

## Full search strategy

| Database(s): Ovid MEDLINE(R) ALL 1946 to June 02, 2021 |   |
|--|---|
| #  | Searches  |
| 1  | *Coronavirus Infections/  |
| 2  | ("covid-19" or "covid 19" or "sars-cov-2" or "sars cov-2" or "sars cov2" or "SARS coronavirus 2").ti,ab,kf.   |
| 3  | (recover* adj3 ("covid-19" or "covid 19" or "sars-cov-2" or "sars cov-2" or "sars cov2" or "SARS coronavirus 2")).ti,ab.  |
| 4  | or/1-3  |
| 5  | exp Athletes/ or exp Adult/ or exp Young Adult/ or exp Middle Aged/ or exp Adolescent/  |
| 6  | (athlet* or competitive athlet* or elite athlet* or professional* athlet* or adult* or middle age* or adolescent* or ((athlet* or active or healthy or fit) adj3 (population* or community or cohort or competitive or elite or professional* or young))).ti,ab,kf. |
| 7  | (sport* adj3 (player* or m?n or wom?n or person*)).ti,ab,kf.  |
| 8  | (adult* adj3 (young or middel age*)).ti,ab,kf.  |
| 9  | or/5-8  |
| 10   | exp Cardiomyopathies/   |
| 11   | exp Myocarditis/ or exp Pericarditis/ or (myocarditis or pericarditis).ti,ab,kf.  |
| 12   | exp Death, Sudden, Cardiac/ or ((cardi* or heart) adj3 (arrest or death)).ti,ab,kf.   |
| 13   | exp Arrhythmias, Cardiac/ or ((heart* or cardi*) adj2 (arrhythmia* or dysrhythmia*)).ti,ab,kf.  |
| 14   | echocardiography/ or exp Magnetic Resonance Imaging/ or ("cardiac MRI" or cardiac magentic resonance or echocardiogra* or echo-cardiogra*).ti,ab,kf.  |
| 15   | or/10-14  |
| 16   | 4 and 9 and 15  |
| 17   | exp Aged/ or exp Child/ or ("aged" or elderly or child*).ti.  |
| 18   | exp Case Reports/ or exp case study/ or (Case report* or case serie*).pt. or (Case report* or case serie*).ti.  |
| 19   | or/17-18  |
| 20   | 16 not 19   |

| Database(s): Embase Classic+Embase 1947 to 2021 June 02 |  |
|---|--|
| #   | Searches   |
| 1   | exp coronavirinae/   |
| 2   | exp Coronavirus infection/   |
| 3   | ("covid-19" or "covid 19" or "sars-cov-2" or "sars cov-2" or "sars cov2" or "SARS coronavirus 2").ti,ab,kw.  |
| 4   | (recover* adj3 ("covid-19" or "covid 19" or "sars-cov-2" or "sars cov-2" or "sars cov2" or "SARS coronavirus 2")).ti,ab.   |
| 5   | or/1-4   |
| 6   | exp athlete/ or exp young adult/ or exp adult/ or exp adolescent/ or exp middle aged/  |
| 7   | (sport* adj3 (player* or m?n or wom?n or person*)).ti,ab,kw.   |
| 8   | (athlet* or competitive athlet* or elite athlet* or professional* athlet* or adult* or middle age* or adolescent* or ((athlet* or active or healthy or fit) adj3 (population* or community or cohort* or competitive or elite or professional* or young))).ti,ab,kw. |
| 9   | (adult* adj3 (young or middel age*)).ti,ab,kw.   |
| 10  | or/6-9   |
| 11  | 5 and 10   |
| 12  | exp cardiomyopathy/ or exp virus myocarditis/ or exp myocarditis/ or exp sudden cardiac death/ or exp heart arrhythmia/ or exp Pericarditis/   |
| 13  | (pericarditis or myocarditis or ((cardi* or heart) adj3 (death or arrest))).ti,ab,kw.  |
| 14  | ((heart* or cardi*) adj2 (arrhythmia* or dysrhythmia*)).ti,ab,kw.  |
| 15  | exp echocardiography/ or exp cardiovascular magnetic resonance/ or ("cardi* MRI" or cardi* magentic resonance or echocardiogra* or echo-cardiogra*).ti,ab,kw.  |
| 16  | or/12-15   |
| 17  | 11 and 16  |
| 18  | exp aged/ or exp child/ or ("aged" or elderly or child*).ti.   |
| 19  | exp Case Report/ or exp case study/ or (Case report* or case serie*).pt. or (Case report* or case serie*).ti.  |
| 20  | or/18-19   |
| 21  | 17 not 20  |

## Scopus (2021-06-02)

TITLE-ABS-KEY-AUTH ( ( "covid-19" OR "covid 19" OR "sars-cov-2" OR "sars cov-2" OR "sars cov2" OR "SARS coronavirus 2" ) OR ( recover\* W/3 ( "covid-19" OR "covid 19" OR "sars-cov-2" OR "sars cov-2" OR "sars cov2" OR "SARS coronavirus 2" ) ) ) AND TITLE-ABS-KEY-AUTH ( athlete\* OR adult\* OR "young adult\*" OR adolescent\* OR "competitive athlet\*" OR "elite athlet\*" OR "professional\* athlet\*" OR "middle age\*" ) OR TITLE-ABS ( ( athlet\* OR active OR healthy OR fit ) W/3 ( competitive OR professional\* OR elite OR population\* OR community OR cohort ) ) OR TITLE-ABS ( sport\* W/3 ( player\* OR men OR man OR woman OR women OR person ) ) AND TITLE-ABS-KEY-AUTH ( cardiomyopath\* OR myocarditis OR pericarditis OR "sudden cardiac death" OR "heart arrest" OR "cardiac arrest" OR "cardiac arrhythmia\*" OR "cardiac MRI" OR "cardiac magentic resonance" OR echocardiogra\* OR "echo-cardiogra\*" OR ( ( heart\* OR cardiac ) W/2 ( arrhythmia\* OR dysrhythmia\* ) ) ) AND NOT TITLE-ABS-KEY-AUTH ( "aged" OR elderly OR child\* OR "case report\*" OR "case serie\*" )

