

SUPPLEMENTARY MATERIAL

Safety and feasibility of physiotherapy in ICU-admitted severe COVID-19 patients: an observational study

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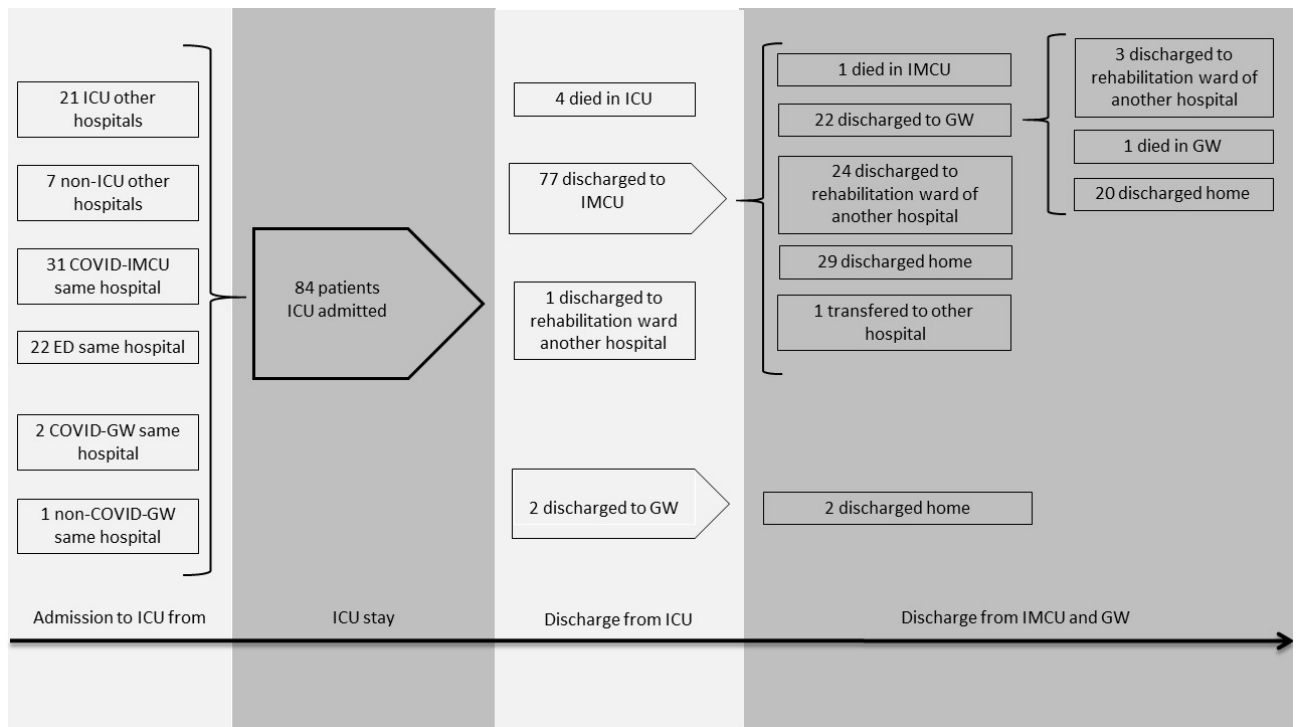


Figure S1. Flowchart representing distribution and movements of all patients from admission to discharge.

Abbreviations: COVID, coronavirus disease 2019; ED, emergency department; GW, general ward; ICU, intensive care unit; IMCU, intermediate care unit;

