

Covid-19 L'impatto sulla qualità della vita

HRQoL- Health Related Quality of Life

In Intensive Care Unit (ICU) survivors

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Physical Symptoms

- Breathing difficulties
- Weakness and balance problems

Cognitive symptoms

- Memory
- Concentration

Psychological symptoms

- Anxiety
- Depression
- PTSD
- Sleep problems

Post-Intensive Care Syndrome

Patients recovering from critical illness may experience a combination of cognitive, psychological and physical signs and symptoms that remain for months to many years after critical illness, known as post-intensive care syndrome (PICS). The common symptoms of PICS include:



The major risk factors for PICS

- acute respiratory distress syndrome (ARDS)
- prolonged mechanical ventilation and hypoxia
- sepsis
- multiorgan failure
- delirium
- isolation

Quality of life of COVID-19 critically ill survivors after ICU discharge (N=200 pts) :

90 days follow-up

Health-related Quality of Life

Mobility

Vision

Hearing

Breathing

Sleeping

Eating

Speech

Excretion

Usual activities

Mental function

Discomfort and symptoms

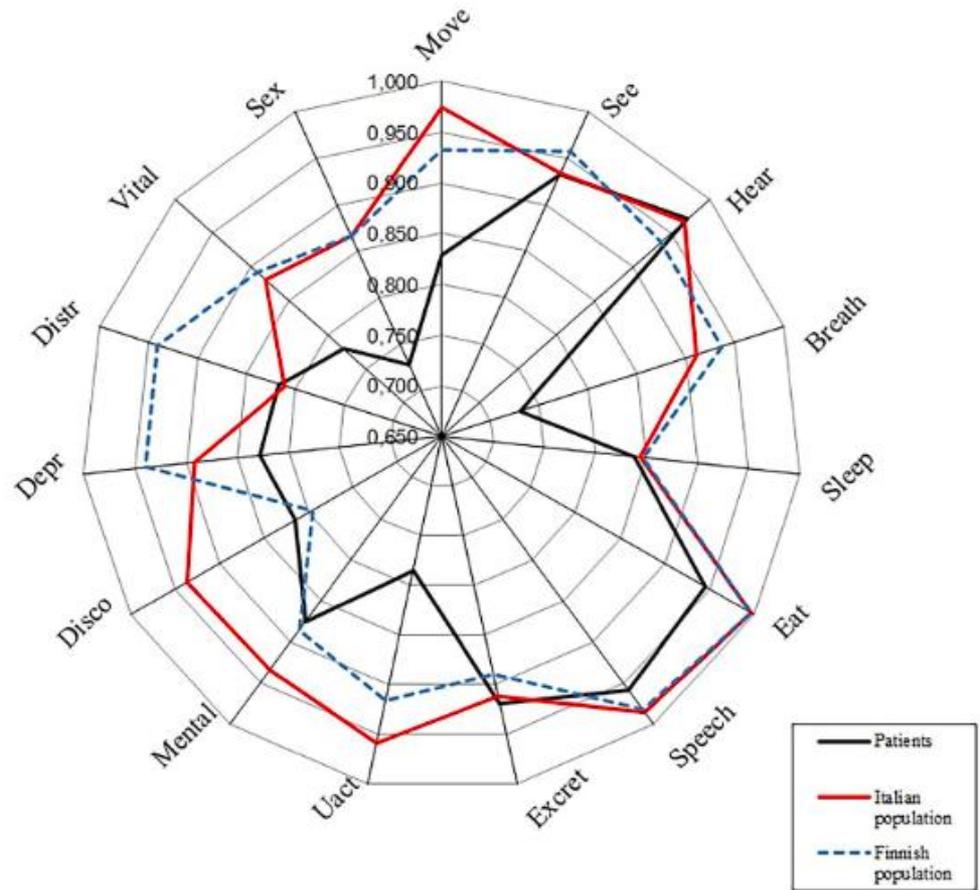
Depression

Distress

Vitality

Sexual activity

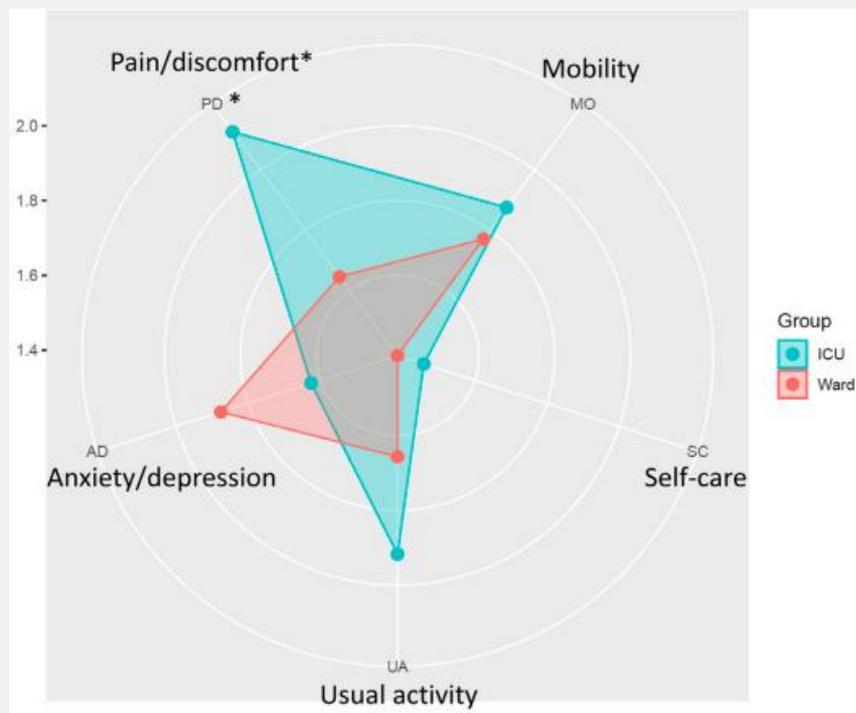
15D



Post-discharge persistent symptoms and health-related quality of life after hospitalization for COVID-19

4 months follow up

- ICU pts (24)
- ward pts (120)



	Overall N= 120	Ward patients N= 96	ICU patients N= 24	P value
Persistent symptoms				
Cough	20 (16.7)	14 (14.6)	6 (25.0)	0.358
Chest pain	13 (10.8)	11 (11.5)	2 (8.3)	0.941
Fatigue	66 (55.0)	52 (54.2)	14 (58.3)	0.891
Dyspnoea	50 (41.7)	38 (39.6)	12 (50.0)	0.487
Ageusia	13 (10.8)	9 (9.4)	4 (16.7)	0.509
Anosmia	16 (13.3)	14 (14.6)	2 (8.3)	0.638
Hair loss	24 (20.0)	18 (18.8)	6 (25.0)	0.690
Attention disorder	32 (26.7)	28 (29.2)	4 (16.7)	0.327
Memory loss	41 (34.2)	36 (37.5)	5 (20.8)	0.194
Sleep disorder	37 (30.8)	29 (30.2)	8 (33.3)	0.535



