

## SUPPLEMENTARY MATERIAL

### Home-based and telehealth cardio-respiratory physiotherapy in northern Italy: a cross-sectional survey

Martina Santambrogio,<sup>1</sup> Chiara Legnani,<sup>2</sup> Diego Ferrini,<sup>3</sup> Angelo G. Mazzali,<sup>4</sup>  
Veronica Rossi,<sup>1,5</sup> Emilia Privitera,<sup>5</sup> Claudio Cordani<sup>6,7</sup>

<sup>1</sup>Department of Pathophysiology and Transplantation, University of Milan;  
<sup>2</sup>Rehabilitation Medicine Unit, Primary Care Department, G.B. Morgagni Hospital, Forlì; <sup>3</sup>Department of Biomedical Sciences and Public Health, Università Politecnica delle Marche, Ancona; <sup>4</sup>Ordine Interprovinciale della Professione Sanitaria di Fisioterapista di Milano, Como, Cremona, Lecco, Lodi, Monza Brianza, Sondrio, Varese, Cremona; <sup>5</sup>Healthcare Professions Department, Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, Milan; <sup>6</sup>Department of Biomedical, Surgical and Dental Sciences, University of Milan; <sup>7</sup>IRCCS Galeazzi Sant'Ambrogio Hospital, Milan, Italy

**Correspondence:** Claudio Cordani, Department of Biomedical, Surgical and Dental Sciences, University of Milan and IRCCS Galeazzi Sant'Ambrogio Hospital, Via C. Belgioioso 173, 20157 Milan, Italy.  
E-mail: claudio.cordani@unimi.it

**Key words:** physical therapy modalities, home care services, community health services, delivery of healthcare, surveys and questionnaires.

## Supplement 1. STROBE statement—checklist of items that should be included in reports of observational studies

|                          | Item No | Recommendation   | Page No    |
|--------------------------|---------|--|------------|
| Title and abstract       | 1       | (a) Indicate the study’s design with a commonly used term in the title or the abstract   | 1,3        |
|                          |         | (b) Provide in the abstract an informative and balanced summary of what was done and what was found  | 3          |
| Introduction             |         |  |            |
| Background/rationale     | 2       | Explain the scientific background and rationale for the investigation being reported   | 4,5        |
| Objectives               | 3       | State specific objectives, including any prespecified hypotheses   | 5          |
| Methods                  |         |  |            |
| Study design             | 4       | Present key elements of study design early in the paper  | 5-6        |
| Setting                  | 5       | Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection  | 5          |
| Participants             | 6       | (a) Cohort study—Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up<br>Case-control study—Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls<br>Cross-sectional study—Give the eligibility criteria, and the sources and methods of selection of participants | 5          |
|                          |         | (b) Cohort study—For matched studies, give matching criteria and number of exposed and unexposed<br>Case-control study—For matched studies, give matching criteria and the number of controls per case   | NA         |
| Variables                | 7       | Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable   | 5, Table 1 |
| Data sources/measurement | 8*      | For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group   | 5, Table 1 |
| Bias                     | 9       | Describe any efforts to address potential sources of bias  | NA         |
| Study size               | 10      | Explain how the study size was arrived at  | 5          |
| Quantitative variables   | 11      | Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why   | 6          |
| Statistical methods      | 12      | (a) Describe all statistical methods, including those used to control for confounding  | 6          |
|                          |         | (b) Describe any methods used to examine subgroups and interactions  | NA         |
|                          |         | (c) Explain how missing data were addressed  | NA         |
|                          |         | (d) Cohort study—If applicable, explain how loss to follow-up was addressed<br>Case-control study—If applicable, explain how matching of cases and controls was addressed  | NA         |
|                          |         | Cross-sectional study—If applicable, describe analytical methods taking account of sampling strategy   |            |

|                   |    |  |         |
|-------------------|----|--|---------|
|                   |    | (e) Describe any sensitivity analyses  | NA      |
| Results           |    |  |         |
| Participants      | 13 | (a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed            | 5-6     |
|                   |    | (b) Give reasons for non-participation at each stage   |         |
|                   |    | (c) Consider use of a flow diagram   |         |
| Descriptive data  | 14 | (a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders   | 6-7     |
|                   |    | (b) Indicate number of participants with missing data for each variable of interest  | 6-7     |
|                   |    | (c) <i>Cohort study</i> —Summarise follow-up time (eg, average and total amount)   | NA      |
| Outcome data      | 15 | <i>Cohort study</i> —Report numbers of outcome events or summary measures over time  | NA      |
|                   |    | <i>Case-control study</i> —Report numbers in each exposure category, or summary measures of exposure   | NA      |
|                   |    | <i>Cross-sectional study</i> —Report numbers of outcome events or summary measures   | 6-7     |
| Main results      | 16 | (a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included | NA      |
|                   |    | (b) Report category boundaries when continuous variables were categorized  | Table 1 |
|                   |    | (c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period   | NA      |
| Other analyses    | 17 | Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses   | NA      |
| Discussion        |    |  |         |
| Key results       | 18 | Summarise key results with reference to study objectives   | 7-8     |
| Limitations       | 19 | Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias   | 8       |
| Interpretation    | 20 | Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence                                   | 8       |
| Generalisability  | 21 | Discuss the generalisability (external validity) of the study results  | 7-8     |
| Other information |    |  |         |
| Funding           | 22 | Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based  | 2       |

## **Supplement 2A. Original Italian version of the survey.**

### **Sezione 1 – Informazioni generali**

#### **1. Genere**

- Maschio
- Femmina
- Preferisco non rispondere

#### **2. Età**

- 21-30
- 31-45
- 46-60
- >60

#### **3. Anni di esperienza come fisioterapista**

- <1
- 1-5
- 6-15
- 16-25
- 26-40

#### **4. Attualmente svolge la sua attività professionale con soggetti che presentino affezioni acute, croniche o post-chirurgiche dei sistemi cardiocircolatorio e/o respiratorio?**

- Sì
- No

### **Sezione 2 – Esperienza professionale e formazione**

#### **5. Anni di esperienza con soggetti che presentino affezioni acute, croniche o post-chirurgiche dei sistemi cardiocircolatorio e/o respiratorio**

- <1
- 1-5
- 6-15
- 16-25
- 26-40

#### **6. Formazione specifica in riabilitazione cardiorespiratoria**

- in possesso del Master Universitario di Primo Livello in Fisioterapia Cardiorespiratoria o affini
- in possesso di formazione specifica e/o esperienza lavorativa superiore ai 3 anni in ambito cardiorespiratorio
- in possesso di esperienza lavorativa inferiore ai 3 anni in ambito cardiorespiratorio

#### **7. Attualmente svolge la sua attività per:**

- Ente pubblico
- Ente privato/accreditato/convenzionato
- Libero professionista

#### **8. Attualmente, in percentuale, quanto tempo del suo orario di lavoro dedica alla gestione del paziente con patologie cardio-respiratorie?**

- 25%
- 50%
- 75%
- 100%

#### **9. Attualmente svolge la sua attività al domicilio del paziente?**

- Sì
- No

### **Sezione 3 – Attività domiciliare**

#### **10. Quali di queste patologie/pazienti gestisce al domicilio?**

- Asma
- BPCO
- Bronchiectasie
- Grande obeso
- Interstiziopatie
- Disturbi respiratori del sonno

- Patologie neuromuscolari
- Patologie cardiovascolari
- Gravi cerebrolesioni acquisite
- Mielolesioni
- Paziente chirurgico
- Paziente critico
- Paziente pediatrico
- Fibrosi cistica
- Trapiantato
- Altro (specificare)

11. Con quali professionisti/operatori dedicati alla gestione dei soggetti con patologie cardiorespiratorie collabora al domicilio del paziente?

