

INTRODUCTION

The severity of coronavirus disease-19 (COVID-19) is related to an increase in inflammatory cytokines, including interleukin-6 (IL-6)^{1,2}. This interleukin is found at elevated levels during a SARS-CoV-2 infection and with increasing severity COVID-19 disease, higher levels of this cytokine are found³. The early quantification of IL-6 and other traits associated with the severe state of the disease is extremely important, since they are closely related to the different prognoses observed in COVID-19⁴.

AIM

The objective of this study was to evaluate the level of IL-6 serum in post infection patients and verify the permanence of altered IL6 in people who have already been infected. In addition to associating them with the severity of the disease.

METHOD

The samples of 226 volunteers were analyzed. The research was approved by the ethics committee (Nº 37094020.6.0000.5060). Volunteers were not vaccinated and tested positive for at least 30 days. They were divided into 3 groups: A: symptoms mild, less than 14 days; B: moderate, more than 14 days, which required medical support, but the level of oxygen therapy was low flow; C: Serious/severe, more than 15 days that required hospitalization and non-invasive high-flow oxygenation level or intubation (**figure 1**)⁵. The ELISA sandwich test was used to measure serum IL6 levels. For data analysis the GraphPad Prism 8.0 program was used. Dunn's Multiple Comparison Test was used to establish differences between groups and the Multiple Linear Regression Test was used to relate IL-6 concentration in the hospitalization group with length of stay (P < 0.05 significant).

RESULTS

There were no statistically significant differences between the groups (P>0.9999) **Figure 2**. However, there was a significant correlation between length of hospitalization and permanently altered levels of IL-6 (P<0,0001) **Table 1**.

V VARIABLE	P VALUE	P SUMMARY
IL-6	<0,0001	****
VWF-Ag	<0,0001	****
FVIII	0,0057	**
TNF-alpha	0,3645	ns
HBA1c	0,0054	**
D-Dimer	0,9915	ns

Multiple linear regression test. Significance p<0.05

Table 1: Significance of the model coefficient.

