Three-yr outcomes after critical illness : patients admitted for COVID-19 related insufficiency did better than Non-COVID-19

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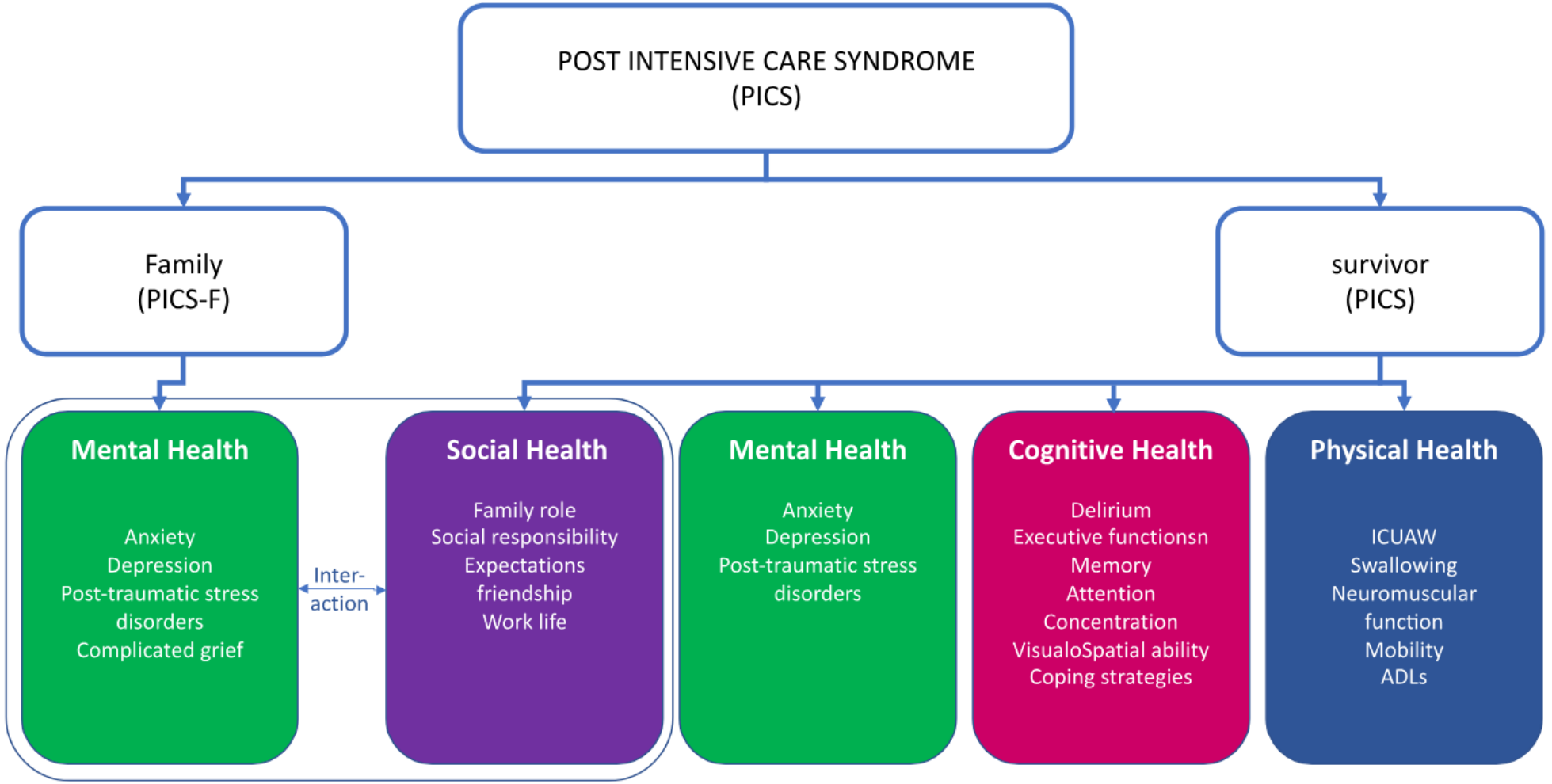
POST INTENSIVE CARE SYNDROME (PICS)
Family (PICS-F)
survivor (PICS)
Mental Health
Anxiety
Depression
Post-traumatic stress disorders
Complicated grief
Inter-action
Social Health
Family role
Social responsibility
Expectations
friendship
Work life
Mental Health
Anxiety
Depression
Post-traumatic stress disorders
Cognitive Health
Delirium
Executive functionsn
Memory
Attention
Concentration
VisualoSpatial ability
Coping strategies
Physical Health
ICUAW
Swallowing
Neuromuscular function
Mobility
ADLs

Outcomes

1. To evaluate the benefits of post-acute care (Middle Care Unit & Revalidation) on patients' outcomes in the short (at discharge, 2-wks after) and medium (6-9-mo) term.