- Fisioterapista
- Infermiere
- Logopedista
- TNPEE
- OSS
- Medico di medicina generale
- Medico specialista
- Care giver

*Di quali delle seguenti attività si occupa al domicilio del paziente?*

12. Valutazione funzionale

- Esame obiettivo di torace e addome
- Rilevazioni parametri vitali
- Saturazione periferica di ossigeno
- Auscultazione
- Valutazione dispnea (con scale specifiche)
- Valutazione dolore (con scale specifiche)
- Tosse (valutazione clinica)
- Tosse (valutazione strumentale)
- Deglutizione
- Valutazione forza muscolare (con scale specifiche)
- Presa visione della terapia medica in atto
- Presa visione degli esami di laboratorio
- Presa visione di esami radiologici
- Prove di funzionalità respiratoria (presa visione)
- Prove di funzionalità respiratoria (esecuzione)
- Emogasanalisi (presa visione)
- Valutazione capacità di esercizio: test del cammino
- Valutazione capacità di esercizio: test da campo
- Valutazione delle autonomie (con scale specifiche)
- Valutazioni ausili per la mobilità o la postura
- Valutazione dello spazio ambientale/domiciliare
- Nessuna delle attività in elenco

13. Disostruzione bronchiale

- Drenaggio posturale, percussioni, vibrazioni
- Clapping
- ACBT
- Drenaggio Autogeno
- ELTGOL
- Utilizzo di sistemi PEP
- Utilizzo di elettromedicali (escluso macchina della tosse)
- Assistenza manuale alla tosse
- Assistenza meccanica alla tosse
- Nessuna delle attività in elenco

14. Tecniche di riespansione polmonare

- Tecniche con intervento sul pattern respiratorio

- Respirazione diaframmatica
  - Incentivatori volumetrici
  - Incentivatori flussometrici
  - EDIC
  - Elettromedicali
  - Ventilazione/CPAP
  - Pallone AMBU
  - Nessuna delle attività in elenco
15. Ricondizionamento/Riallenamento allo sforzo
- Mobilizzazione
  - Esercizi calistenici
  - Allenamento alla forza
  - Allenamento all'endurance
  - Allenamento dei muscoli respiratori
  - Nessuna delle attività in elenco
16. Ventilazione meccanica
- Individuazione interfacce ventilazione non invasiva
  - Monitoraggio interfacce ventilazione non invasiva
  - Adattamento/ottimizzazione di ventilazione non invasiva
  - Monitoraggio settaggi di ventilazione non invasiva
  - Adattamento/ottimizzazione della ventilazione invasiva
  - Monitoraggio settaggi di ventilazione invasiva
  - Adattamento/ottimizzazione di CPAP
  - Monitoraggio settaggi di CPAP
  - Disostruzione bronchiale in ventilazione non invasiva
  - Disostruzione bronchiale in ventilazione invasiva
  - Nessuna delle attività in elenco
17. Ossigenoterapia
- Sistemi a bassi fl ussi (es. occhialini)
  - Sistemi ad alti fl ussi (es. maschera Venturi)
  - Sistemi ad alti fl ussi umidificati (es. HFNC)
  - Nessuna delle attività in elenco
18. Somministrazione di aerosol e terapie inalatorie
- In respiro spontaneo
  - In ventilazione meccanica invasiva
  - In NIV
  - In cannula tracheostomica
  - nessuna delle attività in elenco
19. Cannula tracheostomica
- Pulizia controcanula
  - Medicazione stomia
  - Pulizia dello spazio sovracuffia
  - Tracheoaspirazione
  - Scuffiatura/cuffiatura
  - Nessuna delle attività in elenco
20. Interventi educazionali (del paziente o del caregiver)
- Ossigenoterapia
  - Ventiloterapia
  - Gestione cannula tracheostomica
  - Mobilizzazione del paziente tracheoventilato
  - Gestione di elettromedicali
  - Disostruzione bronchiale
  - Corretta assunzione terapia inalatoria
  - Cessazione abitudine tabagica
  - Attività fisica e stile di vita
  - Nessuna delle attività in elenco
21. Attualmente svolge attività di riabilitazione?

- Sì
- No

#### **Sezione 4 - Teleriabilitazione**

22. Ha ricevuto una formazione specifica sulla teleriabilitazione o servizi di riabilitazione a distanza?

- Sì, parte della mia formazione professionale universitaria
- Sì, formazione professionale offerta presso il mio posto di lavoro
- Sì, formazione professionale offerta al di fuori del mio posto di lavoro
- No

23. Da quanto tempo utilizza la teleriabilitazione

- < 6 mesi
- Da 6 mesi a 1 anno
- Da 1 a 2 anni
- Da 2 a 5 anni
- > 5 anni

24. Quali servizi di teleriabilitazione fornisce?

- Teleconsulto video/audio
- Teletrattamento video/audio
- Telemonitoraggio video/audio

25. Quali di queste patologie/pazienti gestisce tramite teleriabilitazione

- Asma
- BPCO
- Bronchiectasie
- Grande obeso
- Interstiziopatie
- Disturbi respiratori del sonno
- Patologie neuromuscolari
- Patologie cardiovascolari
- Gravi cerebrolesioni acquisite
- Mielolesioni
- Paziente chirurgico
- Paziente critico
- Paziente pediatrico
- Fibrosi cistica
- Trapiantato
- Altro (specificare)

*Di quali delle seguenti attività si occupa da remoto?*

26. Valutazione funzionale

- Esame obiettivo di torace e addome
- Monitoraggio parametri vitali
- Monitoraggio saturazione periferica di ossigeno
- Valutazione dispnea (con scale specifiche)
- Valutazione dolore (con scale specifiche)
- Tosse (valutazione clinica)
- Presa visione della terapia medica in atto
- Presa visione degli esami di laboratorio
- Presa visione di esami radiologici
- Prove di funzionalità respiratoria (presa visione)
- Emogasanalisi (presa visione)
- Valutazione capacità di esercizio: test del cammino
- Valutazione capacità di esercizio: test da campo
- Valutazione delle autonomie (con scale specifiche)
- Nessuna delle attività in elenco