Uccelli - Cristina Pedrinola - Giovanni

L'APRILE 2020



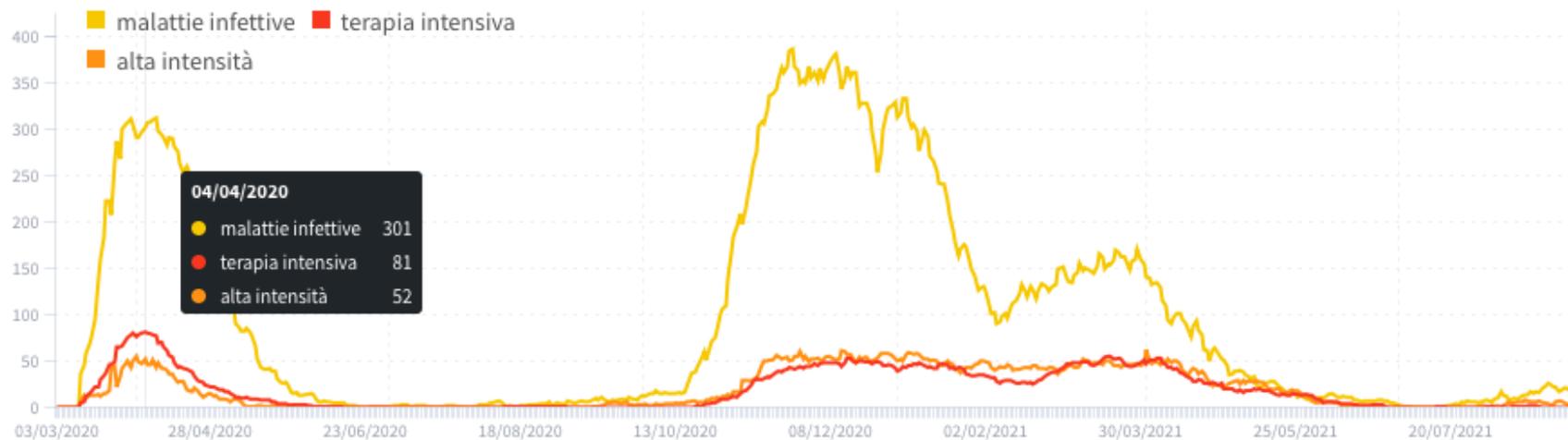
Di quel periodo non ricordo quasi nulla



In quei giorni non si sapeva ancora bene il Covid cosa fosse

Situazione sanitaria emergenza COVID-19 Provincia Autonoma di Trento

Situazione al
giorno 04/09/2021



Health-related quality of life, social and economic consequences of COVID-19 in critically ill survivors at 6-months follow-up

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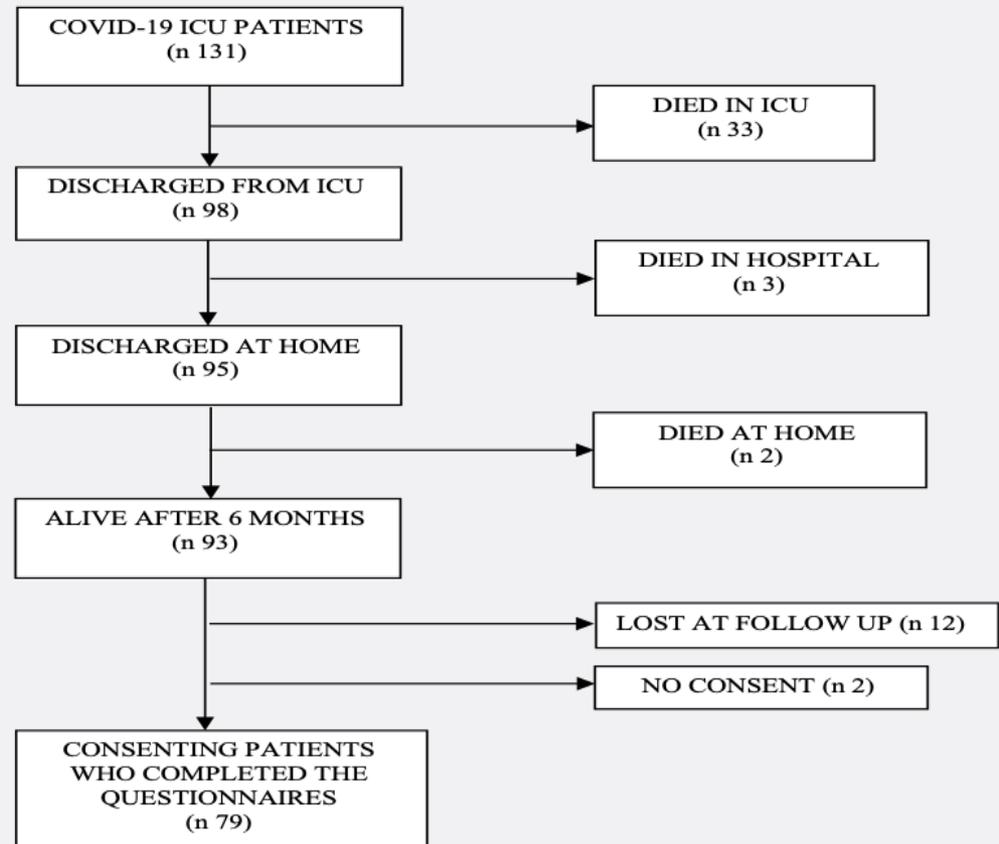
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Study Flow chart



