; uyku kalitesi; COVID-19

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Dear Editor,

The study titled "Psychiatric Symptoms in COVID-19 Inpatients and 2-Month Follow-Up: An Exploration of the Relationship with Neutrophil-to-Lymphocyte Ratio (NLR), Platelet-to-Lymphocyte Ratio (PLR), and D-Dimer" by Turan et al., published in your journal (Turk J ClinLab 2024; 4: 579-586) [1], provides a significant contribution by examining the relationship between psychiatric symptoms and inflammatory markers in COVID-19. The study stands out for its prospective design, addressing both the psychiatric profile of hospitalized individuals during the pandemic and its connection with hematological parameters. However, there are certain points that need to be evaluated in light of methodological limitations and controversial findings in the literature.

The study found that platelet (PLT) and PLR values were significantly higher in patients with a history of psychiatric diagnosis [1], which is consistent with previous studies supporting the role of inflammation in psychiatric disorders [2,3]. However, the specific impact of markers such as NLR and PLR in predicting the prognosis of psychiatric symptoms remains unclear. For instance, Kayhan et al. [4] reported that PLR is associated with the severity of major depression, but no significant correlation was found between HADS scores and PLR in this study [1]. This discrepancy may be explained by the heterogeneous nature of inflammatory markers and the multifactorial etiology of psychiatric symptoms.

The positive correlation between the length of hospital stay and NLR, PLR, D-Dimer, and CRP [1] highlights the impact of systemic inflammatory response on the clinical course of COVID-19. Similarly, Chan and Rout [5] suggested that NLR and PLR could serve as prognostic markers in predicting the severity of COVID-19. However, the lack of association between psychiatric symptoms and the length of hospital stay in the study indicates the need to differentiate between the psychiatric and immunological dimensions of pathophysiological mechanisms.

Among the most significant limitations of the study are the small sample size (n=110), the absence of a control group, and the lack of pre-COVID-19 blood parameter values. Additionally, the two-month follow-up period may be insufficient to

assess the potential chronicity of psychiatric symptoms. In terms of recommendations, larger-scale, long-term follow-up studies and investigations into the relationship between inflammatory markers and treatment response would contribute significantly to the literature.

Additional studies cited support the prognostic role of inflammatory markers in different clinical conditions. For example, Vural et al. [6] determined that NLR and Systemic immune-inflammation index have high diagnostic power in multiple sclerosis relapses, emphasizing the role of inflammation in neuropsychiatric processes. Similarly, Duyan et al. [7] reported that MLR and Systemic immune-inflammation index predict mortality in acute aortic dissection. These findings provide an important framework for understanding the systemic effects of inflammatory markers in relation to the psychiatric complications of COVID-19.

In conclusion, this study is valuable for its integrated perspective on the psychiatric and immunological dimensions of COVID-19. However, more comprehensive research is needed to translate these findings into clinical practice.

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Author Contributions

Concept, Supervision, Materials, Data Collection and/or Processing, Analysis and/or Interpretation, Writing – NU

Conflict of interest

No conflict of interest was declared by the authors.

References

1. Turan C, Erdogan Kaya A, Ogur YS, Mercandagı ET, Eker T, Yavas N, Karabay O. Psychiatric symptoms in COVID-19 inpatients and 2-month follow-up: an exploration of the relationship with neutrophil-to-lymphocyte ratio (NLR), platelet-to-lymphocyte ratio (PLR), and D-dimer. Turk J Clin Lab 2024; 4:579-86.
2. Mazza MG, Lucchi S, Tringali AGM, Rossetti A, Botti ER, Clerici M. Neutrophil/lymphocyte ratio and platelet/lymphocyte ratio in mood disorders: A meta-analysis. Prog Neuropsychopharmacol Biol Psychiatry 2018; 84:229-36.



3. Bennett FC, Molofsky AV. The immune system and psychiatric disease: a basic science perspective. *Clin Exp Immunol* 2019; 197:294-307.
4. Kayhan F, Gündüz Ş, Erkoç Ş, Arikian MK, Binbay Z. Relationships of neutrophil-lymphocyte and platelet-lymphocyte ratios with the severity of major depression. *Psychiatry Res* 2017; 247:332-5.
5. Chan AS, Rout A. Use of Neutrophil-to-Lymphocyte and Platelet-to-Lymphocyte Ratios in COVID-19. *J Clin Med Res* 2020; 12:448-53.
6. Vural N, Duyan M, Saridas A, Ertas E, Guven HC. The predictive value of inflammatory biomarkers in the detection of multiple sclerosis attacks. *Emergency Care Journal* 2023; 19:11314.
7. Duyan M, Saridas A, Vural N. Predictors of In-hospital Death in Patients with Stanford Type B Acute Aortic Dissection. *Eurasian Journal of Critical Care* 2022; 4(3):96-100.

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