27. Disostruzione bronchiale

- ACBT
- Drenaggio Autogeno
- ELTGOL

- Utilizzo di sistemi PEP
  - Utilizzo di elettromedicali (escluso macchina della tosse)
  - Assistenza meccanica alla tosse
  - Nessuna delle attività in elenco
28. Tecniche di riespansione polmonare
- Tecniche con intervento sul pattern respiratorio
  - Respirazione diaframmatica
  - Incentivatori volumetrici
  - Incentivatori flussometrici
  - EDIC
  - Elettromedicali
  - Ventilazione/CPAP
  - Pallone AMBU
  - Nessuna delle attività in elenco
29. Ricondizionamento/Riallenamento allo sforzo
- Esercizi calistenici
  - Allenamento alla forza
  - Allenamento all'endurance
  - Allenamento dei muscoli respiratori
  - Nessuna delle attività in elenco
30. Ventilazione meccanica
- Monitoraggio interfacce ventilazione non invasiva
  - Monitoraggio settaggi di ventilazione non invasiva
  - Monitoraggio settaggi di ventilazione invasiva
  - Monitoraggio settaggi di CPAP
  - Nessuna delle attività in elenco
31. Ossigenoterapia
- Sistemi a bassi flussi (es. occhialini)
  - Sistemi ad alti flussi (es. maschera Venturi)
  - Sistemi ad alti flussi umidificati (es. HFNC)
  - Nessuna delle attività in elenco
32. Interventi educazionali (del paziente o del caregiver)
- Ossigenoterapia
  - Ventiloterapia
  - Gestione cannula tracheostomica
  - Mobilitazione del paziente tracheoventilato
  - Gestione di elettromedicali
  - Disostruzione bronchiale
  - Corretta assunzione terapia inalatoria
  - Cessazione abitudine tabagica
  - Attività fisica e stile di vita
  - Nessuna delle attività in elenco
33. Secondo la sua esperienza, quali requisiti sono necessari per poter fornire la tele riabilitazione?
- Risorse elettroniche dei pazienti (accesso a Internet, dispositivi)
  - Buona capacità tecnologica (del paziente e del fisioterapista)
  - Supporto per l'impostazione della tecnologia
  - Materiale didattico da fornire al paziente online
  - App per smartphone o tablet
  - Video e Webcam
  - Non lo so
  - Nessuno
  - Altro (specificare)



**Supplement 2B. Survey translated into English.**

| Questions   | Possible answers  |
|---|---|
| <i>Section 1 – General Information</i>  |   |
| Gender  | <ul style="list-style-type: none"><li>- Male</li><li>- Female</li><li>- Prefer not to answer</li></ul>  |
| Age   | <ul style="list-style-type: none"><li>- 21–30</li><li>- 31–45</li><li>- 46–60</li><li>- &gt;60</li></ul>  |
| Years of experience as a physiotherapist  | <ul style="list-style-type: none"><li>- &lt;1</li><li>- 1–5</li><li>- 6–15</li><li>- 16–25</li><li>- 26–40</li></ul>  |
| Do you currently work with patients affected by acute, chronic, or post-surgical conditions of the cardiovascular and/or respiratory systems? | <ul style="list-style-type: none"><li>- Yes</li><li>- No</li></ul>  |
| <i>Section 2 - Professional experience and training</i>   |   |
| Years of experience with patients affected by acute, chronic, or post-surgical conditions of the cardiovascular and/or respiratory systems    | <ul style="list-style-type: none"><li>- &lt;1</li><li>- 1–5</li><li>- 6–15</li><li>- 16–25</li><li>- 26–40</li></ul>  |
| Specific training in cardiorespiratory physiotherapy  | <ul style="list-style-type: none"><li>- Holder of a first-level University post-graduate course in cardiorespiratory physiotherapy</li><li>- Specific training and/or more than 3 years' work experience in the cardiorespiratory field</li><li>- Less than 3 years' work experience in the cardiorespiratory field</li></ul> |
| Currently working for:  | <ul style="list-style-type: none"><li>- Public institution</li><li>- Private/accredited/contracted institution</li><li>- Freelancer</li></ul>   |
| Currently, what percentage of your working hours do you dedicate to managing patients with cardiorespiratory conditions?                      | <ul style="list-style-type: none"><li>- 25%</li><li>- 50%</li><li>- 75%</li><li>- 100%</li></ul>  |
| Do you currently work at the patient's home?  | <ul style="list-style-type: none"><li>- Yes</li><li>- No</li></ul>  |
| <i>Section 3 – Home care activities</i>   |   |

|   |  |
|---|--|
| Which of the following conditions/patients do you manage at home?   | <ul style="list-style-type: none"> <li>- Asthma</li> <li>- COPD</li> <li>- Bronchiectasis</li> <li>- Obese</li> <li>- Interstitial lung disease</li> <li>- Sleep respiratory disorders</li> <li>- Neuromuscular diseases</li> <li>- Cardiovascular diseases</li> <li>- Acquired brain injuries</li> <li>- Spinal cord injuries</li> <li>- Post-surgical patients</li> <li>- Critical care</li> <li>- Pediatric conditions</li> <li>- Cystic fibrosis</li> <li>- Transplantations</li> <li>- Other</li> </ul>   |
| Which professionals do you collaborate with in home management of patients with cardiorespiratory conditions? | <ul style="list-style-type: none"> <li>- Physiotherapist</li> <li>- Nurse</li> <li>- Speech therapist</li> <li>- Developmental neuro-psychomotor therapist</li> <li>- Social-health operator</li> <li>- General practitioner</li> <li>- Specialist physician</li> <li>- Caregiver</li> </ul>   |
| Which of the following activities do you carry out at the patient's home? – Functional assessment             | <ul style="list-style-type: none"> <li>- Chest and abdomen physical exam</li> <li>- Vital signs monitoring</li> <li>- Peripheral oxygen saturation</li> <li>- Auscultation</li> <li>- Dyspnea evaluation (with specific scales)</li> <li>- Pain assessment (with specific scales)</li> <li>- Cough (clinical evaluation)</li> <li>- Cough (instrumental evaluation)</li> <li>- Swallowing assessment</li> <li>- Muscle strength assessment (with specific scales)</li> <li>- Review of ongoing medical therapy</li> <li>- Review of lab tests</li> <li>- Review of radiological exams</li> <li>- Respiratory function tests (review)</li> <li>- Respiratory function tests (execution)</li> <li>- Arterial blood gas analysis (review)</li> <li>- Exercise capacity assessment: 6-minute walk test</li> <li>- Exercise capacity assessment: field tests</li> <li>- Functional independence assessment (with specific scales)</li> <li>- Mobility or postural aid evaluation</li> <li>- Environmental/home space evaluation</li> <li>- None of the above</li> </ul> |
| Which of the following activities do you carry out at the patient's home? – Airway clearance techniques       | <ul style="list-style-type: none"> <li>- Postural drainage, percussion, vibration</li> <li>- Clapping</li> <li>- ACBT</li> <li>- Autogenic drainage</li> <li>- ELTGOL</li> <li>- Use of PEP systems</li> <li>- Use of electromedical devices (excluding cough-assist devices)</li> <li>- Manual cough assistance</li> <li>- Mechanical cough assistance</li> <li>- None of the above</li> </ul>  |