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2. To compare the functional and neuropsychological sequelae of a prolonged stay in intensive care between COVID-19 and Non-COVID-19 in the short (at discharge, 2-wks after and 3-mo after), medium (6-9-mo) and long term (3-yr).

Methods

Study design: single-center study included critically ill adult patients, admitted to a medical and chirurgical 32-bed intensive care

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Population: COVID-19 adult survivors (ICU stay ≥ 5 days) were compared with a cohort of Non-COVID-19 matched for sex, age, reason for admission, Charlson comorbidity index, Sequential Organ Failure Assessment (SOFA) and Simplified Acute Physiology Score (SAPS) III

The COVID-19 patients were admitted in the ICU for acute SARS-Cov-2 pneumonia during the first wave (March-June 2020) while the patients of the control cohort have been hospitalized for acute respiratory failure (acute onset; ratio of partial pressure of arterial oxygen to fraction of inspired oxygen (PaO2/FiO2) of 200 or less) (March 2019-November 2019)

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Table 1. Outcomes and assessment

	At ICU discharge	2-wks after ICU discharge	3 and 6-9-mo after ICU discharge
Physical function			
- MRC-sum score (/60)	X	X	X
- Handgrip (%PV)	X	X	X
- Cpax (/50)	X	X	
- Barthel Index (/100)		X	X
- 6MWT (m)			X
Cognition			
- MoCA (/30)	X	X	X
Mental Health & QoL			
- HADS-A (/21)			X
- HADS-D (/21)			X
- IES-R (/88)			X
- EQ-5D-5L (VAS /100)			X

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	At ICU discharge	2-wks after ICU discharge	3 and 6-9-mo after ICU discharge	3-yr after ICU discharge
Physical function				
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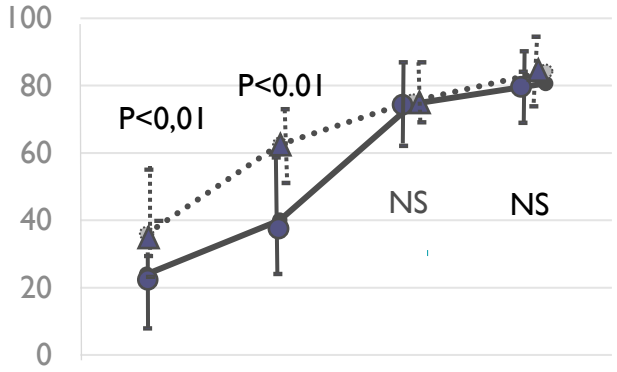
- HADS-A (/21)			X	X
- HADS-D (/21)			X	X
- IES-R (/88)			X	X
- EQ-5D-5L (VAS /100)			X	X
- WSAS (/40)				X

Table 2. Characteristics of study participants at baseline

No. (%) and median [IQR]	COVID-19 n = 21	Non-COVID-19 n = 21	p-value
Age (years)	58 [51-64]	57 [54-66]	0.6
Men	16 [76.2)	15 (71.4)	0.7
Charlson comorbididy index	2 [1-3]	2 [1-3]	0.9
SOFA score (day 1)	6 [4-8]	8 [5-1]	0.1
SAPS III score	53 [48-57]	54 [46-77]	0.3
From ICU to discharge			
Mechanical ventilation	19 (90.5)	19 (90.5)	
Duration of mechanical ventilation	22 [18-27]	7 [2-11]	0.001
Prone ventilation	18 (85.7)	0 (0)	0.000
Prone ventilation (days)	3 [1.5-4.5]	0 [0-0]	0.001
Neuromuscular agents (days)	11 [3.5-1.7]	0 [0-0]	0.001
Delirium	16 (76.2)	9 (42.9)	0.05
Length of ICU stay (days)	27 [25-34]	15 [10-31]	0.05
Destination after ICU (days)			
Middle Care Unit	11 [3-19]	0 [0-0]	0.001
Pneumology department	0 [0-14]	20 [10-28]	0.001
Rehabilitation	23 [14-50]	0 [0-10]	0.05

