Supplementary Online Content

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eAppendix. English Version of the 2-Page Study-Specific Questionnaire

This supplementary material has been provided by the authors to give readers additional information about their work.
**eTable 1. Number of Participants With Missing Values per Question Asking for Key Symptoms Associated With Myalgic Encephalomyelitis and/or Chronic Fatigue Syndrome (ME/CFS) According to the DePaul Symptom Questionnaire**

| Symptom                                                                 | Number of participants with missing values | P value a |
|------------------------------------------------------------------------|--------------------------------------------|-----------|
| Fatigue (frequency)                                                    | 8 (1.3)                                    |           |
| Missing activities because he/she is too sick or too tired             | 3 (0.5)                                    |           |
| Poor school attendance                                                 | 10 (1.6)                                   |           |
| Being unable or unwilling to go to school                              | 7 (1.1)                                    |           |
| School learning or memory problems                                     | 11 (1.7)                                   | 0.25      |
| Frequent headaches                                                     | 10 (1.6)                                   |           |
| Sore throat                                                             | 8 (1.3)                                    |           |
| Joint pain                                                             | 6 (0.9)                                    |           |
| Muscle pain                                                            | 9 (1.49)                                   |           |
| Abdominal pain                                                         | 10 (1.6)                                   |           |
| Lymph node pain                                                        | 0 (0)                                      |           |
| Rash                                                                   | 5 (0.8)                                    |           |
| Fever, chills, or shivers                                              | 5 (0.8)                                    |           |
| Eye pain or light sensitivity                                           | 7 (1.19)                                   |           |
| Problems sleeping                                                      | 6 (0.9)                                    |           |
| Impaired memory, or concentration                                      | 4 (0.6)                                    |           |
| Feeling worse, sick, or exhausted after exercise                       | 5 (0.8)                                    |           |
| Dizziness                                                              | 7 (1.1)                                    |           |

*According to χ² testing
eTable 2. Association of Demographic Characteristics With Reporting Clustered Myalgic Encephalomyelitis and/or Chronic Fatigue Syndrome (ME/CFS) Symptoms (n = 634)

| Absolute numbers No. (%) | Clustered ME/CFS symptoms\(a\) | \(P\) value\(b\) |
|--------------------------|---------------------------------|------------------|
|                          | N                               | % [95% CI]       |
| Total                    | 634 (100)                       | 198 31.23% [27.61, 34.85] |
| Sex                      |                                 |                 |
| Male                     | 294 (46.37)                     | 71 24.15% [19.24, 29.06] |
| Female                   | 340 (53.63)                     | 127 37.35% [32.20, 42.51] |
| Age group, years         |                                 |                 |
| 5 to 9                   | 216 (34.07)                     | 45 20.83% [15.4, 26.26] |
| 10 to 13                  | 221 (34.86)                     | 72 32.58% [26.38, 38.77] |
| 14 to 17                  | 197 (31.07)                     | 81 41.12% [34.23, 48.01] |
| Migration background     |                                 |                 |
| No                       | 375 (59.15)                     | 118 31.47 [26.75, 36.18] |
| Yes                      | 246 (38.8)                      | 77 31.3 [62.89, 74.51] |
| Missing                  | 13 (2.05)                       | 3 1.0 [0.11, 46.04] |
| Pre-existing disease     |                                 |                 |
| No                       | 333 (52.52)                     | 88 26.43 [21.68, 31.18] |
| Yes                      | 300 (47.32)                     | 110 36.67 [31.2, 42.13] |
| Missing                  | 1 (0.16)                        | 0 - |
| Federal state of the study center |                     |                 |
| Baden-Württemberg (Mannheim, Freiburg) | 242 (38.17) | 80 33.06 [27.11, 39.00] |
| Bavaria (Munich, Würzburg) | 176 (27.76) | 50 28.41 [21.73, 35.09] |
| Lower Saxony (Hannover)  | 88 (13.88)                      | 38 43.18 [32.80, 53.56] |
| Saxony (Dresden)         | 61 (9.62)                       | 16 26.23 [15.16, 37.30] |
| North Rhine-Westphalia (Krefeld, Aachen) | 67 (10.57) | 14 20.90 [11.13, 30.66] |

\(a\) Categorized as clustered ME/CFS symptoms implied reporting 1) substantial fatigue and/or symptoms of school or cognitive difficulties and 2) at least 4 additional symptoms.