|  |   |
|--|---|
| Which of the following activities do you carry out at the patient's home? – Lung re-expansion techniques                             | <ul style="list-style-type: none"> <li>- Breathing pattern techniques</li> <li>- Diaphragmatic breathing</li> <li>- Volumetric incentive devices</li> <li>- Flow-based incentive devices</li> <li>- EDIC</li> <li>- Electromedical devices</li> <li>- Ventilation/CPAP</li> <li>- Ambu bag</li> <li>- None of the above</li> </ul>  |
| Which of the following activities do you carry out at the patient's home? – Reconditioning/Exercise training                         | <ul style="list-style-type: none"> <li>- Mobilization</li> <li>- Calisthenics</li> <li>- Strength training</li> <li>- Endurance training</li> <li>- Respiratory muscle training</li> <li>- None of the above</li> </ul>   |
| Which of the following activities do you carry out at the patient's home? – Mechanical ventilation                                   | <ul style="list-style-type: none"> <li>- Non-invasive ventilation interface selection</li> <li>- Non-invasive ventilation interface monitoring</li> <li>- Non-invasive ventilation adjustment/optimization</li> <li>- Non-invasive ventilation setting monitoring</li> <li>- Invasive ventilation adjustment/optimization</li> <li>- Invasive ventilation setting monitoring</li> <li>- CPAP adjustment/optimization</li> <li>- CPAP setting monitoring</li> <li>- Airway clearance with non-invasive ventilation</li> <li>- Airway clearance with invasive ventilation</li> <li>- None of the above</li> </ul> |
| Which of the following activities do you carry out at the patient's home? – Oxygen therapy   | <ul style="list-style-type: none"> <li>- Low-flow systems (e.g., nasal cannula)</li> <li>- High-flow systems (e.g., Venturi mask)</li> <li>- Humidified high-flow systems (e.g., HFNC)</li> <li>- None of the above</li> </ul>  |
| Which of the following activities do you carry out at the patient's home? – Aerosol and inhalation therapy administration            | <ul style="list-style-type: none"> <li>- During spontaneous breathing</li> <li>- During invasive mechanical ventilation</li> <li>- During NIV</li> <li>- Via tracheostomy cannula</li> <li>- None of the above</li> </ul>   |
| Which of the following activities do you carry out at the patient's home? – Tracheostomy cannula management                          | <ul style="list-style-type: none"> <li>- Inner cannula cleaning</li> <li>- Stoma management</li> <li>- Cleaning of supracuff space</li> <li>- Tracheal suctioning</li> <li>- Cuff deflation/inflation</li> <li>- None of the above</li> </ul>   |
| Which of the following activities do you carry out at the patient's home? – Educational interventions (for the patient or caregiver) | <ul style="list-style-type: none"> <li>- Oxygen therapy</li> <li>- Ventilation therapy</li> <li>- Tracheostomy cannula management</li> <li>- Mobilization of the trachea-ventilated patient</li> <li>- Electromedical device management</li> <li>- Airway clearance</li> <li>- Correct use of inhalation therapy</li> <li>- Smoking cessation</li> <li>- Physical activity and lifestyle</li> <li>- None of the above</li> </ul>  |
| Do you currently carry out telerehabilitation activities?  | <ul style="list-style-type: none"> <li>- Yes</li> <li>- No</li> </ul>   |
| Section 4 - Telerehabilitation   |   |

|  |   |
|--|---|
| Have you received specific training on telerehabilitation or remote rehabilitation services? | <ul style="list-style-type: none"> <li>- Yes, part of my university professional training</li> <li>- Yes, workplace-provided professional training</li> <li>- Yes, external professional training</li> <li>- No</li> </ul>  |
| How long have you been using telerehabilitation?   | <ul style="list-style-type: none"> <li>- &lt; 6 months</li> <li>- 6 months to 1 year</li> <li>- 1 to 2 years</li> <li>- 2 to 5 years</li> <li>- &gt; 5 years</li> </ul>   |
| Which telerehabilitation services do you provide?  | <ul style="list-style-type: none"> <li>- Video/audio teleconsultation</li> <li>- Video/audio tele-treatment</li> <li>- Video/audio telemonitoring</li> </ul>  |
| Which of the following conditions/patients do you manage via telerehabilitation?             | <ul style="list-style-type: none"> <li>- Asthma</li> <li>- COPD</li> <li>- Bronchiectasis</li> <li>- Obesity</li> <li>- Interstitial lung disease</li> <li>- Sleep respiratory disorders</li> <li>- Neuromuscular diseases</li> <li>- Cardiovascular diseases</li> <li>- Acquired brain injuries</li> <li>- Spinal cord injuries</li> <li>- Post-surgical patients</li> <li>- Critical care</li> <li>- Pediatric conditions</li> <li>- Cystic fibrosis</li> <li>- Transplanted patients</li> <li>- Other</li> </ul>   |
| Which of the following activities do you carry out remotely? – Functional assessment         | <ul style="list-style-type: none"> <li>- Chest and abdomen physical examination</li> <li>- Vital signs monitoring</li> <li>- Peripheral oxygen saturation monitoring</li> <li>- Dyspnea evaluation (with specific scales)</li> <li>- Pain assessment (with specific scales)</li> <li>- Cough (clinical evaluation)</li> <li>- Review of ongoing medical therapy</li> <li>- Review of laboratory tests</li> <li>- Review of radiological exams</li> <li>- Respiratory function tests (review)</li> <li>- Arterial blood gas analysis (review)</li> <li>- Exercise capacity assessment: 6-minute walk test</li> <li>- Exercise capacity assessment: field tests</li> <li>- Autonomy assessment (with specific scales)</li> <li>- None of the above</li> </ul> |
| Which of the following activities do you carry out remotely? – Airway clearance              | <ul style="list-style-type: none"> <li>- ACBT</li> <li>- Autogenic drainage</li> <li>- ELTGOL</li> <li>- Use of PEP systems</li> <li>- Use of electromedical devices (excluding cough-assist devices)</li> <li>- Mechanical cough assistance</li> <li>- None of the above</li> </ul>  |