Figure 1.1. Outcomes at ICU discharge, 2-wks, 3 and 6-9-mo after ICU discharge



Handgrip %PV

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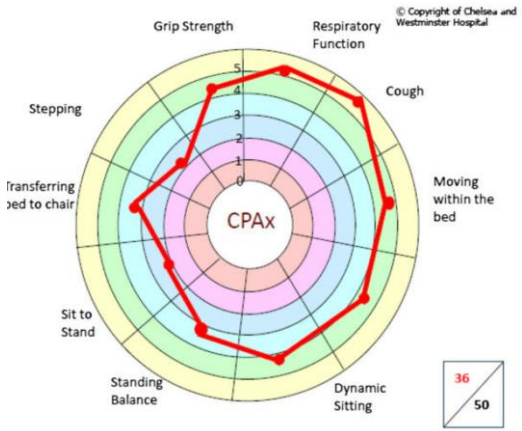
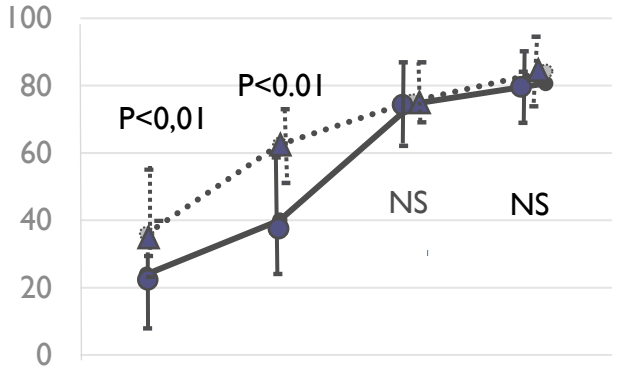
Figure 1.2. Outcomes at ICU discharge, 2-wks, 3 and 6-9-mo after ICU discharge





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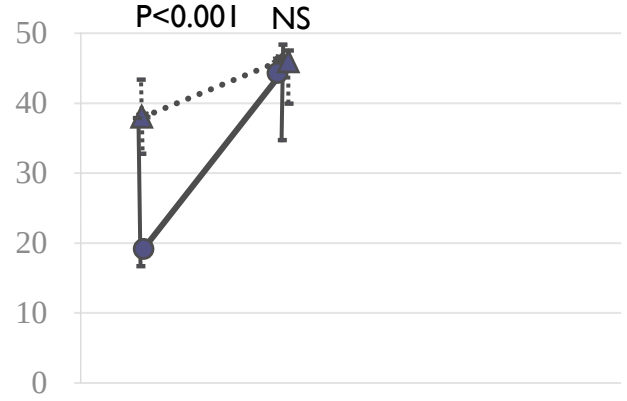