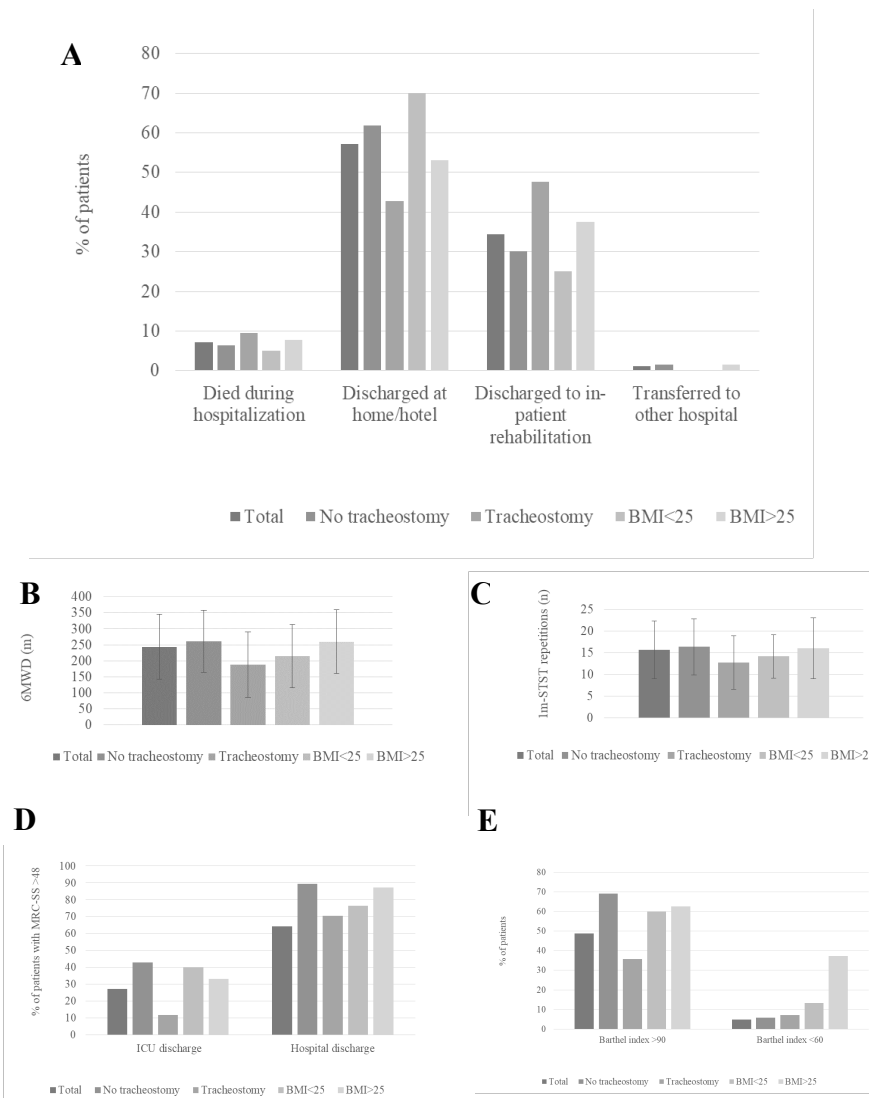


Figure S2. Patients' functional and respiratory assessment at ICU and hospital discharge. Functional assessment was carried out at ICU and at hospital discharge. Data about the whole patients' population, subgroups of patients with and without tracheostomy and subgroups of patients with BMI ≥ 25 and < 25 are represented. Error bars represent SD. A) Percentage of patients died during hospitalization, discharged to home, discharged to in-patient rehabilitation and transferred to other hospital. B) Performance at the 6-minute walking test performed at hospital discharge, measured as mean 6MWD. C) Performance at the 1-minute sit-to-stand test performed at hospital discharge, measured as mean number of sit-to stand repetitions. D) Percentage of patients who achieved a MRC-SS score > 48 , measured at ICU discharge and at hospital discharge. E) Percentage of patients who achieved a Barthel Index score > 90 and percentage of patients who achieved a Barthel Index score < 60 , measured at hospital discharge. Abbreviations: 1m-STST, 1 minute sit-to-stand test; 6MWD, 6-minute walking distance; BMI, body mass index; ICU, intensive care unit; MRC-SS, Medical Research Council Sum Score.

Table S1. Rehabilitation levels measured by Manchester Mobility Score during the first physiotherapy treatment in ICU and IMCU and at hospital discharge.

MMS n (%)	First ICU physiotherapy assessment	First IMCU physiotherapy assessment	Hospital discharge
1) <i>in bed interventions</i>	74/84 (88.1)	28/78 (33.3)	0/78 (0)
2) <i>Sit on edge of bed</i>	10/84 (12.0)	36/78 (42.9)	0/78 (0)
3) <i>Hoisted to chair</i>	0/84 (0)	0/78 (0)	0/78 (0)
4) <i>Standing practice</i>	0/84 (0)	1/78 (1.2)	2/78 (2.4)
5) <i>Transfers with assistance</i>	0/84 (0)	7/78 (8.3)	1/78 (1.2)
6) <i>Mobilizing with or without assistance</i>	0/84 (0)	4/78 (4.8)	3/78 (3.6)
7) <i>Mobilizing >30m</i>	0/84 (0)	2/78 (2.4)	72/78 (85.7)

Abbreviations: ICU, intensive care unit; IMCU, intermediate case unit; MMS, Manchester Mobility Score.

Table S2. Physiotherapy timing and detail in the subgroups of patients with and without tracheostomy and in patients with BMI \geq and $<$ 25.

Variables	No trach	Trach	p-value	BMI <25	BMI >25	p-value
Physiotherapy activities per patient during the whole hospitalization, median (IQR)	49 (35-73)	105 (71-143)	0.0006	70 (35-104)	60.5 (40-91)	0.86
Time from patients intubation to the first physiotherapy treatment, days median (IQR)	12 (7-16)	28 (17-35)	<0.0001	15 (7-31)	13 (9.5-19.5)	0.65
Time from patients intubation to sitting out of bed, days median (IQR)	15 (11-24)	45 (34-50)	<0.0001	18 (9-38)	22 (14-31)	0.97
Patients sitting out of bed in ICU, n (%)	27/63 (42.8)	16/21 (76.2)	0.008	13/20 (65.0)	30/64 (46.9)	0.16
Time from patients intubation to standing, days median (IQR)	18 (14-29)	51.5 (40-64)	<0.0001	22 (13-45)	25 (15-33)	0.97
Patients standing in ICU, n (%)	7/63 (11.1)	7/21 (33.3)	0.02	2/20 (10.0)	12/64 (18.8)	0.36
Time from patients intubation to walking, days median (IQR)	19 (16-33)	60.5 (46-69)	<0.0001	33 (14-54)	27 (16.5-38.0)	0.73
Patients walking in ICU, n (%)	3/63 (4.8)	2/21 (9.5)	0.43	1/20 (5.0)	4/64 (6.2)	0.84

Abbreviations: BMI, body mass index; ICU, intensive care unit; Trach, tracheostomy.