|   |  |
|---|--|
| Which of the following activities do you carry out remotely? – Lung re-expansion techniques                             | <ul style="list-style-type: none"> <li>- Breathing pattern techniques</li> <li>- Diaphragmatic breathing</li> <li>- Volumetric incentive devices</li> <li>- Flow-based incentive devices</li> <li>- EDIC</li> <li>- Electromedical devices</li> <li>- Ventilation/CPAP</li> <li>- Ambu bag</li> <li>- None of the above</li> </ul>   |
| Which of the following activities do you carry out remotely? – Reconditioning/ Exercise training                        | <ul style="list-style-type: none"> <li>- Calisthenics</li> <li>- Strength training</li> <li>- Endurance training</li> <li>- Respiratory muscle training</li> <li>- None of the above</li> </ul>  |
| Which of the following activities do you carry out remotely? – Mechanical ventilation                                   | <ul style="list-style-type: none"> <li>- Non-invasive ventilation interface monitoring</li> <li>- Non-invasive ventilation setting monitoring</li> <li>- Invasive ventilation setting monitoring</li> <li>- CPAP setting monitoring</li> <li>- None of the above</li> </ul>  |
| Which of the following activities do you carry out remotely? – Oxygen therapy   | <ul style="list-style-type: none"> <li>- Low-flow systems (e.g., nasal cannula)</li> <li>- High-flow systems (e.g., Venturi mask)</li> <li>- Humidified high-flow systems (e.g., HFNC)</li> <li>- None of the above</li> </ul>   |
| Which of the following activities do you carry out remotely? – Educational interventions (for the patient or caregiver) | <ul style="list-style-type: none"> <li>- Oxygen therapy</li> <li>- Ventilation therapy</li> <li>- Tracheostomy cannula management</li> <li>- Mobilization of the trachea-ventilated patient</li> <li>- Electromedical device management</li> <li>- Airway clearance</li> <li>- Correct use of inhalation therapy</li> <li>- Smoking cessation</li> <li>- Physical activity and lifestyle</li> <li>- None of the above</li> </ul> |
| In your experience, what are the requirements to provide telerehabilitation?  | <ul style="list-style-type: none"> <li>- Patient's electronic resources (internet access, devices)</li> <li>- Good technological skills (patient and physiotherapist)</li> <li>- Technical support for setup</li> <li>- Educational material provided online</li> <li>- Smartphone or tablet applications</li> <li>- Video and webcam</li> <li>- I don't know</li> <li>- None</li> <li>- Other (specify)</li> </ul>              |

## Supplement 2C. Survey responses.

| Questions   | Possible answers  | Number of responses (%)  |
|---|---|--|
| <i>Section 1 – General Information (respondents=388)</i>  |   |  |
| Gender  | <ul style="list-style-type: none"> <li>- Male</li> <li>- Female</li> <li>- Prefer not to answer</li> </ul>  | 136 (35.1%)<br>252 (64.9%)<br>0 (0%)                               |
| Age   | <ul style="list-style-type: none"> <li>- 21–30</li> <li>- 31–45</li> <li>- 46–60</li> <li>- &gt;60</li> </ul>   | 42 (10.8%)<br>156 (40.2%)<br>149 (38.4%)<br>41 (10.6%)             |
| Years of experience as a physiotherapist  | <ul style="list-style-type: none"> <li>- &lt;1</li> <li>- 1–5</li> <li>- 6–15</li> <li>- 16–25</li> <li>- 26–40</li> </ul>  | 3 (0.8%)<br>33 (8.5%)<br>115 (29.6%)<br>95 (24.5%)<br>142 (36.6%)  |
| Do you currently work with patients affected by acute, chronic, or post-surgical conditions of the cardiovascular and/or respiratory systems? | <ul style="list-style-type: none"> <li>- Yes</li> <li>- No</li> </ul>   | 156 (40.2%)<br>232 (59.8%)   |
| <i>Section 2 - Professional experience and training (respondents=156)</i>   |   |  |
| Years of experience with patients affected by acute, chronic, or post-surgical conditions of the cardiovascular and/or respiratory systems    | <ul style="list-style-type: none"> <li>- &lt;1</li> <li>- 1–5</li> <li>- 6–15</li> <li>- 16–25</li> <li>- 26–40</li> </ul>  | 16 (10.3%)<br>42 (26.9%)<br>45 (28.8%)<br>32 (20.5%)<br>21 (13.5%) |
| Specific training in cardiorespiratory physiotherapy  | <ul style="list-style-type: none"> <li>- Holder of a first-level University post-graduate course in cardiorespiratory physiotherapy</li> <li>- Specific training and/or more than 3 years' work experience in the cardiorespiratory field</li> <li>- Less than 3 years' work experience in the cardiorespiratory field</li> </ul> | 25 (16%)<br>65 (41.7%)<br>66 (42.3%)                               |
| Currently working for:  | <ul style="list-style-type: none"> <li>- Public institution</li> <li>- Private/accredited/contracted institution</li> <li>- Freelancer</li> </ul>   | 61 (39.1%)<br>68 (43.6%)<br>27 (17.3%)                             |
| Currently, what percentage of your working hours do you dedicate to manage patients with cardiorespiratory conditions?                        | <ul style="list-style-type: none"> <li>- 25%</li> <li>- 50%</li> <li>- 75%</li> <li>- 100%</li> </ul>   | 94 (60.3%)<br>21 (13.4%)<br>10 (6.4%)<br>31 (19.9%)                |
| Do you currently work at the patient's home?  | <ul style="list-style-type: none"> <li>- Yes</li> <li>- No</li> </ul>   | 32 (20.5%)<br>124 (79.5%)  |
| Do you currently carry out telerehabilitation activities?   | <ul style="list-style-type: none"> <li>- Yes</li> <li>- No</li> </ul>   | 9 (5.8%)<br>147 (94.2%)  |

Section 3 – Home care activities (respondents =32)

| Questions   | Possible answers   | Number of responses (%)  |
|---|--|--|
| Which of the following conditions/patients do you manage at home?   | <ul style="list-style-type: none"> <li>- Asthma</li> <li>- COPD</li> <li>- Bronchiectasis</li> <li>- Obese</li> <li>- Interstitial lung disease</li> <li>- Sleep respiratory disorders</li> <li>- Neuromuscular diseases</li> <li>- Cardiovascular diseases</li> <li>- Acquired brain injuries</li> <li>- Spinal cord injuries</li> <li>- Post-surgical patients</li> <li>- Critical care</li> <li>- Pediatric conditions</li> <li>- Cystic fibrosis</li> <li>- Transplantations</li> <li>- Other</li> </ul>   | <p>9 (28.1%)</p> <p>22 (68.8%)</p> <p>7 (21.9%)</p> <p>11 (34.4%)</p> <p>5 (15.6%)</p> <p>7 (21.9%)</p> <p>21 (65.6%)</p> <p>21 (65.6%)</p> <p>10 (31.3%)</p> <p>9 (28.1%)</p> <p>18 (56.3%)</p> <p>8 (25%)</p> <p>4 (12.5%)</p> <p>2 (6.3%)</p> <p>4 (12.4%)</p> <p>7 (21.9%)</p>   |
| Which professionals do you collaborate with in home management of patients with cardiorespiratory conditions? | <ul style="list-style-type: none"> <li>- Physiotherapist</li> <li>- Nurse</li> <li>- Speech therapist</li> <li>- Developmental neuro-psychomotor therapist</li> <li>- Social-health operator</li> <li>- General practitioner</li> <li>- Specialist physician</li> <li>- Caregiver</li> </ul>   | <p>3 (9.4%)</p> <p>22 (68.8%)</p> <p>7 (21.9%)</p> <p>1 (3.1%)</p> <p>12 (37.5%)</p> <p>15 (46.9%)</p> <p>13 (40.6%)</p> <p>25.(78.1%)</p>   |
| Which of the following activities do you carry out at the patient's home? – Functional assessment             | <ul style="list-style-type: none"> <li>- Chest and abdomen physical exam</li> <li>- Vital signs monitoring</li> <li>- Peripheral oxygen saturation</li> <li>- Auscultation</li> <li>- Dyspnea evaluation (with specific scales)</li> <li>- Pain assessment (with specific scales)</li> <li>- Cough (clinical evaluation)</li> <li>- Cough (instrumental evaluation)</li> <li>- Swallowing assessment</li> <li>- Muscle strength assessment (with specific scales)</li> <li>- Review of ongoing medical therapy</li> <li>- Review of lab tests</li> <li>- Review of radiological exams</li> <li>- Respiratory function tests (review)</li> <li>- Respiratory function tests (execution)</li> <li>- Arterial blood gas analysis (review)</li> <li>- Exercise capacity assessment: 6-minute walk test</li> <li>- Exercise capacity assessment: field tests</li> <li>- Functional independence assessment (with specific scales)</li> <li>- Mobility or postural aid evaluation</li> <li>- Environmental/home space evaluation</li> <li>- None of the above</li> </ul> | <p>14 (43.8%)</p> <p>23 (71.9%)</p> <p>28 (87.5%)</p> <p>9 (28.1%)</p> <p>13 (40.6%)</p> <p>23 (71.9%)</p> <p>13 (40.6%)</p> <p>4 (12.5%)</p> <p>8 (25%)</p> <p>20 (62.5%)</p> <p>21 (65.6%)</p> <p>16 (50%)</p> <p>14 (43.8%)</p> <p>19 (59.4%)</p> <p>4 (12.5%)</p> <p>12 (37.5%)</p> <p>19 (59.4%)</p> <p>7 (21.9%)</p> <p>19 (59.4%)</p> <p>25 (78.1%)</p> <p>23 (71.9%)</p> <p>1.(3.1%)</p> |

