**Long-term outcomes of COVID-19 infection in children and young people: Risk of bias assessment of the included studies**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | | | | | |
| Author | 1. Did the study address a clearly focused issue? | 2. Was the cohort recruited in an acceptable way? | 3. Was the exposure accurately measured to minimise bias? | 4. Was the outcome accurately measured to minimise bias? | 5. (a) Have the authors identified all important confounding factors? | 5. (b) Have they taken account of the confounding factors in the design and/or analysis? | 6. (a) Was the follow up of subjects complete enough? | 6. (b) Was the follow up of subjects long enough? | 7. What are the results of this study? | 8. How precise are the results? | 9. Do you believe the results? | 10. Can the results be applied to the local population? | 11. Do the results of this study fit with other available evidence? | 12. What are the implications of this study for practice? |
| Boboc et al. (2021) | Yes: assessed the impact of the Covid-19 pandemic on the incidence and severity of new T1DM cases in children in Romania | Yes: all paediatric cases admitted with T1DM | Can't tell | Yes: use of patient records/demographics | Can't tell | Can't tell | Can't tell | Can't tell | The total number of newly diagnosed T1DM cases increased between March-2020 and Feb2021 compared to previous years. | Can’t tell | Yes | No | Can't tell | Further investigations are needed to investigate characteristics of T1DM cases diagnosed during the pandemic |
| Bossley et al. (2022) | Yes: aimed to explore whether children who had had acute COVID-19 may have post-acute COVID-19 symptoms | Yes: all patients with COVID-19 positivity admitted between March2020 and Jan 2021 | Yes: all eligible patients in time period | Yes: assessment was with standardised clinical proforma over telephone | Can't tell | Can't tell | Yes: used standardised clinical proforma | Yes: follow up was between 3 and12 months after admission | Most patients made a full recovery. 15% had symptoms beyond 4 weeks of discharge | Can't tell | Yes | No | Yes | Some children with covid-19 experience symptoms similar to post-acute covid-19 syndrome in adults |
| Chevinsky et al. (2021) | Yes: assessed type, association and timing of post-covid conditions | Yes: identified in health database | Yes: all eligible patients in database | Yes: data came from medical records | Can't tell | Can't tell | Yes: data included any follow up health visits | Yes: data went to 120 days after covid-19 diagnosis | 7% of adults experienced post-covid conditions 31-120 days after covid hospitalisation, also break down of common symptoms | Can't tell | Yes | No | Yes | Reducing infection risk through community mitigation strategies is critical for protecting children from COVID-19 and preventing poor outcomes. |
| Clavenna et al. (2021) | Yes: children suspected of + tested for Covid-19 (positive and negative) were followed up for 6 months | Yes: all children suspected of SARS-COV-2 infection invited to study | Yes: all eligible patients who agreed to participate | Yes: outcomes came from patient records | Can't tell | Can't tell | Yes: monitored all contact with paediatrician for health issues within observation period | Yes: 6 months | During the follow-up period, no difference in the prevalence of new-onset respiratory, dermatological or neurological symptoms, nor in psychological distress,were observed in children who were positive and negative for SARS-CoV-2 | Can't tell | Yes | No: small sample size | Can't tell | Children with COVID-19 do not seem to be at a greater risk of sequelae than children without |
| Clemente et al. (2021) | Yes: describe experience of a telephonic follow up | Yes: patients admitted for SARS-CoV-2 infection who were still presenting with positive PCR and who could go home and be monitored via telephone follow up | Can't tell | Yes: follow up calls occurred twice a day with a routine survey | Can't tell | Can't tell | Yes: follow up was continued until 2 negative PCR test were achieved | Yes: follow up was continued until 2 negative PCR test were achieved | 7 patients had mild and self-limited symptoms related to covid infection, 2 were rehospitalised | Can't tell | Yes | No | Yes | Telephone calls can be used to follow up with covid-19 patients |
