

## CONGRESS ABSTRACT

### POST-COVID ERA AND CARDIOVASCULAR OUTPATIENTS: A MULTIVARIABLE EVALUATION OF BLOOD PRESSURE, HEART RATE, PHYSICAL ACTIVITY AND STRESS

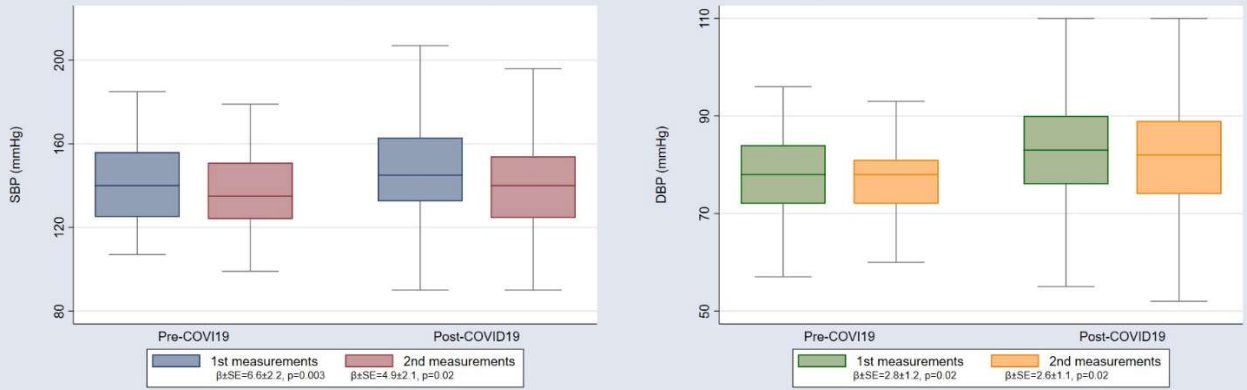
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#### CARDIOLOGIA CLINICA 1

**Background** The COVID-19 pandemic has had long-term effects on cardiovascular health and behavior. In a real-world outpatient setting, we examined how the post-COVID period is associated with changes in blood pressure, physical activity, and stress status. **Methods** We analyzed data from 472 cardiovascular outpatients enrolled between 2018 and 2024. Patients were categorized into pre-COVID (n = 130) and post-COVID (n = 342) groups. Outcomes included resting heart rate (RHR), systolic (SBP) and diastolic (DBP) blood pressure (two timepoints each, 5 minutes apart), physical activity status (yes/no), and stress status (yes/no). We performed t-tests and chi-square tests for univariate comparisons and multivariable linear and logistic regressions adjusted for age, sex, and antihypertensive therapy (beta-blockers, calcium channel blockers, ACE inhibitors). Statistical analysis was performed using Stata 18 (StataCorp, College Station, TX, USA). **Results** The mean age was  $66.7 \pm 15.5$  years, with 44% females. Mean SBP and DBP were  $147.9 \pm 22.4$  mmHg and  $80.8 \pm 11.3$  mmHg, respectively, and mean heart rate was  $72.9 \pm 13.8$  bpm. Compared to the pre-COVID group, post-COVID patients had significantly higher blood pressure (SBP1:  $\beta \pm SE = 6.6 \pm 2.2$  mmHg,  $p = 0.003$ ; SBP2:  $\beta \pm SE = 4.9 \pm 2.1$  mmHg,  $p = 0.02$ ; DBP1:  $\beta \pm SE = 2.8 \pm 1.2$  mmHg,  $p = 0.02$ ; DBP2:  $\beta \pm SE = 2.6 \pm 1.1$  mmHg,  $p = 0.02$ ) in fully adjusted models. Physical activity was less frequent post-COVID (from 68% to 53%,  $p = 0.002$ ), and logistic regression confirmed an independent association (OR =  $0.51 \pm 0.11$ ,  $p = 0.002$ ). Lower physical activity was also independently associated with higher stress perception (OR =  $0.64 \pm 0.13$ ,  $p = 0.03$ ). No significant differences in heart rate between pre- and post-COVID were observed. **Conclusion** In a cardiovascular outpatient cohort, the post-COVID period was independently associated with increased blood pressure and reduced physical activity. Moreover, reduced physical activity was linked to increased stress status. These findings highlight the long-lasting physiological and behavioral impact of the pandemic, and the importance of restoring healthy lifestyle habits in at-risk populations.

Figure 1: SBP and DBP According to COVID Period

$\beta$  coefficients and p-values are from multivariable adjusted linear regression. Cross-sectional associations are presented; causality cannot be inferred.



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