|  |   |   |
|--|---|---|
| Which of the following activities do you carry out at the patient's home? – Airway clearance techniques      | <ul style="list-style-type: none"> <li>- Postural drainage, percussion, vibration</li> <li>- Clapping</li> <li>- ACBT</li> <li>- Autogenic drainage</li> <li>- ELTGOL</li> <li>- Use of PEP systems</li> <li>- Use of electromedical devices (excluding cough-assist devices)</li> <li>- Manual cough assistance</li> <li>- Mechanical cough assistance</li> <li>- None of the above</li> </ul>   | 9 (28.1%)<br>6 (18.8%)<br>5 (15.6%)<br>6 (18.8%)<br>5 (15.6%)<br>18 (56.3%)<br>4 (12.5%)<br>9 (28.1%)<br>8 (25%)<br>8 (25%)             |
| Which of the following activities do you carry out at the patient's home? – Lung re-expansion techniques     | <ul style="list-style-type: none"> <li>- Breathing pattern techniques</li> <li>- Diaphragmatic breathing</li> <li>- Volumetric incentive devices</li> <li>- Flow-based incentive devices</li> <li>- EDIC</li> <li>- Electromedical devices</li> <li>- Ventilation/CPAP</li> <li>- Ambu bag</li> <li>- None of the above</li> </ul>  | 9 (28.1%)<br>17 (53.1%)<br>17 (53.1%)<br>9 (28.1%)<br>3 (9.4%)<br>2 (6.3%)<br>14 (43.8%)<br>5 (15.6%)<br>3 (9.4%)                       |
| Which of the following activities do you carry out at the patient's home? – Reconditioning/Exercise training | <ul style="list-style-type: none"> <li>- Mobilization</li> <li>- Calisthenics</li> <li>- Strength training</li> <li>- Endurance training</li> <li>- Respiratory muscle training</li> <li>- None of the above</li> </ul>   | 21 (65.6%)<br>17 (53.1%)<br>22 (68.8%)<br>22 (68.8%)<br>19 (59.4%)<br>2 (6.3%)  |
| Which of the following activities do you carry out at the patient's home? – Mechanical ventilation           | <ul style="list-style-type: none"> <li>- Non-invasive ventilation interface selection</li> <li>- Non-invasive ventilation interface monitoring</li> <li>- Non-invasive ventilation adjustment/optimization</li> <li>- Non-invasive ventilation setting monitoring</li> <li>- Invasive ventilation adjustment/optimization</li> <li>- Invasive ventilation setting monitoring</li> <li>- CPAP adjustment/optimization</li> <li>- CPAP setting monitoring</li> <li>- Airway clearance with non-invasive ventilation</li> <li>- Airway clearance with invasive ventilation</li> <li>- None of the above</li> </ul> | 6 (18.8%)<br>6 (18.8%)<br>6 (18.8%)<br>7 (21.9%)<br>2 (6.3%)<br>2 (6.3%)<br>6 (18.8%)<br>5 (15.6%)<br>8 (25%)<br>2 (6.3%)<br>19 (59.4%) |
| Which of the following activities do you carry out at the patient's home? – Oxygen therapy                   | <ul style="list-style-type: none"> <li>- Low-flow systems (e.g., nasal cannula)</li> <li>- High-flow systems (e.g., Venturi mask)</li> <li>- Humidified high-flow systems (e.g., HFNC)</li> <li>- None of the above</li> </ul>  | 19 (59.4%)<br>4 (12.5%)<br>5 (15.6%)<br>13 (40.6%)  |



|  |  |  |
|--|--|--|
| Which of the following activities do you carry out at the patient's home? – Aerosol and inhalation therapy administration            | <ul style="list-style-type: none"> <li>- During spontaneous breathing</li> <li>- During invasive mechanical ventilation</li> <li>- During NIV</li> <li>- Via tracheostomy cannula</li> <li>- None of the above</li> </ul>  | 11 (34.4%)<br>2 (6.3%)<br>3 (9.4%)<br>6 (18.8%)<br>21 (65.6%)  |
| Which of the following activities do you carry out at the patient's home? – Tracheostomy cannula management                          | <ul style="list-style-type: none"> <li>- Inner cannula cleaning</li> <li>- Stoma management</li> <li>- Cleaning of supracuff space</li> <li>- Tracheal suctioning</li> <li>- Cuff deflation/inflation</li> <li>- None of the above</li> </ul>  | 5 (15.6%)<br>2 (6.3%)<br>5 (15.6%)<br>7 (21.9%)<br>6 (18.8%)<br>24 (75%)   |
| Which of the following activities do you carry out at the patient's home? – Educational interventions (for the patient or caregiver) | <ul style="list-style-type: none"> <li>- Oxygen therapy</li> <li>- Ventilation therapy</li> <li>- Tracheostomy cannula management</li> <li>- Mobilization of the tracheo-ventilated patient</li> <li>- Electromedical device management</li> <li>- Airway clearance</li> <li>- Correct use of inhalation therapy</li> <li>- Smoking cessation</li> <li>- Physical activity and lifestyle</li> <li>- None of the above</li> </ul> | 11 (34.4%)<br>9 (28.1%)<br>3 (9.4%)<br>6 (18.8%)<br>7 (21.9%)<br>9 (28.1%)<br>7 (21.9%)<br>12 (37.5%)<br>26 (81.3%)<br>4 (12.5%) |

