Quality of life and long-term outcomes after hospitalization for COVID-19 in Brazil: a preliminary report - NCT04376658

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Executive Committee Brazilian Research in Intensive Care Network (BRICNet)
Executive Committee Coalition COVID-19 Brazil
Conflicts of interest

• **Financial**  
  Research grants from the Brazilian Ministry of Health

• **Intellectual**  
  Researcher in the field of post-critical care outcomes
Quality of life and long-term outcomes after hospitalization for COVID-19: coalition VII prospective cohort study

- Prospective cohort study nested in 5 COVID-19 RCTs
- 55 centers in Brazil
- Adult survivors of hospitalization due to COVID-19
- One-year follow-up
- Assessment of quality of life and long-term outcomes
## Population

<table>
<thead>
<tr>
<th>Coalition</th>
<th>Criteria Details</th>
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</thead>
</table>
| Coalition I RCT | - ≤14 days since symptom onset  
- Needing either no oxygen or ≤4 L/min of supplemental oxygen |
| Coalition II RCT | - ≤14 days since symptom onset  
- Needing oxygen supplementation > 4 L/min, HFNC; NIV; or MV |
| Coalition III RCT | - Needing mechanical ventilation  
- Within 48 hours of meeting criteria for moderate to severe ARDS |
| Coalition IV RCT | - ≤14 days since symptom onset  
- D-dimer ≥ 3 x the upper limit of normal |
| Coalition VI RCT | - Confirmed pneumonia  
- Need for oxygen to keep SPO2 >93%, or MV for <24 hours before the randomization  
- ≥ 2 altered inflammatory tests (RCP, Ferritin, D-dimer, or LDH) |
Outcomes

• **Primary Outcome**
  One-year utility score of EQ5D3L

• **Secondary outcomes**
  Survival
  Major cardiovascular events
  Rehospitalizations
  Physical functional status (IADL Lawton & Brody)
  Dyspnea (MRC scale)
  Need of long-term ventilatory support
  Symptoms of Anxiety and depression (HADS)
  Symptoms of PTSD (IES-R)
  Self-rated health (EQ5D3L – VAS)
  Return to work/studies

Analyses

• **Comparison according to the need of MV during hospitalization**

• **Generalized Estimating Equations**
  - Crude models
  - Adjusted models (study of origin, age, and comorbidities)
Enrollment and follow-up

Time frame

<table>
<thead>
<tr>
<th>10</th>
<th>3 months</th>
<th>6 months</th>
<th>9 months</th>
<th>12 months</th>
</tr>
</thead>
</table>

Baseline (Hospital)

- Adult patients survivors of hospitalization for proven or suspected Covid-19

Follow-up

- Telephone interview 1
- Telephone interview 2
- Telephone interview 3
- Telephone interview 4

Outcomes

- Health-related quality of life, all-cause mortality, major cardiovascular events, rehospitalizations, return to work or study, physical functional status, dyspnea, need of long-term ventilatory support, symptoms of anxiety, depression and PTSD, and self-rated health

Coalition COVID-19 Brasil
### Flow of participants

- **Coalition I RCT**
  - Moderately ill pts: 653 (65%)
  - Critically ill pts: 213 (21%)
  - 24 (2%)
  - 0 (0%)
  - 113 (11%)

- **Coalition II RCT**
  - 1006 eligible patients
  - 776 assessed at 3 months
  - 61 absence of telephone contact
  - 14 lost to follow-up
  - 14 refused to participate
  - 141 lost to follow-up

- **Coalition III RCT**
  - Critically ill pts
  - 24 (2%)
  - 0 (0%)
  - 113 (11%)

- **Coalition IV RCT**
  - Critically ill pts
  - 24 (2%)
  - 0 (0%)
  - 113 (11%)

- **Coalition VI RCT**
  - Moderately ill pts
  - 653 (65%)

*Coalition IV RCT is still recruiting patients*
## Baseline characteristics

<table>
<thead>
<tr>
<th>Variables</th>
<th>Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, years – mean (SD)</td>
<td>52.2 (14.7)</td>
</tr>
<tr>
<td>Male sex – n (%)</td>
<td>617 (61.3)</td>
</tr>
<tr>
<td>Comorbidities – n (%)</td>
<td></td>
</tr>
<tr>
<td>Hypertension</td>
<td>440 (43.7)</td>
</tr>
<tr>
<td>Diabetes</td>
<td>236 (23.4)</td>
</tr>
<tr>
<td>Obesity</td>
<td>214 (21.4)</td>
</tr>
<tr>
<td>Tabagism</td>
<td>68 (6.7)</td>
</tr>
<tr>
<td>Asthma</td>
<td>60 (5.9)</td>
</tr>
<tr>
<td>Cancer</td>
<td>34 (3.3)</td>
</tr>
<tr>
<td>COPD</td>
<td>27 (2.6)</td>
</tr>
<tr>
<td>Heart failure</td>
<td>23 (2.2)</td>
</tr>
<tr>
<td>Chronic renal disease</td>
<td>17 (1.6)</td>
</tr>
<tr>
<td>Others</td>
<td>199 (25.8)</td>
</tr>
<tr>
<td>Number of comorbidities – median (IQR)</td>
<td>1 (0;2)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variables (cont)</th>
<th>Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time from symptom onset to enrollment, days – median (IQR)</td>
<td>7 (5; 10)</td>
</tr>
<tr>
<td>Score on seven-level ordinal scale at enrollment – n (%)</td>
<td></td>
</tr>
<tr>
<td>3: Hospitalized and not receiving O$_2$</td>
<td>383 (38.0)</td>
</tr>
<tr>
<td>4: Hospitalized and receiving O$_2$</td>
<td>471 (46.8)</td>
</tr>
<tr>
<td>5: Hospitalized and receiving O$_2$ by HFNC or NIV</td>
<td>42 (4.1)</td>
</tr>
<tr>
<td>6: Hospitalized and receiving MV</td>
<td>110 (10.9)</td>
</tr>
<tr>
<td>MV need during hospital stay – n (%)</td>
<td>232 (23.0)</td>
</tr>
<tr>
<td>Length of MV, days – median (IQR)</td>
<td>11 (7;21)</td>
</tr>
<tr>
<td>Length of hospital stay, days – median (IQR)</td>
<td>9 (6;27)</td>
</tr>
</tbody>
</table>

HFNC, high flow nasal cannula; IQR, interquartile range (p25;p75); NIV, non-invasive ventilation; SD, standard deviation; VM, mechanical ventilation;
Conclusions

Among survivors of hospitalization due to COVID-19 in the months following discharge:

- The mortality rate is high;
- Rehospitalizations are common;
- The burden of physical and mental health disabilities is high;
- Mechanical ventilation need seems to be a predictor of poor long-term outcomes.
Thank you

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