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Authors response to: Comment on "Evaluation of pulmonary function and exercise capacity after COVID-19 pneumonia"

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We thank Dr. Sajid for comments[1] on our recent article 'Evaluation of pulmonary function and exercise capacity after COVID-19 pneumonia'.[2] Our responses are given below:

The study was conducted at a time when COVID-19 cases were common in our country. Patients who were hospitalized with the diagnosis of COVID-19 and who completed at least two months after discharge were included in the study. Healthy individuals were not included due to the possibility of SARS-COV-2 exposure during the application of pulmonary function test and the fact that healthy individuals generally did not volunteer to apply aerosol-forming procedures. The hospital where the study was conducted was the only pandemic hospital in our town. Therefore, all individuals who could be included in the study during the time period in which the study was conducted were included in the study. The necessity of conducting multi-center studies was stated in the limitations section.

The study was carried out with patients in the period when vaccination had not yet started in our country. Based on previous pandemic experiences,[3–5] we conducted a study which we predicted to reveal changes in lung function and exercise capacity. Waiting for the effects of vaccines and then collecting data could have delayed our ability to learn about COVID-19 since we could not predict early on which sequela it would cause. Therefore, we believe that our study made an important contribution to the literature in the first years of the pandemic in terms of evaluation of pulmonary function and exercise capacity after COVID-19 pneumonia. In addition, in the study conducted by Sirayder et al.[6] during the period when vaccines were administered in our country, it was reported that pulmonary functions and functional capacity may deteriorate in the post-COVID-19 period. Future studies to evaluate the long-term consequences of infection after vaccination and by new variants can be planned.Since the patients with a more advanced clinical stage, lung involvement and inpatient treatment in the hospital had ongoing complaints after discharge, the study was planned with this group of patients. However, whether pulmonary function is impaired or whether exercise capacity is deteriorated in milder stage and outpatients can be evaluated in other studies.

The inclusion of individuals who had pulmonary function tests prior to COVID-19 infection could have led contradictions in results. Because conductance of pulmonary function tests before COVID-19 infection would indicate that these individuals may have presented due to a respiratory system disorder or respiratory symptom. Therefore, we included individuals without known lung disease in our study. Since the radiological classification of lung tomography was newly established at the time of the study, radiological findings were not added to the study at the time the study was planned. The inability to evaluate the radiological findings of individuals is also given in the study limitations.

The presence of a lung disease history is one of the exclusion criteria in the study, but it is very difficult to predict the presence of asymptomatic disease. This is because these patients did not have any hospital admissions and associated pulmonary function test results related to respiratory system disease before COVID-19.

Since the center where the study was conducted did not have the necessary equipment for the diffusing capacity for carbon monoxide measurement, it could not be evaluated and this was added to the limitations of the study. Further studies using non-voluntary methods such as transdiaphragmatic pressure and diaphragm ultrasound can be planned in the future.

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