

Prognosis of long COVID in a Danish Post COVID patient cohort – beyond 1 year after infection with ancestral lineage of SARS-CoV-2 and alpha, delta and omicron variants

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Background Long-term symptoms following COVID-19 (long COVID) are well-documented. However, knowledge is limited on how changing SARS-CoV-2 variants may translate into different characteristics and affect prognosis of long COVID. The long-term prognosis of more severely affected long COVID patients, and specifically infection with omicron variants, are still to be explored. We compare the long-term (over 1 year) prognosis of patients infected with ancestral lineage of SARS-CoV-2 and alpha, delta and omicron variants.

Method Patients referred to a Danish Post COVID Clinic between February 2020 and August 2022 due to complex and persistent symptoms were included at evaluation. Patients were referred from a population of 1 million citizens. A self-reported Post COVID Questionnaire (PCQ) with 31 symptoms and standard health scores were handed out at the first clinic visit and 6, 12, 24 and 48 weeks later. Medical history was collected from the patient's medical files.

Results In total, 1,008 patients were referred to the Post COVID Clinic; and 790 (78%) patients accepted participation in the study. Patients were included at a median of 9, 7, 4 and 4 months after infection in time periods dominated by ancestral lineage, alpha, delta and omicron variants, respectively. Age, sex, and comorbidity did not differ between variant periods. Hospitalization during the acute phase was less frequent in the delta and omicron periods compared with the ancestral lineage period. Self-reported symptoms and standardized health scores did not vary when comparing variant periods at the clinical visit or at follow-up. Preliminary follow-up data showed improvement of long COVID (assessed as a reduction of PCQ score of more than 4 and ameliorations in standard health scores) in 37 % (162/441) at 24 weeks, and 34 % (113/334) at 48 weeks after clinical evaluation; which was median 1 and 1½ year after infection.

Conclusion Two thirds of long COVID patients may not have long-term improvement of symptoms. Characteristics, severity and prognosis of symptoms in patients referred to a Post COVID Clinic in Denmark did not differ between variant periods. Investigating long COVID across pandemic waves is important for estimating healthcare needs and target research initiatives.

Figure 1 Date of onset of symptoms during the acute phase of COVID-19 (y-axis) - in patients evaluated in a Post COVID Clinic during 2021-2022 (x-axis)

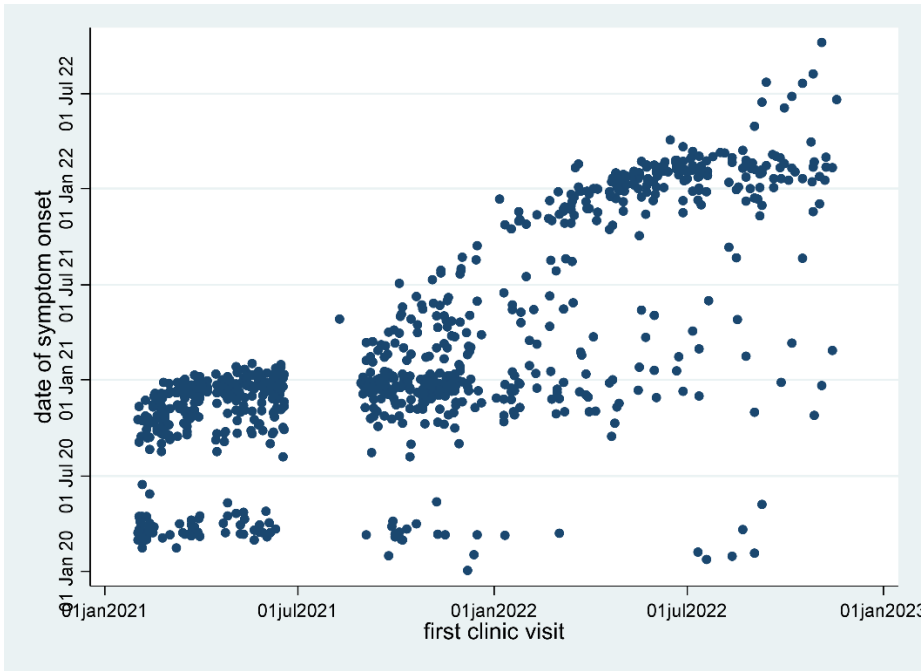
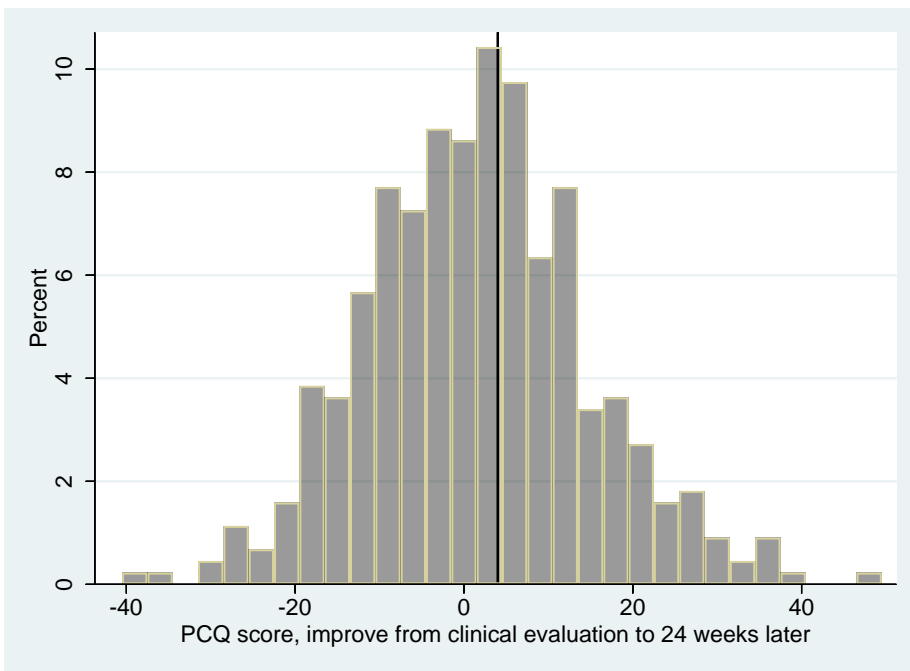


Figure 2 Improvement of symptoms from baseline/clinical evaluation to 24 weeks follow-up



Vertical line indicates minimal clinical important improvement (i.e. PCQ difference from clinical evaluation to 24 weeks later >4)

Figure 3 Mean Post COVID Questionnaire symptom (PCQ) score in long COVID patients infected in ancestral, alpha, delta and omicron variant dominated time periods, at baseline/clinical evaluation, 6, 12, 24 and 48 weeks later