\(b\) According to \(\chi^2\) testing
## eTable 3. Comparison of Adjusted Risk Ratios for Symptoms Associated With Myalgic Encephalomyelitis and/or Chronic Fatigue Syndrome (ME/CFS) for All Children and Adolescents and Those With an Unknown Previous SARS-CoV-2 Infection

|                                  | All Participants | Participants unaware of previous SARS-CoV-2 infection. | Change of the adjusted RR in % |
|----------------------------------|------------------|--------------------------------------------------------|-------------------------------|
| **Adjusted RR [95% CI]**⁴        |                  |                                                        |                               |
| Clustered ME/CFS symptoms²       | 1.18 [0.90, 1.53] | 1.08 [0.80; 1.46]                                       | -8.47                         |
| **Fatigue/extreme tiredness**²   |                  |                                                        |                               |
| Substantial Fatigue              | 2.08 [1.05; 4.13] | 1.43 [0.63, 3.23]                                       | -31.25                        |
| **Symptoms suggesting school or cognitive difficulties**² |                  |                                                        |                               |
| Missing activities because participant is too sick or too tired | 0.84 [0.36, 1.99] | 0.51 [0.16, 1.65]                                       | -39.29                        |
| Poor school attendance           | 0.70 [0.28, 1.77] | 0.32 [0.08, 1.33]                                       | -54.29                        |
| Unable or unwilling to go to school | 1.52 [0.65, 3.55] | 0.71 [0.21, 2.35]                                       | -53.29                        |
| School learning or memory problems | 0.99 [0.45, 2.19] | 0.64 [0.23, 1.78]                                       | -35.35                        |
| **Additional symptoms**³:        |                  |                                                        |                               |
| Frequent headaches               | 1.27 [0.64, 2.50] | 0.89 [0.39, 2.07]                                       | -29.92                        |
| Sore throat                      | 2.86 [0.41, 19.88]| NA                                                     | NA                            |
| Joint pain                       | 1.06 [0.44, 2.52] | 1.08 [0.42, 2.79]                                       | 1.89                          |
| Muscle pain                      | 1.11 [0.37, 3.33] | 0.97 [0.28, 3.34]                                       | -12.61                        |
| Abdominal pain                   | 0.68 [0.31, 1.47] | 0.55 [0.23, 1.35]                                       | -19.12                        |
| Lymph node pain                  | 2.75 [0.24, 30.96]| NA                                                     | NA                            |
| Rash                             | 2.20 [0.67, 7.25] | NA                                                     | NA                            |
| Fever, chills, or shivers        | 1.91 [0.36, 10.13]| 1.50 [0.15, 14.70]                                      | -21.47                        |
| Eye pain or light sensitivity     | 3.12 [0.91, 10.74]| 0.91 [0.11, 7.56]                                       | -70.83                        |
| Problems sleeping                | 1.38 [0.69, 2.74] | 1.10 [0.50, 2.44]                                       | -20.29                        |
| Impaired memory, or concentration | 0.80 [0.34, 1.88] | 0.64 [0.23, 1.77]                                       | -20.00                        |
| Feeling worse, sick, or exhausted after exercise | 0.79 [0.38, 1.63] | 0.47 [0.17, 1.27]                                       | -40.51                        |
| Dizziness                        | 2.72 [0.89, 8.35] | 1.16 [0.24, 5.52]                                       | -57.35                        |

Abbreviations: ME/CFS, myalgic encephalomyelitis and/or chronic fatigue syndrome; NA, not applicable; RR, risk ratio.

⁴ Adjusted for sex, age group, and pre-existing disease.

² Categorized as clustered ME/CFS symptoms implied reporting 1) substantial fatigue and/or symptoms of school or cognitive difficulties and 2) at least 4 additional symptoms.

³ All symptoms had to be present for at least the past 3 months and at least half of the time; if fatigue was present, it had to be at least moderate in severity.

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eFigure 1. Flowchart of the Myalgic Encephalomyelitis and/or Chronic Fatigue Syndrome (ME/CFS) Screening Substudy of the SARS-CoV-2 KIDS Study

765 Participants of the SARS-CoV-2 KIDS Study with serum sample and long-COVID questionnaire, aged 5 to 17 years

- 131 Excluded
  - 18 Missing values for sex, date of enrolment or date of birth
  - 113 >2 missing values in the long-COVID part

634 Eligible participants included

- 100 Seropositive children
- 534 Seronegative children

40 Reporting 'clustered ME/CFS symptoms'
60 Reporting 'clustered ME/CFS symptoms'
158 Reporting 'clustered ME/CFS symptoms'
376 Reporting 'clustered ME/CFS symptoms'

