/Salut

Parc Sanitari Pere Virgili

Barceloneta CENTRE D'ATENCIÓ PRIMÀRIA

CUAP Gràcia

Vila Olímpica CENTRE D'ATENCIÓ PRIMÀRIA

Larrard CENTRE D'ATENCIÓ PRIMÀRIA

Intermediate care and rehabilitation during the COVID-19 pandemic

Marco Inzitari, MD, PhD
Janet Prvu Bettger, PhD

IFIC Webinar July 22, 2020

DUKE

A case study

Pragmatic Innovations in Post-Acute and Long-Term Care Medicine
Feasible new, practical products or approaches intended to improve outcomes or processes in post-acute or long-term care

How a Barcelona Post-Acute Facility became a Referral Center for Comprehensive Management of Subacute Patients With COVID-19

Marco Inzitari MD, PhD [a,b,*], Cristina Udina MD [a,b], Oscar Len MD [c], Joan Ars PT [a,b], Cristina Arnal MD [a,b], Hugo Badani MD [a], Vanessa Davey RN, PhD [a], Ester Risco RN, PhD [a], Pere Ayats OT [a], Ana M. de Andrés Pharm, PhD [a], Cristina Mayordomo MD [a], Francisco J. Ros MD [d], Alessandro Morandi MD, MPH [a,e], Matteo Cesari MD, PhD [f]

[a] *Research Group on Aging, Frailty and Care Transitions in Barcelona, Parc Sanitari Pere Virgili and Vall d'Hebron Research Institute (VHIR), Barcelona, Spain*
[b] *Universitat Autonoma de Barcelona, Barcelona, Spain*
[c] *Infectious Diseases Department, Hospital Universitari Vall d'Hebron, Barcelona, Spain*
[d] *Medical Oncology Department, Vall d'Hebron University Hospital and, Vall d'Hebron Institute of Oncology (VHIO), Barcelona, Spain*
[e] *Ospedale Le Ancelle, Fondazione Teresa Camplani, Cremona, Italy*
[f] *Università Statale and Policlinico Maggiore, Milan, Italy*

A B S T R A C T

The COVID-19 pandemic's greatest impact is among older adults. Management of the situation requires a systemic response, and post-acute care (PAC) can provide an adequate mix of active treatment, management of associated geriatric syndromes and palliative care, both in the acute phase, and in post–COVID-19 recovery. In the region of Catalonia, Spain, selected PAC centers have become sites to treat older patients with COVID-19. Referrals come from the emergency department or COVID-19 wards of the acute reference hospitals, nursing homes, or private homes. We critically review the actions taken by Parc Sanitari Pere Virgili, a PAC facility in Barcelona, to manage the pandemic, including its administration, health care, communication, psychological support, and ethical frameworks. We believe that the strategies we used and the lessons we learned can be useful for other sites and countries where similar adaptation of existing facilities may be implemented.

Keywords: COVID-19, post-acute care, older adults, geriatrics, geriatric syndromes, palliative care

Problem/Significance

Older adults are most affected by the COVID-19 pandemic.[1–4] Spain, with an exceptionally large aging population, has had one of the worst outbreaks worldwide.[5] The management of COVID-19 in older persons presents specific challenges:

- Its presentation can be atypical,[6] and treatment options com-

Innovation

The pandemic requires a systemic response. Combined with the intensive resources of acute care, and the "gate keeping" role of primary care, geriatric post-acute care (PAC) can be a key resource.

1. PAC offers an alternative to conventional hospitalization, reducing burden on acute care.

Intermediate care allows to combine, in the same setting:

- Acute care for older adults with limited therapeutic effort
- Palliative care
- Tailored rehabilitation
  - Early mobilization
  - Fast track rehab → resistance + respiratory training
  - Longer term geriatric rehab

Pilot data on fast-track rehab

Resistance
2-4 exercises
2 series x 10 repetitions (30-80% RM)
Upper and lower limb functional exercises

Endurance
5-15 minutes
Constant or continuous variable work
Intensity: 3 to 5 modified Borg scale
Step, cycle ergometer or walking

Balance
2 exercises
Static & dynamic balance
Obstacles, unstable surfaces, unbalance
Functional exercises

Others
Breathing exercises and manual therapy were performed when required
+
Recommendations to decrease sedentary behavior

Mean (SD) or N (%)

Variables	Total (N=33)		ICU (N=20)		Non-ICU (N=13)		p-value
Age	66.2 (12.8)		58.2 (7.9)		78.4 (8.1)		<0.001
Women	19 (57.6)		10 (50)		9 (69.2)		0.3
N Comorbidities	1.46 (1.6)		0.5 (0.8)		2.8 (1.8)		<0.001
Polypharmacy (≥5 drugs)	24 (72.7)		13 (65)		11 (84.6)		0.26
Pneumonia	30 (90.9)		20 (100)		10 (77)		0.052
Pre-COVID-19 functional status							
Barthel Index (0-100)	98.5 (5.8)		100 (0.0)		96.1 (8.9)		0.28
Lawton Index (0-8)	6.7 (2.1)		7.8 (0.5)		4.9 (2.3)		<0.001
Frail (CFS category 4-9)	4 (12.1)		0 (0)		4 (30.8)		0.02
Cognitive function at study baseline (rehabilitation admission)							
MoCA (0-30)	22.6 (4.8)		22.9 (4.7)		21.6 (5.3)		0.59
SDMT (age-adjusted)	6.5 (2.9)		7 (2.7)		5.7 (3.3)		0.31
Pre-post comparison †	Baseline	Change †	Baseline	Change †	Baseline	Change †	p-value ICU
Barthel index (0-100)	76.5 (17.4)	18.5 (12.9) ‡	80.5 (14.7)	18.2 (12.4) ‡	70.4 (19.9)	18.8 (14.01) ‡	0.95
SPPB total (0-12)	5.4 (2.7)	3.7 (2.1) ‡	5.5. (2.8)	4.4 (2.1) ‡	5.3 (2.6)	2.5 (1.7) ‡	0.009
SPPB balance (0-4)	2.8 (1.3)	0.8 (1.1) ‡	2.7 (1.3)	1.1 (1.2) ‡	3.1 (1.2)	0.4 (0.7)	0.068
SPPB gait speed, m/s	0.5 (0.2)	0.3 (0.19) ‡	0.5 (0.25)	0.4 (0.2) ‡	0.5 (0.21)	0.2 (0.1) ‡	0.006
SPPB chair stand, s	35.4 (21.4)	- 14.1 (16.9) ‡	33.7 (21.1)	-15.3 (16.9) ‡	38.1 (22.3)	-12.2 (17.6) ‡	0.28
Single-podal balance	3 (9.1)	10 (30.3) ‡	1 (5)	9 (45) ‡	2 (15.4)	1 (7.7)	
Unassisted gait (FAC 4-5)	19 (57.6)	14 (42.4) ‡	13 (65)	7 (35) ‡	6 (46.2)	7 (53,8) ‡	

Submitted