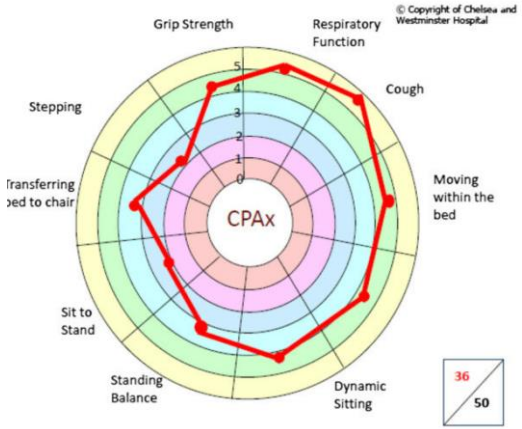
Cpax

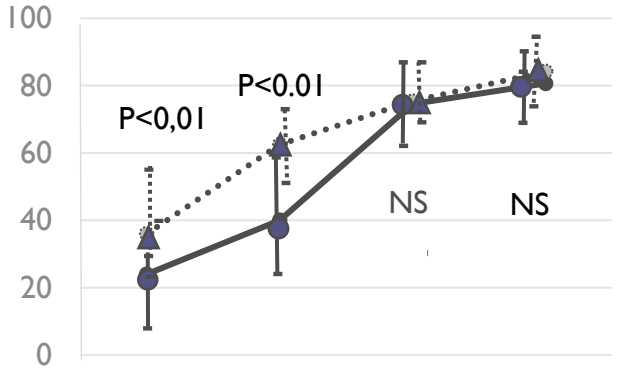
6-9

ICU discharge 2-wks 3-mo 6-9-mo

COVID-19 NON-COVID

Figure 1.3. Outcomes at ICU discharge, 2-wks, 3 and 6-9-mo after ICU discharge





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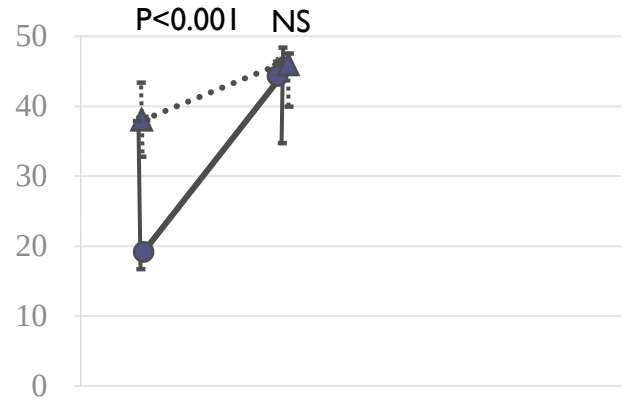

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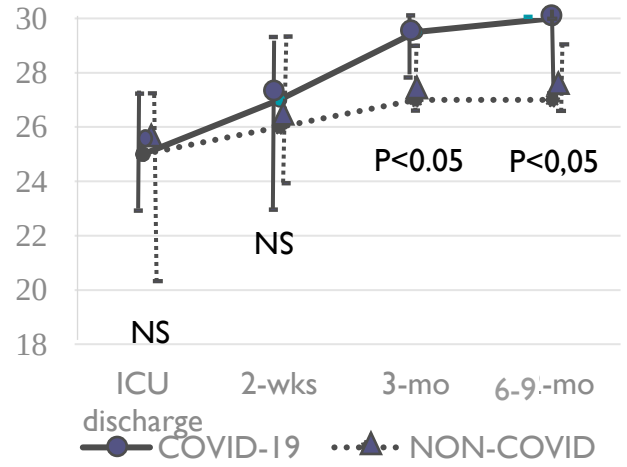

MoCA

Table 3.2. Outcomes at 3-yr after ICU discharge

	No. (%) and median [IQR]	36-mo after ICU discharge		
		COVID-19	Non-COVID	p-value
		n = 21	n = 15	
	Quality of life			
	Death during follow up	0 (0)	6 (29)	
	Poor QoL	2 (9.5)	6 (40.0)	
→	EQ-VAS score	75 [70-80]	65 [53-73]	0.05
→	EQ-5D-5L mobility	0.000 [0.000-0.000]	0.031 [0.000-0.0059]	0.007
	EQ-5D-5L self care	0.000 [0.000-0.000]	0.000 [0.000-0.008]	0.2
→	EQ-5D-5L usual activities	0.000 [0.000-0.000]	0.050 [0.000-0.050]	0.008
	EQ-5D-5L pain / discomfort	0.070 [0.000-0.070]	0.120 [0.000-0.250]	0.2
	EQ-5D-5L anxiety / depression	0.000 [0.000-0.006]	0.060 [0.000-0.110]	0.11
→	EQ-5D Index score	0.900 [0.830-0.960]	0.730 [0.430-0.850]	0.009