## Full quality assessment

Table 1. Critical appraisal included cohort studies ('+' = yes, '-' = no, and '=' = not applicable) according to the Joanna Briggs Institute Critical Appraisal tools checklists.

|   | Clark et al. (2021) | Cavigli et al. (2021) | Daniels et al. (2021) | Hendrickson et al. (2021) | Malek et al. (2021) | Moulson et al. (2021) | Rajpal et al. (2020) | Vago et al. (2020) |
|---|---------------------|-----------------------|-----------------------|---------------------------|---------------------|-----------------------|----------------------|--------------------|
| 1 Similar groups                            | +                   | -                     | -                     | -                         | -                   | -                     | -                    | +                  |
| 2 Exposures similar in different groups     | -                   | -                     | -                     | -                         | -                   | -                     | -                    | -                  |
| 3 Exposures validly measured                | +                   | -                     | +                     | +                         | +                   | +                     | +                    | +                  |
| 4 Identification confounding factors        | -                   | -                     | -                     | -                         | -                   | -                     | -                    | -                  |
| 5 Strategies confounding factors            | -                   | -                     | -                     | -                         | -                   | -                     | -                    | -                  |
| 6 Participants free of outcome at the start | -                   | -                     | -                     | -                         | -                   | -                     | -                    | -                  |
| 7 Outcomes validly measured                 | -                   | +                     | +                     | +                         | +                   | +                     | +                    | +                  |
| 8 Follow-up long enough                     | -                   | -                     | +                     | -                         | -                   | +                     | -                    | -                  |
| 9 Follow-up complete or reasons described   | -                   | -                     | -                     | -                         | -                   | +                     | -                    | -                  |
| 10 Strategies incomplete follow-up utilized | -                   | -                     | -                     | -                         | -                   | -                     | -                    | -                  |
| 11 Appropriate statistical analysis         | +                   | +                     | +                     | +                         | +                   | +                     | -                    | +                  |
| <u>Total yes answers:</u>                   | 3                   | 2                     | 4                     | 3                         | 3                   | 5                     | 2                    | 4                  |

Table 2. Critical appraisal included Case control studies ('+' = yes, '-' = no, and '=' = not applicable) according to the Joanna Briggs Institute Critical Appraisal tools checklists.

|   | Gervasi et al. (2020) |
|---|-----------------------|
| 1 Comparable groups                                 | +                     |
| 2 Cases and controls matched                        | +                     |
| 3 Same criteria used for identification             | +                     |
| 4 Exposure measured in a standard, valid way        | +                     |
| 5 Exposure measured in the same way for both groups | +                     |
| 6 Confounding factors                               | -                     |
| 7 Strategies deal with confounding factors          | -                     |
| 8 Outcomes validly measured                         | +                     |
| 9 Exposure period long enough                       | +                     |
| 10 Appropriate statistical analysis                 | +                     |
| <u>Total yes answers:</u>                           | 8                     |

Table 3. Critical appraisal included Cross sectional studies ('+' = yes, '-' = no, and '=' = not applicable) according to the Joanna Briggs Institute Critical Appraisal tools checklists.

|   | Brito et al. (2020) | Martinez et al. (2021) |
|---|---------------------|------------------------|
| 1 Inclusion criteria clearly defined                                  | -                   | -                      |
| 2 Study subjects and setting described in detail                      | -                   | -                      |
| 3 Exposure measured in a standard, valid way                          | +                   | +                      |
| 4 Objective, standard criteria used for measurement of the condition? | -                   | +                      |
| 5 Confounding factors   | -                   | -                      |
| 7 Strategies deal with confounding factors                            | -                   | -                      |
| 7 Outcomes validly measured   | -                   | +                      |
| 8 Appropriate statistical analysis                                    | +                   | -                      |
| <b>Total yes answers:</b>   | <b>2</b>            | <b>3</b>               |

Table 4. Critical appraisal included case series ('+' = yes, '-' = no, and '=' = not applicable) according to the Joanna Briggs Institute Critical Appraisal tools checklists.

|  | Starekova et al. (2021) |
|--|-------------------------|
| 1 Inclusion criteria clearly defined                           | -                       |
| 2 Condition measured in a standard, valid way                  | +                       |
| 3 Valid methods used for identification of the condition       | -                       |
| 4 Consecutive inclusion  | +                       |
| 5 Complete inclusion   | +                       |
| 6 Clear reporting of demographics                              | +                       |
| 7 Clear reporting of clinical information                      | -                       |
| 8 Outcomes clearly reported                                    | +                       |
| 9 Clear reporting of presenting clinic demographic information | -                       |
| 10 Appropriate statistical analysis                            | +                       |
| <b>Total yes answers:</b>                                      | <b>6</b>                |