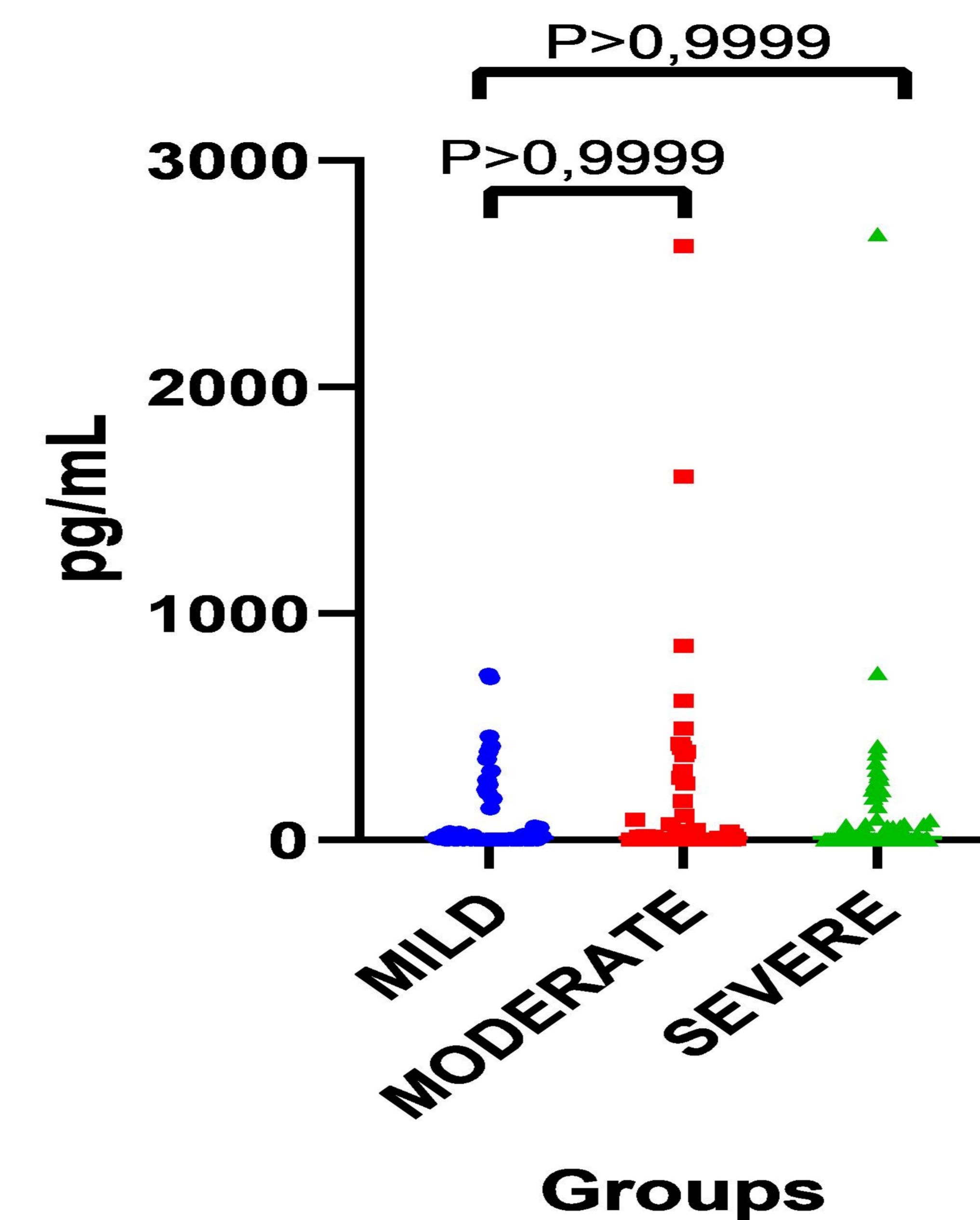


Figure 2: Comparison between interleukin-6 levels in groups A (mild symptoms), B (moderate symptoms) and C (serious/severe symptoms). Dunn's Multiple Comparison Test.

CONCLUSIONS

Serum levels of interleukin-6 did not differ between the studied groups. The relationship between disease severity and IL6 is associated with the acute phase of the infection, however, Inflammatory imbalance was related to length of stay. A joint assessment with other inflammatory markers is important for a better understanding of the long-term consequences of SARS-CoV-2 infection.

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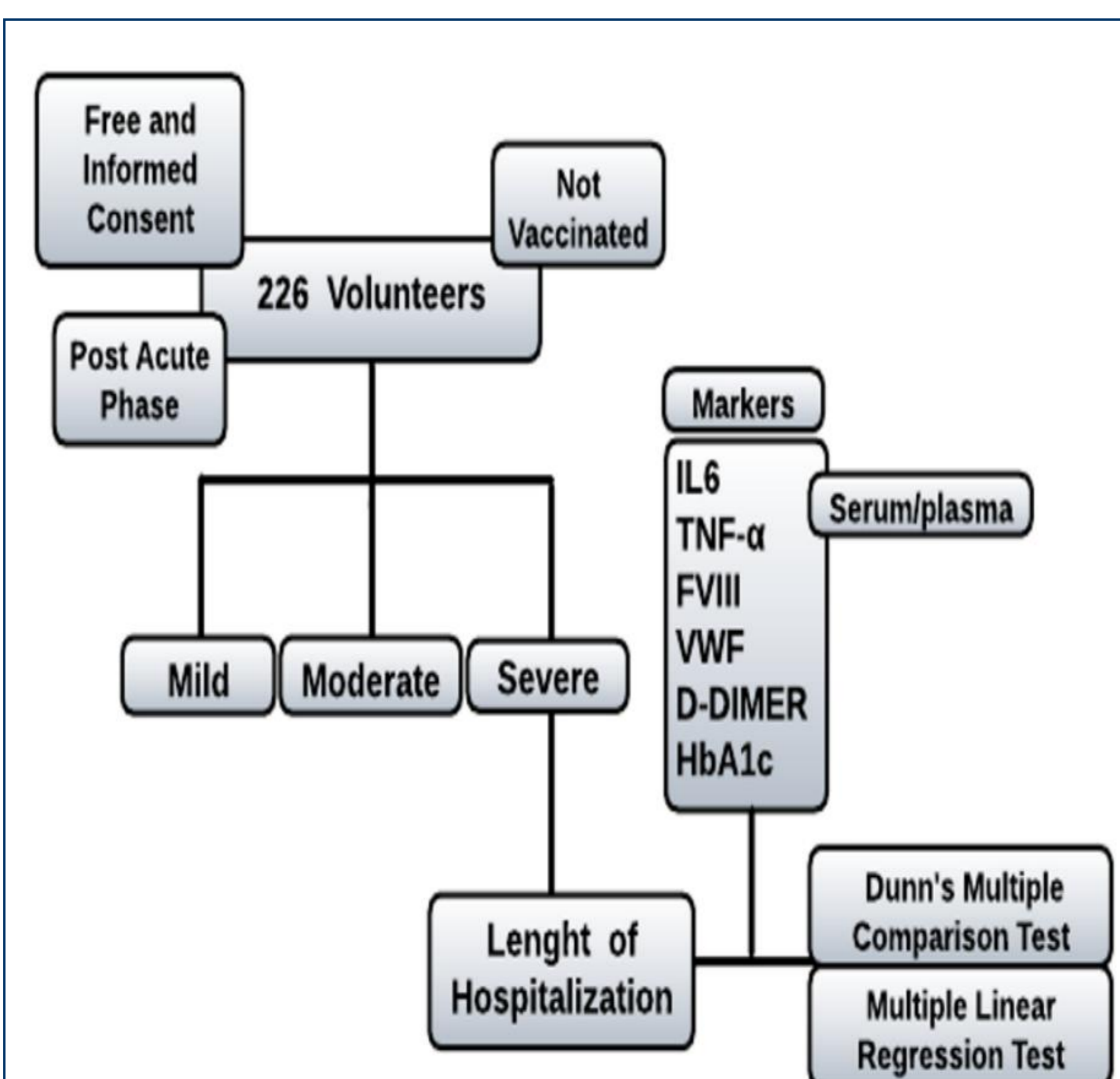


Figure 1: Outline of the research methodology

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