



# Investigating the Levels of Lymphocytes, White Blood Cells, and Platelets in Middle-Aged Active and Inactive Individuals Infected with COVID-19 Hospitalized at Vali-e-Asr Hospital in Birjand City

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## Editor

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## Reviewers

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## 1. Round 1

### 1.1 Reviewer 1

Date: 21 January 2024

Reviewer:

Expand on the purposive random sampling method used for participant selection. Specifically, describe the criteria or characteristics that guided the selection process to ensure a representative sample of active and inactive individuals.

The manuscript categorizes participants into active and inactive groups based on self-reported physical activity levels. Provide a more detailed description of how physical activity levels were quantified, including the specific questions asked and the threshold for categorizing participants as active or inactive.

Given the significant variation in hematological parameters among individuals, consider normalizing these values relative to baseline measurements for each participant, if available, to account for individual variability.

The use of Mann-Whitney U test is appropriate for non-normally distributed data; however, the paper should also discuss the effect size to understand the practical significance of the findings, in addition to statistical significance.

The study design should consider and statistically control for potential confounders that might affect hematological parameters, such as medication use, severity of COVID-19 infection, and underlying health conditions.

Provide a more detailed justification for the sample size, including power analysis, to ensure that the study is adequately powered to detect differences between active and inactive groups.

Describe the procedures in place to ensure consistency in blood sample collection, handling, and analysis, given the potential for variability in these processes to affect the measured hematological parameters.

Authors revised the manuscript and uploaded the updated document.

## 1.2 Reviewer 2

Date: 22 January 2024

Reviewer:

More thoroughly contextualize the study's findings within the existing literature on COVID-19, physical activity, and immune function. This should include both studies that support and contradict the current findings to provide a balanced view.

Elaborate on the potential biological mechanisms underlying the observed (though non-significant) differences in hematological parameters between active and inactive individuals, drawing on existing theories and studies.

Expand on the practical implications of the study findings for clinical practice, especially in the management of COVID-19 in middle-aged individuals. Discuss how physical activity recommendations could be integrated into treatment and recovery plans.

Outline specific future research directions that could address the limitations of the current study, such as longitudinal studies, the use of objective physical activity measurements, and the inclusion of other immune function markers.

The reliance on self-reported physical activity data is a significant limitation. Discuss how future studies might use more objective measures of physical activity, such as wearable devices, to reduce bias.

Comment on the need for studies with more diverse and larger population samples to improve the generalizability of the findings and to examine if the observed trends hold across different demographics and geographic locations.

Authors revised the manuscript and uploaded the updated document.

## 2. Revised

Editor's decision after revisions: Accepted.

Editor in Chief's decision: Accepted.