| Denina et al. (2020) | Yes: long term sequalae of COVID-19 | Yes: all children admitted during a specified time period were invited | Yes: all children admitted were included | Can't tell | Can't tell | Can't tell: not applicable to this study | No | Yes: investigations with abnormal findings were repeated until they had resolved | All assessed sequalae of COVID-19 had resolved by 4m. Most resolved sooner. | Not relevant | Yes | Yes | Yes | SARS-CoV-2 has a good prognosis in children, even if they are hospitalised with the initial illness |
| Dolezalova et al. (2021) | Yes: explore clinical picture, severity and prognosis of post-covid syndrome in children - focus on respiratory system | Yes: all patients in targeted centers aged between 2 and 18 with persistent respiratory symptoms | Yes: all eligible patients admitted | Yes: results came from clincial tests and records | Can't tell | Can't tell | Yes: at least two outpatient visits within six months | Yes: six months | Identified four subgroups of respiratory post-covid syndrome in cohort, remission of symptoms occurred within a median of 4 months | Can't tell | Yes | No | Yes | Some children with covid-19 may experience longer term respiratory consequences |
| Erol et al. (2021) | Yes: evaluate the persisting Covid-19-related symptoms of the cases included in our study and to assess their cardiac findings | Yes: patients admitted into paediatric centre | Yes | Yes | Yes: age, weight and body mass were considered | Yes | Yes | Can't tell: Outcomes measured between 1 months and 1 year. | Clinical symptoms of 37.2% of the cases persisted for at least 1 month after Covid-19 recovery. Statistically significant differences were found in systolic blood pressure, left ventricular ejection fraction, relative wall thickness, and tricuspid annular plane systolic excursion. | Yes: comment | Yes: comment | Can't tell | Yes: comment | More extensive and multi-centred studies should be conducted on Covid-19’s cardiac effects and the cases where the infection’s symptoms persist in the long term |
| Esmaeilzadeh et al. (2022) | Yes: determine the risk of developing persistent cough and asthma-like symptoms in children due to Covid-19 | Yes: all living children with covid-19 positive test and admitted with asthma-like symptomsq | Yes:all eligible patients within observation period | Yes: outcomes came from patient records | Can't tell | Can't tell | Yes | Yes: 6 months | Asthma-like prevalence of 41.5% in cohort of hospitalised children; risk factors: family/previous history of asthma or allergic rhinitis | Can't tell | Yes | No | Yes | Better able to identify predictors of developing persistent cough/asthma like symptoms due to covid-19 |
| Fink et al. (2021) | Yes: To prospectively evaluate demographic, anthropometric and health-related quality of life (HRQoL) in paediatric patients with laboratory confirmed coronavirus disease 2019 | Can't tell | No: Asymptomatic patients excluded without rationale | Yes: objective data/ questionnaires | No: asymptomatic patients excluded | No: asymptomatic patients excluded | Yes | Yes | At least 43% had one persistent symptom, with a median duration of 3 months. A number of different symptoms and abnormal investigations were identified along with a lower psychosocial score | Can't tell | Yes | Can't tell | Yes | Many children have ongoing symptoms post covid with a negative impact on psychosocial functioning suggesting follow up is needed |
| Kamdar et al. (2021) | Yes: to describe characteristics and outcomes of COVID-19 disease in children with cancer or hematologic disorders | Yes: all children with covid infection | Can't tell | Yes: use of patient records/demographics | Can't tell | Yes | Can't tell | Can't tell | Patient characteristics, symptoms and other observations of note of children with cancer or hematologic disorders | Can’t tell | Yes | No | Yes | Discussion of findings in relation to hematology-oncology care for children |
| Madhusoodhan et al. (2020) | Yes: characterising acute COVID-19 infection in children with cancer | Yes: children who are attending paediatric oncology clinic for active chemotherapy | Yes: this study included all children who had been tested and found positive | Yes: clinical picture and lab tests | Can't tell: not applicable | Can't tell: not applicable to this study | Can't tell | No information on duration of follow up | Some children had ongoing symptoms of COVID-19 for longer than 28 days / 4 weeks. | No: observation of clinical data | Yes | Yes | Yes | SARS-CoV-2 has a varied clinical presentation in children undergoing chemotherapy. |