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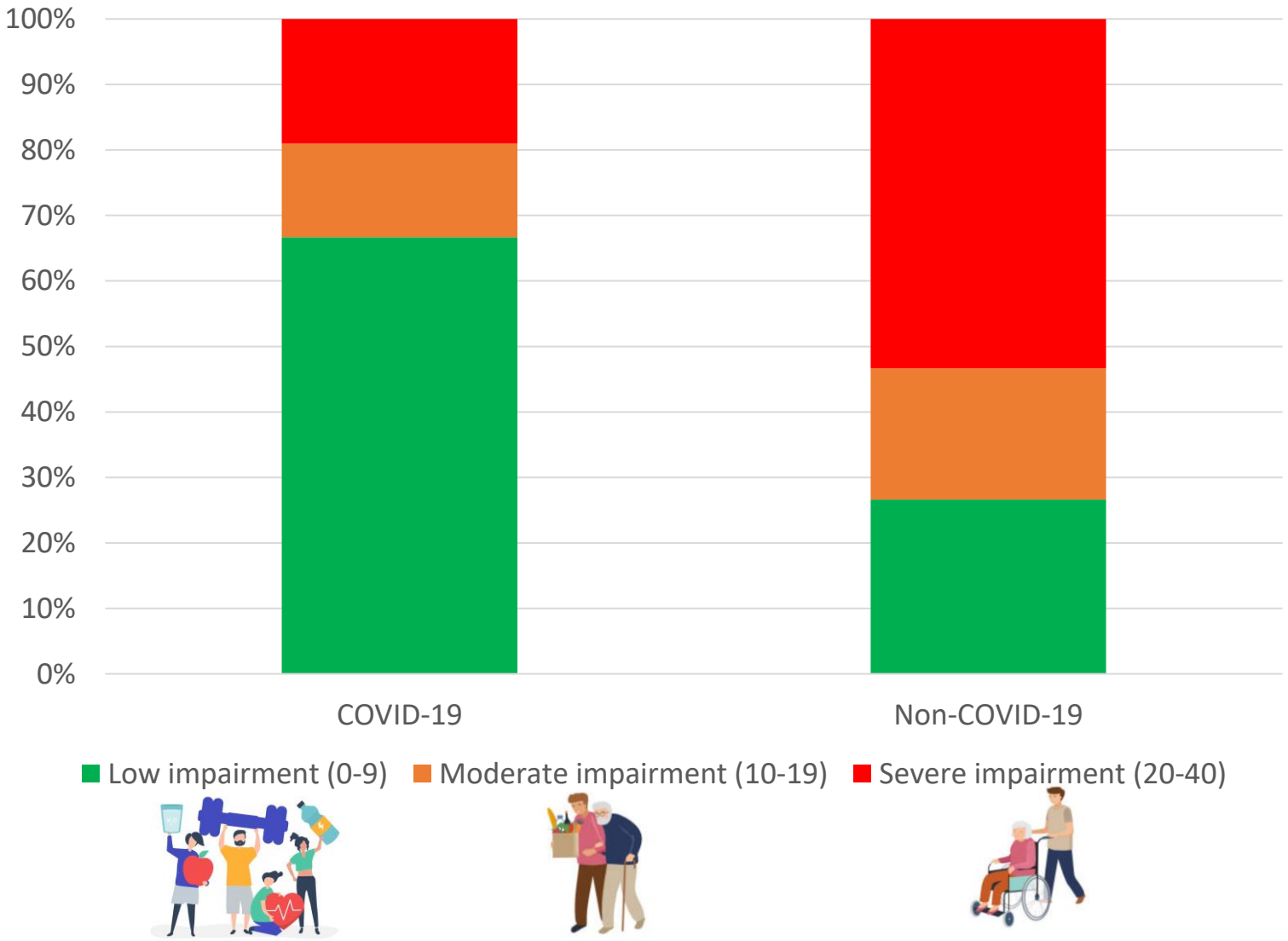
	COVID-19	Non-COVID	p-value
	n = 21	n = 15	
Psychological status			
HADS-D	2.0 [1.0-4.0]	6.0 [2.0-7.0]	0.038
HADS-D ≥ 8/21	2 (9.5)	3 (20)	
HADS-A	4.5 [2.5-7.3]	6.0 [4.0-12.0]	0.13
HADS-A ≥ 8/21	6 (28.6)	6 (40)	
IES-R	8 [2-15]	7 [2-34]	0.5
IES-R ≥ 30/88	2 (9.5)	5 (33.3)	

Table 3.3. Outcomes at 3-yr after ICU discharge

No. (%) and median [IQR]	36-mo after ICU discharge		
	COVID-19	Non-COVID	p-value
	n = 21	n = 15	
Social status			
WSAS ability to work	2.0 [0.0-4.0]	5.5 [4.0-8.0]	0.003
WSAS home management	0.0 [0.0-3.0]	4.5 [2.2-6.0]	0.007
WSAS social leisure activities	0.0 [0.0-3.0]	4.5 [2.2-6.0]	0.018
WSAS private leisure activities	0.0 [0.0-4.0]	5.0 [2.5-6.0]	0.010
WSAS close relationships	0.0 [0.0-0.0]	2.0 [0.0-4.0]	0.024
WSAS score	2 [0-12]	21 [10-29]	0.023

Figure 2. Comparison of the distribution of WSAS between COVID-19 and Non-COVID-19 patients



Discussion

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Heesakkers et al. JAMA 2022;327:559-565

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Physical function at ICU discharge is more limited in COVID-19 ICU survivors than Non-COVID-19 ICU survivors. However, muscle function improved more promptly during hospital stay among COVID-19 versus Non-COVID-19 ICU survivors, leading to similar functionality at hospital discharge.