#### Section 4 – Telerehabilitation (respondents =9)

| Questions  | Possible answers  | Number of responses (%)  |
|--|---|--|
| Have you received specific training on telerehabilitation or remote rehabilitation services? | <ul style="list-style-type: none"> <li>- Yes, part of my university professional training</li> <li>- Yes, workplace-provided professional training</li> <li>- Yes, external professional training</li> <li>- No</li> </ul>  | 0 (0%)<br>6 (66.7%)<br>1 (11.1%)<br>2 (22.2%)  |
| How long have you been using telerehabilitation?   | <ul style="list-style-type: none"> <li>- &lt; 6 months</li> <li>- 6 months to 1 year</li> <li>- 1 to 2 years</li> <li>- 2 to 5 years</li> <li>- &gt; 5 years</li> </ul>   | 1 (11.1%)<br>3 (33.3%)<br>1 (11.1%)<br>3 (33.3%)<br>1 (11.1%)  |
| Which telerehabilitation services do you provide?  | <ul style="list-style-type: none"> <li>- Video/audio teleconsultation</li> <li>- Video/audio tele-treatment</li> <li>- Video/audio telemonitoring</li> </ul>  | 5 (55.6%)<br>6 (66.7%)<br>6 (66.7%)  |
| Which of the following conditions/patients do you manage via telerehabilitation?             | <ul style="list-style-type: none"> <li>- Asthma</li> <li>- COPD</li> <li>- Bronchiectasis</li> <li>- Obesity</li> <li>- Interstitial lung disease</li> <li>- Sleep respiratory disorders</li> <li>- Neuromuscular diseases</li> <li>- Cardiovascular diseases</li> <li>- Acquired brain injuries</li> <li>- Spinal cord injuries</li> <li>- Post-surgical patients</li> <li>- Critical care</li> <li>- Pediatric conditions</li> <li>- Cystic fibrosis</li> <li>- Transplanted patients</li> <li>- Other</li> </ul> | 1 (11.1%)<br>2 (22.2%)<br>3 (33.3%)<br>0 (0%)<br>0 (0%)<br>4 (44.4%)<br>1 (11.1%)<br>2 (22.2%)<br>0 (0%)<br>0 (0%)<br>0 (0%)<br>0 (0%)<br>1 (11.1%)<br>1 (11.1%)<br>1 (11.1%)<br>1 (11.1%) |

|  |  |           |
|--|--|-----------|
| Which of the following activities do you carry out remotely? – Functional assessment             |  | 1 (11.1%) |
|  | - Chest and abdomen physical examination                         | 4 (44.4%) |
|  | - Vital signs monitoring   | 8 (88.9%) |
|  | - Peripheral oxygen saturation monitoring                        | 7 (77.8%) |
|  | - Dyspnea evaluation (with specific scales)                      | 2 (22.2%) |
|  | - Pain assessment (with specific scales)                         | 2 (22.2%) |
|  | - Cough (clinical evaluation)                                    | 3 (33.3%) |
|  | - Review of ongoing medical therapy                              | 3 (33.3%) |
|  | - Review of laboratory tests                                     | 2 (22.2%) |
|  | - Review of radiological exams                                   | 2 (22.2%) |
| Which of the following activities do you carry out remotely? – Airway clearance                  | - Respiratory function tests (review)                            | 4 (44.4%) |
|  | - Arterial blood gas analysis (review)                           | 3 (33.3%) |
|  | - Exercise capacity assessment: 6-minute walk test               | 1 (11.1%) |
|  | - Exercise capacity assessment: field tests                      | 3 (33.3%) |
|  | - Autonomy assessment (with specific scales)                     | 2 (22.2%) |
|  | - None of the above  | 0 (0%)    |
|  | - ACBT   | 4 (44.4%) |
|  | - Autogenic drainage   | 4 (44.4%) |
|  | - ELTGOL   | 4 (44.4%) |
|  | - Use of PEP systems   | 5 (55.6%) |
| Which of the following activities do you carry out remotely? – Lung re-expansion techniques      | - Use of electromedical devices (excluding cough-assist devices) | 4 (44.4%) |
|  | - Mechanical cough assistance                                    | 3 (33.3%) |
|  | - None of the above  | 4 (44.4%) |
|  | - Breathing pattern techniques                                   | 2 (22.2%) |
|  | - Diaphragmatic breathing  | 1 (11.1%) |
|  | - Volumetric incentive devices                                   | 1 (11.1%) |
|  | - Flow-based incentive devices                                   | 1 (11.1%) |
|  | - EDIC   | 2 (22.2%) |
|  | - Electromedical devices   | 1 (11.1%) |
|  | - Ventilation/CPAP   | 5 (55.6%) |
| Which of the following activities do you carry out remotely? – Reconditioning/ Exercise training | - Ambu bag   | 1 (11.1%) |
|  | - None of the above  | 4 (44.4%) |
|  | - Calisthenics   | 2 (22.2%) |
|  | - Strength training  | 6 (66.7%) |
|  | - Endurance training   | 7 (77.8%) |
|  | - Respiratory muscle training                                    | 1 (11.1%) |
|  | - None of the above  | 2 (22.2%) |
|  | - Non-invasive ventilation interface monitoring                  | 6 (66.7%) |
|  | - Non-invasive ventilation setting monitoring                    | 5 (55.6%) |
|  | - Invasive ventilation setting monitoring                        | 0 (0%)    |
| Which of the following activities do you carry out remotely? – Mechanical ventilation            | - CPAP setting monitoring  | 5 (55.6%) |
|  | - None of the above  | 3 (33.3%) |

|   |  |  |
|---|--|--|
| Which of the following activities do you carry out remotely? – Oxygen therapy   | <ul style="list-style-type: none"> <li>- Low-flow systems (e.g., nasal cannula)</li> <li>- High-flow systems (e.g., Venturi mask)</li> <li>- Humidified high-flow systems (e.g., HFNC)</li> <li>- None of the above</li> </ul>   | 6 (66.7%)<br>5 (55.6%)<br>3 (33.3%)<br>3 (33.3%)   |
| Which of the following activities do you carry out remotely? – Educational interventions (for the patient or caregiver) | <ul style="list-style-type: none"> <li>- Oxygen therapy</li> <li>- Ventilation therapy</li> <li>- Tracheostomy cannula management</li> <li>- Mobilization of the trachea-ventilated patient</li> <li>- Electromedical device management</li> <li>- Airway clearance</li> <li>- Correct use of inhalation therapy</li> <li>- Smoking cessation</li> <li>- Physical activity and lifestyle</li> <li>- None of the above</li> </ul> | 5 (55.6%)<br>5 (55.6%)<br>2 (22.2%)<br>1 (11.1%)<br>3 (33.3%)<br>5 (55.6%)<br>4 (44.4%)<br>2 (22.2%)<br>6 (66.7%)<br>1 (11.1%) |
| In your experience, what are the requirements to provide telerehabilitation?  | <ul style="list-style-type: none"> <li>- Patient's electronic resources (internet access, devices)</li> <li>- Good technological skills (patient and physiotherapist)</li> <li>- Technical support for setup</li> <li>- Educational material provided online</li> <li>- Smartphone or tablet applications</li> <li>- Video and webcam</li> <li>- I don't know</li> <li>- None</li> <li>- Other (specify)</li> </ul>              | 9 (100%)<br>7 (77.8%)<br>6 (66.7%)<br>4 (44.4%)<br>7 (77.8%)<br>7 (77.8%)<br>0 (0%)<br>0 (0%)<br>0 (0%)                        |

COPD, chronic obstructive pulmonary disease; ACBT, active cycle of breathing techniques; ELTGOL, expiration lente totale glotte ouverte en décubitus latéral; PEP, positive expiratory pressure; EDIC, exercise with inspiratory controlled flow; CPAP, continuous positive airway pressure; Ambu, artificial manual breathing unit; HFNC, high-flow nasal canula.