| Miller et al. (2022) | Yes | Yes | Yes | Yes | Can't tell | Yes | Yes | Yes | The prevalence of persistent symptoms lasting ≥4 weeks in children during the second and third UK wave of the COVID-19 pandemic was 1.7% overall, and 4.6% among children with a history of SARS-CoV-2 infection. | Yes | Yes | Yes | Yes | . Apart from children with a history of SARS-CoV2 infection, girls, teenagers and children with long-term conditions were more likely to report persistent symptoms. |
| Molteni et al. (2021) | Yes: to report illness duration and symptom prevalences for children with positive and negative Covid-19 tests. And present prevalence and characteristics of long covid in children | Can't tell | Can't tell | Can't tell | Can't tell | Can't tell | Can't tell | Can't tell | A record of the illness duration, symptom prevalence and most common symptoms for children with Covid-19 and those with long covid. | Can’t tell | Yes | Yes | Yes | Record of the prevalence and symptoms of Covid-19 and long covid in young people |
| Osmanov et al. (2021) | Yes: to assess long term outcomes of  children with COVID-19 | Yes: all children admitted with  COVID | Yes: all children admitted to  the hospital with a positive COVID-19 antigen test | Yes: standardised questionnaire about persisting symptoms | Can't tell | Can't tell | Can't tell | Can't tell | 24.7% 128 children had persisting symptoms at follow up prevalence of most symptoms except sleep disturbance & headache declined over time. Most common persisting symptoms were fatigue, insomnia, disturbed smell & headache | Can't tell | Yes | Yes | Yes | Some children have persisting  symptoms of COVID-19 months later but the prevalence declines with time. |
| Petersen et al. (2021) | Yes | Yes | Yes | Yes | Can’t tell | Can’t tell | Yes | Yes | 53.1% of participants reported persistence of at least one symptom after a mean of 125 days after symptom onset | Can’t tell | Yes | No | Yes | Continued monitoring of COVID-19 is needed because people may have symptoms for months |
| Powell et al. (2021) | Yes: describe national epidemiology, risk factors, clinical features and outcomes of SARS-CoV-2 in children | Can't tell - all confirmed cases included but not all contactable by phone/agreed to be interviewed | Yes: all Pillar 1 and 2 confirmed cases | Can't tell? Analysis of test data yes, but little information about the follow up questionnaire/interview etc. | Can't tell | Can't tell | Can't tell | Yes: follow up was over a month later which enabled observation of long covid | Number of cases of Covid didn't differ significantly between classes which went to school and school years which didn't. 2.7% (7/259) had persistent symptoms 1 month later | Can't tell | Yes | Yes | Yes | During low incidence periods for Covid, primary school age children can safely attend school (if appropriate measures are in place) |
| Radtke et al. (2021) | Yes: compared long Covid compatible symptoms in children according to SARS-CoV-2 serology | Yes: details are in separate paper: selection of schools, selection of classes to ensure follow up possible, all children invited | Yes: blood tests to check for antibodies | Can't tell: can't see much about the questionnaire | Can't tell | Can't tell | Yes: follow up looked at symptoms lasting for at least 4 weeks | Yes, 5/6 months | Low prevalence of long Covid symptoms in randomly selected popultation | Can't tell | Yes | Yes: random selection from across local population | Yes | Low prevalence of long covid symptoms within children |
| Roge et al. (2021) | Yes: aimed to identify the long-term consequences of SARS-CoV-2 infection in children and compare the persistent symptom spectrum between COVID-19 and community-acquired infections of other etiologies | Yes: patients who had been treated for covid-19 in outpatient settings/hospitals | Yes: all eligible patients were invited | Yes: patients were interviewed about their symptoms | Can't tell | Can't tell | Yes: asked about physical and mental health, and social and psycho-emotional wellbeing | Yes: follow up occurred 1-6 months after discharge | At time of interview, almost 75% of children reported at least 1 persistent symptom, 53% had 2+ concurrent symptoms. | Can't tell | Yes | No | Yes | Symptom persistence is more apparent with COVID-19 than any other non-SARS-Cov-2 infection |