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In COVID-19 ICU survivors, significant improvements in handgrip strength (HGS) but not 6MWD were seen over time.

Latronico et al. Thorax 2022; 77:300-303

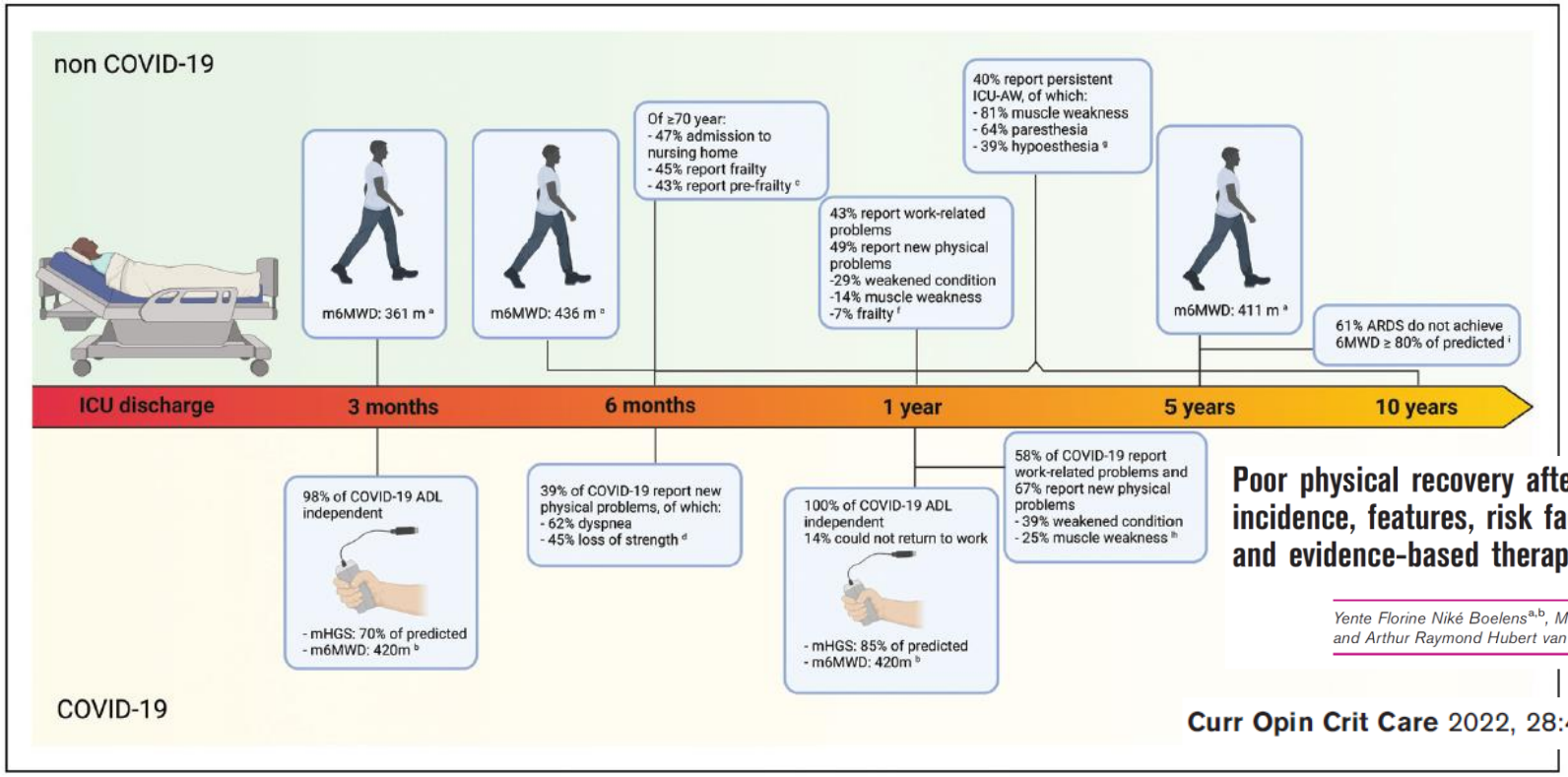
Still, 86% of COVID-19 patients could return to work one year after ICU discharge, which is substantially higher than patients surviving classical ARDS (40%).

