Persistent symptoms up to four months after community and hospital-managed SARS-CoV-2 infection

David R Darley1,2,11, Gregory J Dore1,3, Lucette Cysique4,5, Kay A Wilhelm1,6,10, David Andresen1,6,7, Katrina Tonga1,2,7, Emily Stone1,2, Anthony Byrne1,2, Marshall Plit1,2, Jeffrey Masters4, Helen Tang4, Bruce Brew1,4, Philip Cunningham4, Anthony Kelleher1,3, Gail V Matthews1,3

The spectrum of recovery for people infected with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) remains uncertain.14 The ADAPT study is a prospective cohort study that follows up all adults diagnosed with coronavirus disease 2019 (COVID-19) at St Vincent’s Hospital, Sydney. Our goal is to characterise the effects of infection during the 12 months after diagnosis, by initial severity of COVID-19. Our specific aims were to determine the prevalence and nature of persistent symptoms; to evaluate lung function, health-related quality of life, neurocognitive and olfactory abnormalities during the recovery period; and to characterise the longitudinal immune response to infection.

In this article, we report the results of assessments performed up to four months after diagnosis. All adults with SARS-CoV-2 infections confirmed by polymerase chain reaction (PCR) at St Vincent’s Hospital testing clinics and who could be contacted were invited to participate. Participants were prospectively assessed according to a pre-defined schedule. The study was approved by the St Vincent’s Hospital Human Research Ethics Committee (reference, 2020/ETH00964); baseline visits commenced as soon as this approval was obtained.

Between 14 May and 21 July 2020, 78 of 167 eligible patients were enrolled (47%), with diagnosis dates between 11 March and 21 April 2020. Sixty-nine patients had been managed in the community (30 mild, 39 moderate cases; Supporting Information, figure 1, table 1) and nine in hospital (two admitted to intensive care with acute respiratory distress syndrome). Their mean age was 47 years (standard deviation, 16 years); 27 were women, 65 had European ethnic backgrounds, and 39 had infections acquired overseas (Supporting Information, table 2). The most frequently reported comorbid conditions were hypertension (14 patients) and asthma (nine); 37 patients had no comorbidity. The most frequently reported initial COVID-19 symptoms were fatigue (18 patients), including four with severe anosmia. The Depression in the Medically Ill questionnaire (DMI-10) was administered to 76 patients; 16 (21%) reported symptoms consistent with depression.

Considerable numbers of patients had persistent symptoms two months after SARS-CoV-2 infections, including fatigue, chest pain, and breathlessness. Although more frequent following severe illness, persistent symptoms were reported by 24 of 69 community-managed patients (35%) several months after infection.

1 Symptoms of 78 patients at time of first diagnosis with SARS-CoV-2 infections and at first follow-up (median, 69 days; IQR, 64–83 days)

| Symptoms                    | Acute COVID-19 | Post-acute COVID-19 |
|-----------------------------|----------------|---------------------|
| Fatigue                     |                |                     |
| Cough                       |                |                     |
| Shortness of breath         |                |                     |
| Headache                    |                |                     |
| Anosmia                     |                |                     |
| Feverchills                 |                |                     |
| Chest pain                  |                |                     |
| Rhinorrhoea                 |                |                     |
| Muscle aches                |                |                     |
| Ageusia                     |                |                     |
| Sore throat                 |                |                     |
| Nausea/Vomiting             |                |                     |
| Diarrhoea                   |                |                     |

Altered consciousness/confusion

IQR = interquartile range.
The generalisability of the findings of our single-site study may be limited, its sample largely drawn from the highly educated, predominantly white eastern suburbs of Sydney with low rates of chronic comorbidity. Further follow-up will provide data on the longer term trajectory of recovery after COVID-19 and provide insights into the mechanisms of systemic inflammation after SARS-CoV-2 infection and its immunological correlates.

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Supporting Information

Additional Supporting Information is included with the online version of this article.