| Say et al. (2021) | Yes: aimed to describe medium-term clinical outcomes 3-6 months after diagnosis in children with Covid-19 | Yes: included all children who attended clinic and who provided follow up data | Yes: all children who visited the clinic were included | Yes: outcomes came from patient records | Can't tell | Can't tell | Yes | Yes | 12 (8%) children had post-acute covid-19 symptoms, most common symptoms were post-viral cough and fatigue | Can't tell | Yes | No | Yes | Low prevalence of post-acute covid-19 symptoms. Most post-acute covid-19 symptoms were mild in severity |
| Smane et al. (2020) | Yes: This study aimed to rapidly capture data on COVID-19 persistent symptoms after recovery in children in Latvia | Can't tell | Can't tell | Can't tell | No | No | Yes | Yes | That 30% of children with SARS-CoV-2 positive antigen and acute infection have ongoing symptoms 101 days later | Can't tell | Yes | Can't tell | Yes | That some children with acute COVID-19 infection will go on to have symptoms at 3 months |
| Sterky et al. (2021) | Yes: looked at persistent symptoms of Covid-19 in children admitted to hospitals in Stockholm region | Yes: children who tested positive for Covid and who were hospitalised for Covid | Yes: all children admitted were included | Yes: patient records used? | Can't tell | Can't tell | Yes | Yes: at least four months after admission | A small subset (~10%) of the children hospitalised due to Covid reported persistent symptoms more than 4 months after their acute illness | Can't tell | Yes | No: small sample size | Yes | Children can experience long term health issues post Covid-19 - early recognition/support is needed to reduce impact on child |
| Tang et al. (2021) | Yes: analysed outcomes in paediatric patients hospitalised at Wuhan Women & Children's Hospital based on 1 month follow up after discharge | Yes: patients hospitalised with PCR confirmed Covid-19 | Can't tell | Yes: results came from medical records and follow up examinations | Can't tell | Can't tell | Yes: included several different examinations | Yes: follow up occurred approx. 1 month after discharge | Identified variations in the persistence of pneumonia and elevation of CK-MB levels and body temperature in hospital patients with COVID-19 | No: didn't confirm whether the children who had persisting pneumonia were the same ones that had symptoms | Yes | No | Yes | The clinical implications of continued CK‐MB elevation long after discharge require further investigation |
| Zavala et al. (2021) | Yes: aimed to determine the course of illness and ongoing symptoms in children aged 2-16 years with lab confirmed Covid | Yes: random selection from national data | Yes: data pulled randomly from each stratum | Yes: questionnaire completed by parents | Can't tell | Can't tell | Yes: questionnaire asked about demographics, covid-19 symptoms, and household | Yes: questionnaire completed at least 1 month after initial PCR test | Children with symptomatic COVID-19 had a slightly higher prevalence of ongoing symptoms than symptomatic controls | Can't tell | Yes | Yes | Yes | Symptomatic COVID-19 children are more likely to have ongoing symptoms than symptomatic controls. Healthcare resources should be prioritised to support mental health of children |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| JBI Critical Appraisal Checklist for Case Series | | | | | | | | | | |
| Author | 1. Were there clear criteria for inclusion in the case series? | 2. Was the condition measured in a standard, reliable way for all participants included in the case series? | 3. Were valid methods used for identification of the condition for all participants included in the case series? | 4. Did the case series have consecutive inclusion of participants? | 5. Did the case series have complete inclusion of participants? | 6. Was there clear reporting of the demographics of the participants in the study? | 7. Was there clear reporting of clinical information of the participants? | 8. Were the outcomes or follow-up results of cases clearly reported? | 9. Was there clear reporting of the presenting site(s)/clinic(s) demographic information? | 10. Was statistical analysis appropriate? |