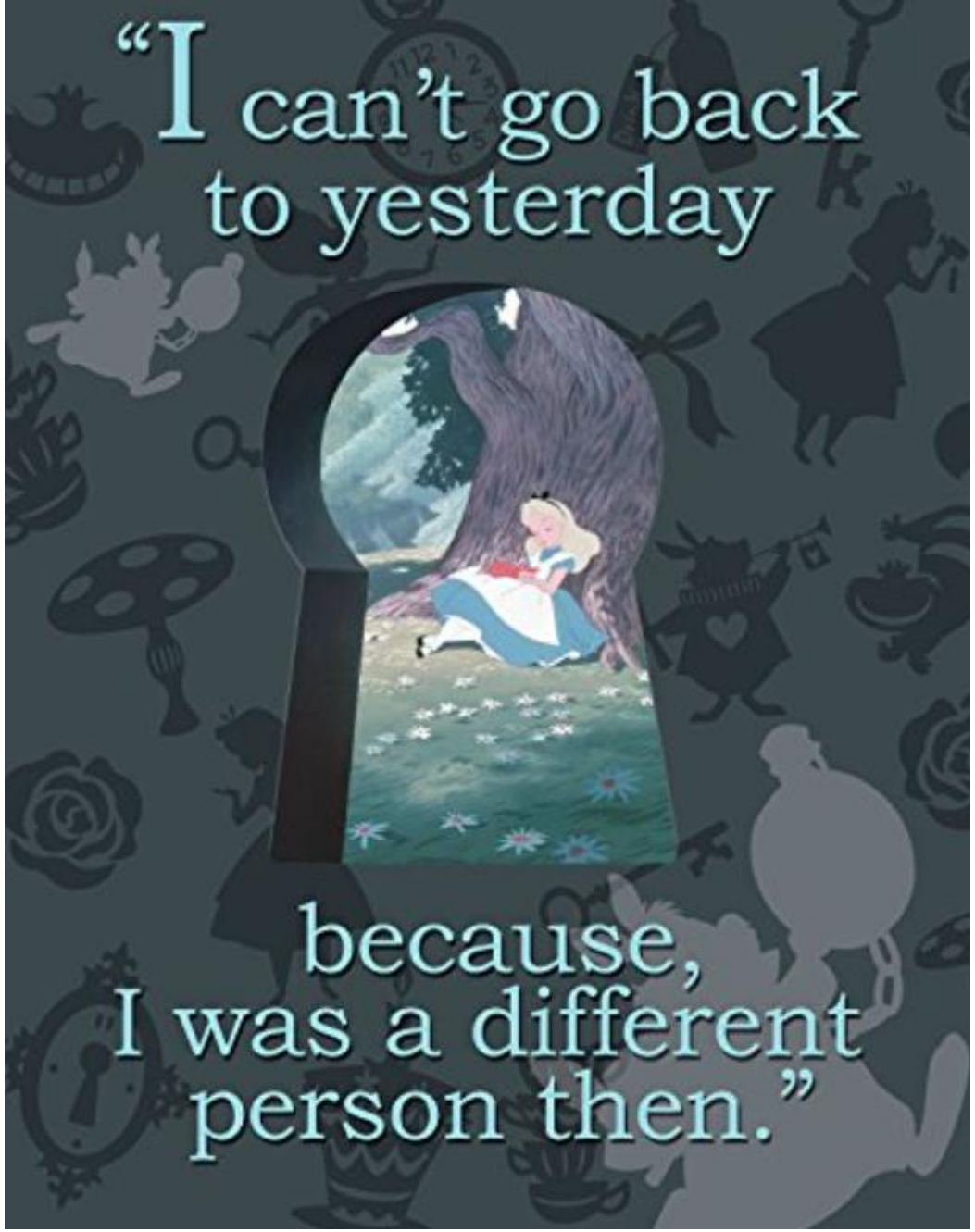
Latronico et al. Thorax 2022; 77:300-303

Conclusion

COVID-19 ICU survivors are a vulnerable group concerning ICUAW, but they show better tendency towards physical rehabilitation than non-COVID pneumosepsis ICU survivors during the post-ICU hospitalization period.

COVID-19 ICU patients might therefore benefit from early, more intensive physical therapy.





Merci pour votre attention