#### Checklist for Reporting Results of Internet E-Surveys (CHERRIES).

| <b>Checklist Item</b>            | <b>Explanation</b>   | <b>Page Number</b> |
|----------------------------------|--|--------------------|
| Describe survey design           | Describe target population, sample frame. Is the sample a convenience sample? (In "open" surveys this is most likely)  | 4-5                |
| IRB approval                     | Mention whether the study has been approved by an IRB.   | 1                  |
| Informed consent                 | Describe the informed consent process. Where were the participants told the length of time of the survey, which data were stored and where and for how long, who the investigator was, and the purpose of the study? | 1                  |
| Data protection                  | If any personal information was collected or stored, describe what mechanisms were used to protect unauthorized access   | NA                 |
| Development and testing          | State how the survey was developed, including whether the usability and technical functionality of the electronic questionnaire had been tested before fielding the questionnaire.                                   | 5                  |
| Open survey versus closed survey | An "open survey" is a survey open for each visitor of a site, while a closed survey is only open to a sample which the investigator knows (password-protected survey).   | 5                  |

|  |  |    |
|--|--|----|
| Contact mode                             | Indicate whether or not the initial contact with the potential participants was made on the Internet. (Investigators may also send out questionnaires by mail and allow for Web-based data entry.)   | 5  |
| Advertising the survey                   | How/where was the survey announced or advertised? Some examples are offline media (newspapers), or online (mailing lists – If yes, which ones?) or banner ads (Where were these banner ads posted and what did they look like?). It is important to know the wording of the announcement as it will heavily influence who chooses to participate. Ideally the survey announcement should be published as an appendix.  | NA |
| Web/E-mail                               | State the type of e-survey (eg, one posted on a Web site, or one sent out through e-mail). If it is an e-mail survey, were the responses entered manually into a database, or was there an automatic method for capturing responses?   | 5  |
| Context                                  | Describe the Web site (for mailing list/newsgroup) in which the survey was posted. What is the Web site about, who is visiting it, what are visitors normally looking for? Discuss to what degree the content of the Web site could pre-select the sample or influence the results. For example, a survey about vaccination on a anti-immunization Web site will have different results from a Web survey conducted on a government Web site   | 5  |
| Mandatory/voluntary                      | Was it a mandatory survey to be filled in by every visitor who wanted to enter the Web site, or was it a voluntary survey?   | 5  |
| Incentives                               | Were any incentives offered (eg, monetary, prizes, or non-monetary incentives such as an offer to provide the survey results)?   | 5  |
| Time/Date                                | In what timeframe were the data collected?   | 5  |
| Randomization of items or questionnaires | To prevent biases items can be randomized or alternated.   | NA |
| Adaptive questioning                     | Use adaptive questioning (certain items, or only conditionally displayed based on responses to other items) to reduce number and complexity of the questions.  | NA |
| Number of Items                          | What was the number of questionnaire items per page? The number of items is an important factor for the completion rate.   | NA |
| Number of screens (pages)                | Over how many pages was the questionnaire distributed? The number of items is an important factor for the completion rate.   | NA |
| Completeness check                       | It is technically possible to do consistency or completeness checks before the questionnaire is submitted. Was this done, and if “yes”, how (usually JavaScript)? An alternative is to check for completeness after the questionnaire has been submitted (and highlight mandatory items). If this has been done, it should be reported. All items should provide a nonresponse option such as “not applicable” or “rather not say”, and selection of one response option should be enforced. | NA |

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|---|--|----|
| Review step   | State whether respondents were able to review and change their answers (eg, through a Back button or a Review step which displays a summary of the responses and asks the respondents if they are correct).  | 5  |
| Unique site visitor   | If you provide view rates or participation rates, you need to define how you determined a unique visitor. There are different techniques available, based on IP addresses or cookies or both.  | NA |
| View rate (Ratio of unique survey visitors/unique site visitors)  | Requires counting unique visitors to the first page of the survey, divided by the number of unique site visitors (not page views!). It is not unusual to have view rates of less than 0.1 % if the survey is voluntary.  | NA |
| Participation rate (Ratio of unique visitors who agreed to participate/unique first survey page visitors) | Count the unique number of people who filled in the first survey page (or agreed to participate, for example by checking a checkbox), divided by visitors who visit the first page of the survey (or the informed consents page, if present). This can also be called “recruitment” rate.  | 6  |
| Completion rate (Ratio of users who finished the survey/users who agreed to participate)                  | The number of people submitting the last questionnaire page, divided by the number of people who agreed to participate (or submitted the first survey page). This is only relevant if there is a separate “informed consent” page or if the survey goes over several pages. This is a measure for attrition. Note that “completion” can involve leaving questionnaire items blank. This is not a measure for how completely questionnaires were filled in. (If you need a measure for this, use the word “completeness rate”.)   | 6  |
| Cookies used  | Indicate whether cookies were used to assign a unique user identifier to each client computer. If so, mention the page on which the cookie was set and read, and how long the cookie was valid. Were duplicate entries avoided by preventing users access to the survey twice; or were duplicate database entries having the same user ID eliminated before analysis? In the latter case, which entries were kept for analysis (eg, the first entry or the most recent)?   | NA |
| IP check  | Indicate whether the IP address of the client computer was used to identify potential duplicate entries from the same user. If so, mention the period of time for which no two entries from the same IP address were allowed (eg, 24 hours). Were duplicate entries avoided by preventing users with the same IP address access to the survey twice; or were duplicate database entries having the same IP address within a given period of time eliminated before analysis? If the latter, which entries were kept for analysis (eg, the first entry or the most recent)? | NA |
| Log file analysis   | Indicate whether other techniques to analyze the log file for identification of multiple entries were used. If so, please describe.  | NA |

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|---|---|----|
| Registration  | In “closed” (non-open) surveys, users need to login first and it is easier to prevent duplicate entries from the same user. Describe how this was done. For example, was the survey never displayed a second time once the user had filled it in, or was the username stored together with the survey results and later eliminated? If the latter, which entries were kept for analysis (eg, the first entry or the most recent)? | NA |
| Handling of incomplete questionnaires               | Were only completed questionnaires analyzed? Were questionnaires which terminated early (where, for example, users did not go through all questionnaire pages) also analyzed?   | 5  |
| Questionnaires submitted with an atypical timestamp | Some investigators may measure the time people needed to fill in a questionnaire and exclude questionnaires that were submitted too soon. Specify the timeframe that was used as a cut-off point, and describe how this point was determined.   | NA |
| Statistical correction                              | Indicate whether any methods such as weighting of items or propensity scores have been used to adjust for the non-representative sample; if so, please describe the methods.  | NA |