| Alshengeti et al. (2021) | Yes | Yes | Yes | Unclear | Unclear | Yes | Yes | Yes | Yes | Unapplicable |
| Barhoom et al. (2021) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | No | Unapplicable |
| Berteloot et al. (2021) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Brackel et al. (2021) | Yes | Yes | Yes | Unclear | No | Yes | Yes | Yes | No | Unapplicable |
| Calitri et al. (2021) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Castelo-Soccio et al. (2021) | Yes | Yes | Yes | Unclear | Unclear | Yes | Yes | Yes | Yes | Unapplicable |
| Conway et al. (2021) | Yes | Yes | Yes | Unclear | Unclear | Yes | Yes | Yes | No | Unapplicable |
| Derespina et al. (2020) | Yes | Yes | Yes | Unclear | Unclear | Yes | Yes | Yes | Yes | Yes |
| Hugle et al. (2021) | Yes | Yes | Yes | Unclear | Unclear | Yes | Yes | No | Yes | Unapplicable |
| LaRovere et al. (2021) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | No | Yes | Yes |
| Lindan et al. (2020) | Yes | Yes | Yes | Unapplicable | Unapplicable | Yes | Yes | Yes | No | Unapplicable |
| Lopez et al. (2021) | Yes | Yes | Unclear | Unclear | Unclear | Yes | Yes | Yes | Yes | Unapplicable |
| Ludvigsson (2020) | No | Yes | No | No | Unclear | No | Unclear | Unclear | No | Unapplicable |
| Malecki et al. (2021) | Yes | Yes | Yes | Unclear | Unclear | Yes | Yes | Unclear | Yes | Unapplicable |
| Matteudi et al. (2021) | Yes | Yes | Yes | Unclear | No | Yes | Yes | Yes | Yes | Unapplicable |
| Morrow et al. (2021) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Unapplicable |
| Reiff et al. (2021) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Unclear | Yes | Yes |
| Slae et al. (2021) | Yes | Yes | Yes | No | Unclear | Yes | Yes | Yes | Yes | Unapplicable |
| Thakur & Rai (2022) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Unapplicable |
| Trieu et al. (2021) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Unclear | Unapplicable |
| Venn et al. (2020) | Yes | Yes | Yes | Yes | Yes | No | Yes | No | No | Unapplicable |
| Welzel et al. (2021) | Yes | Yes | Yes | No | Unclear | Yes | Yes | Yes | Unclear | Unapplicable |
| Zhang et al. (2021) | Yes | Yes | Yes | Unclear | Unclear | Yes | Yes | Yes | No | Yes |
| Zhvania  et al. (2021) | Yes | No | No | Unclear | Unclear | Yes | No | Yes | No | Unapplicable |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| JBI Critical Appraisal Checklist for Cross Sectional Studies | | | | | | | | | |
| Author | 1. Were the criteria for inclusion in the sample clearly defined? | 2. Were the study subjects and the setting described in detail? | 3. Was the exposure measured in a valid and reliable way? | 4. Were objective, standard criteria used for measurement of the condition? | 5. Were confounding factors identified? | 6. Were strategies to deal with confounding factors stated? | 7. Were the outcomes measured in a valid and reliable way? | 8. Was appropriate statistical analysis used? | 9. Overall appraisal |
| Asadi-Pooya et al. (2021) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Include |
| Buonsenso et al. (2021) | Yes | Yes | Yes | Yes | No | No | Yes | Yes | Include |
| Chua et al. (2021) | Yes | Yes | Yes | Yes | No | No | Yes | Yes | Include |
| Denny et al. (2021) | Yes | No | Yes | Yes | Yes | Yes | Unclear | Yes | Include |
| Namazova-Baranova et al. (2020) | Yes | No | Yes | Yes | No | No | Yes | Yes | Include |
| Rusetsky et al. (2021) | Yes | Yes | Yes | Yes | No | Not applicable | Yes | Yes | Include |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| JBI Critical Appraisal Checklist for Case Reports | | | | | | | | | |
| Author | 1. Were patient’s demographic characteristics clearly described? | 2. Was the patient’s history clearly described and presented as a timeline? | 3. Was the current clinical condition of the patient on presentation clearly described? | 4. Were diagnostic tests or methods and the results clearly described? | 5. Was the intervention(s) or treatment procedure(s) clearly described? | 6. Was the post-intervention clinical condition clearly described? | 7. Were adverse events (harms) or unanticipated events identified and described? | 8. Does the case report provide takeaway lessons? | 9. Overall impression |
| Aghaei Moghadam et al. (2021) | Unclear | Yes | Yes | Yes | Yes | Yes | No | Yes | Include |
| Akçay et al. (2021) | Yes | Yes | Yes | Yes | Yes | Yes | No | Yes | Include |