Categorized as clustered ME/CFS symptoms' implied reporting substantial fatigue and/or symptoms of school or cognitive difficulties and at least 4 additional symptoms.
eFigure 2. Estimated Power for the Outcome Reporting Clustered Myalgic Encephalomyelitis and/or Chronic Fatigue Syndrome (ME/CFS) Symptoms With Different Relative Risks Based on Pearson $\chi^2$ Test for Proportion Difference
**1. General Information**

| Day | Day | Month | Year |
|-----|-----|-------|------|

**Sex**
- Female
- Male

**Month of birth**
- January

**Year of birth**
- 2014

**Language spoken in the family:**
- German
- Other: _________________________

**2. Country of origin of the parents**

| Mother's place of birth: | Father's place of birth: |
|-------------------------|--------------------------|

**3. Reason for consulting a doctor in the hospital**

- Planned treatment (surgery, MRI, Endoscopy etc.)
- Routine check-up (in the outpatient clinic)
- Referral for inpatient evaluation or parent/patient education
- Emergency
- Another reason, which one? _________________________

**4. Coronavirus (SARS-CoV-2)**

- Has your child ever been tested for SARS-CoV-2 (Coronavirus) in the past?
  - Yes
  - No
  - I do not know

**5. Infectious diseases**

- How many respiratory infections* with fever* and shortness of breath has your child gone through since March 2020 until today?
  - None
  - One
  - Two
  - Three
  - Four
  - Five
  - Six or more

*fever=body temperature >38°C; *A respiratory infection is a cold, bronchitis or flu

- How often has pneumonia been diagnosed in your child since March 2020?
  - Never
  - Once
  - Twice
  - More than twice
  - I do not know

- Did the pneumonia diagnoses require hospital treatment since March 2020?
  - Yes
  - No
  - I do not know

  → If Yes, how often? _____ times

**6. Underlying disease**

- Does your child have any pre-existing conditions?
  - Yes
  - No
  - I do not know

- Has your child ever had the following diseases?
  - Asthma
  - Cystic fibrosis
  - Bronchopulmonary dysplasia
  - Another lung disease?

- Heart disease/ heart defect
  - Yes
  - No
  - I do not know

- Haematological/ oncological disease
  - Yes
  - No
  - I do not know

- Neurological/ neuromuscular disease
  - Yes
  - No
  - I do not know

- Congenital or acquired immunodeficiency
  - Yes
  - No
  - I do not know

- Autoimmune disease
  - Yes
  - No
  - I do not know

- Metabolic disease
  - Yes
  - No
  - I do not know

- Gastrointestinal disease
  - Yes
  - No
  - I do not know

- Chronic renal disease
  - Yes
  - No
  - I do not know

- Any other disease?
  - Yes
  - No
  - I do not know

**eAppendix. English Version of the 2-Page Study-Specific Questionnaire**

Next on the back! ☺

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Only fill in the following questions, if your child is **5 years old or older**

### 7. Non-specific long-term effects of the Corona-Epidemic

| Symptom                          | Frequency | Severity |
|----------------------------------|-----------|----------|
| Fatigue/ extreme tiredness       |           |          |

#### Frequency
Throughout the past 3 (to 6) months, how often has your child had this symptom?

- None of the time
- A little of the time
- About half the time
- Most of the time
- All of the time

#### Severity
Throughout the past 3 (to 6) months, how much has this symptom bothered your child?

- Symptom not present
- Mild
- Moderate
- Severe
- Very severe

Has your child had a problem with fatigue or energy for **6 months or longer**? Please tick the right answer

- Yes
- No
- Symptom not present

Did your child had problems with fatigue or low energy level **before the pandemic**? Please tick the right answer

- Yes
- No
- I do not know

### Symptom
Please tick the frequency for each symptom

| Symptom                          | Frequency |
|----------------------------------|-----------|
| Missing activities because he/ she is too sick or too tired |           |
| Poor school attendance (Even the occasional school offer is not taken up) |           |
| Being unable or unwilling to go to school |           |
| School learning or memory problems |           |
| Frequent headaches |           |
| Sore throat |           |
| Joint pain |           |
| Muscle pain |           |
| Abdominal pain |           |
| Lymph node pain (in neck or underarms) |           |
| Rash |           |
| Fever, chills, or shivers |           |
| Eye pain or light sensitivity |           |
| Problems sleeping |           |
| Impaired memory, or concentration |           |
| Feeling worse, sick, or exhausted after exercise |           |
| Dizziness |           |

Thanks a lot for participating in this study!