| Bush et al. (2020) | Yes | Yes | Yes | Yes | Yes | Yes | Unapplicable | Yes | Include |
| Cecchini et al. (2022) | Yes | Yes | Yes | Yes | Unapplicable | Yes | Yes | Yes | Include |
| Collins et al. (2022) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Include |
| Das (2021) | Yes | Yes | Yes | Yes | Yes | Yes | Unclear | Yes | Include |
| DeVette et al. (2021) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Include |
| DeVine et al. (2020) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Include |
| Dongre et al. (2021) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Include |
| Erdizci et al. (2021) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Include |
| Ferreira et al. (2022) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Include |
| Gerber et al. (2021) | No | No | Yes | Yes | Yes | Yes | No | Yes | Include |
| Ionescu et al. (2020) | Yes | Yes | Yes | Yes | Yes | No | No | Yes | Include |
| Javed et al. (2021) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Include |
| Kahwagi et al. (2020) | Yes | No | Unclear | Yes | Yes | Yes | No | Yes | Include |
| Khalifa et al. (2020) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Include |
| Khera et al. (2021) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Include |
| Khera et al. (2021) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Include |
| Koh et al. (2021) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Include |
| Kossiva et al. (2021) | Yes | No | Yes | Yes | Yes | Yes | No | Yes | Include |
| Kumar et al. (2021) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Include |
| Landzberg et al. (2021) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Include |
| Leclercq et al. (2020) | Yes | Yes | Yes | Yes | Yes | Yes | Unclear | Yes | Include |
| Manzo et al. (2021) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Include |
| El Mezzeoui et al. (2021) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Include |
| Ng (2020) | Yes | Yes | Yes | Yes | Unapplicable | Yes | Unapplicable | Yes | Include |
| Nielsen-Saines et al. (2021) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Include |
| Ordooei et al. (2021) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Include |
| Pereira et al. (2021) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Include |
| Qiu et al. (2020) | No | Yes | No | Yes | Yes | No | Yes | Yes | Include |
| Scala et al. (2021) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Include |
| Shah & Carter (2020) | No | Unclear | Yes | Yes | Yes | No | Yes | Yes | Include |
| Shree et al. (2021) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Include |
| Sinaei et al. (2021) | Yes | Yes | Yes | Yes | Yes | Yes | No | Yes | Include |
| Thede (2021) | Yes | Yes | Yes | Unclear | Yes | Yes | No | Yes | Include |
| Tomar et al. (2021) | Yes | Yes | Yes | Yes | Yes | Yes | No | Yes | Include |
| Truong et al. (2021) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Include |
| Vu et al. (2021) | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Include |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| CASP Case Control Study Checklist | | | | | | | | | | | | |
| Author | 1. Did the study address a clearly focused issue? | 2. Did the authors use an appropriate method to answer their question? | 3. Were the cases recruited in an acceptable way? | 4. Were the controls selected in an acceptable way? | 5. Was the exposure accurately measured to minimise bias? | 6a) Aside from the experimental intervention, were the groups treated equally? | 6b) Have the authors taken account of the potential confounding factors in the design and/or in their analysis? | 7. How large was the treatment effect? | 8. How precise was the estimate of the treatment effect? | 9. Do you believe the results? | 10. Can the results be applied to the local population? | 11. Do the results of this study fit with other available evidence? |
| Di Sante et al. (2021) | Yes | Yes | can't tell | can't tell | unclear | Yes | no | Not measured for symptoms, only descriptive statistics |  | Yes | Can't tell, small population size (17 recovered, 12 long-covid) | Can't tell at this point |
| Guemes-Villahoz et al. (2021) | Yes | Yes | yes | yes | unclear | yes | yes | No statistically significant differences between groups | Yes | Yes | Can't tell, small population size | Can't tell at this point |