DEMOGRAPHIC CHARACTERISTICS

Number of patients	79
Age (years)	63 (57-61)
Sex N	
Male	66 (84%)
Female	13 (16%)

SOCIO-ECONOMIC CHARACTERISTICS

Family unit composition	
single	9 (11.4%)
≥ two people	70 (89%)
Population of residency	
< 15.000	63 (80%)
>100.000	12 (15.2%)
Employment status	
Active worker	31 (46%)
Retired	43 (54%)
Monthly Income (€)	
<500	4 (5.2%)
500-1000	15 (19.5%)
1000-1500	22 (28.6%)
1500-2000	12 (15.6%)
2000-2500	13 (16.9%)
2500-3000	3 (3.9%)
> 3000	8 (10.4%)
Education	
ISCED 0-2	27 (34.2%)
ISCED > 2	51 (64.5%)

CLINICAL CHARACTERISTICS

Comorbidities	
Hypertension	30 (37.9%)
Diabetes	7 (8.8%)
Chronic liver or kidney disease	0
Ischemic heart disease	6 (7.6%)
Neoplasm	3 (3.8%)
Immunocompromised	0
Asthma and/or COPD	10 (12.7%)
BMI (kg/m ²)	27 (25-29)
Time from symptoms to hospital admission (days)	7 (5-10)
SOFA score on ICU admission	6 (4-7)
SAPS II score on ICU admission	27 (24-33)
PaO ₂ /FiO ₂ on ICU admission (worst)	160 (114-225)
Renal replacement therapy (N)	31 (39.2%)
Prone positioning (N)	35 (44.3%)
Hydroxychloroquine (N)	76 (97.4 %)
Steroids (N)	37 (46.8%)
Tocilizumab (N)	16 (20.3%)
Tracheostomy (N)	22(28.2%)
Duration of mechanical ventilation (days)	16 (12-25)
ICU LOS (days)	20 (13-28)
Hospital LOS (days)	40 (29-49)

EQ-5D-5L

Valutazione qualità della vita

Mobility		1 ✓ 3 4 5
Self-Care		✓ 2 3 4 5
Usual Activities		1 ✓ 3 4 5
Pain/Discomfort		1 2 ✓ 4 5
Anxiety/Depression		1 2 3 4 ✓ 5

EQ = EuroQol Group

The group that developed instruments to measure health-related quality of life, copyright owner of the EQ-5D-5L

5D = 5 Dimensions

Health-related questions are divided into 5 dimensions

5L = 5 Levels

Each health-related dimension has 5 levels of response

EQ-5D-5L



Mobility



Self-Care



Usual Activities



Pain/Discomfort



Anxiety/Depression

No Problems	1	1	1	1	1
Slight Problems	2	2	2	2	2
Moderate Problems	3	3	3	3	3
Severe Problems	4	4	4	4	4
Unable/Extreme Problems	5	5	5	5	5

5L = 5 Levels

EQ-5D-5L

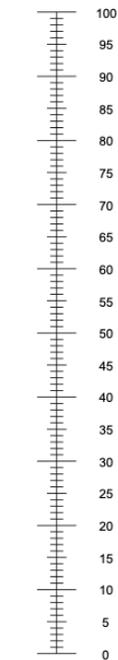
LE DOMANDE

- Vorremmo sapere quanto è buona o cattiva la sua salute OGGI.
- Questa è una scala numerata che va da 0 a 100.
- 100 rappresenta la migliore salute che può immaginare. 0 rappresenta la peggiore salute che può immaginare.
- Segni una X sul punto della scala per indicare com'è la sua salute OGGI.
- Poi, scriva nella casella qui sotto il numero che ha segnato sulla scala numerata.

LA SUA SALUTE OGGI =

EQ-VAS

La migliore salute che può immaginare



La peggiore salute che può immaginare

EQ-5L-5D

Sotto ciascun argomento, faccia una crocetta sulla casella (UNA SOLA) che descrive meglio la sua salute OGGI.

1

CAPACITÀ DI MOVIMENTO

- Non ho difficoltà nel camminare
- Ho lievi difficoltà nel camminare
- Ho moderate difficoltà nel camminare
- Ho gravi difficoltà nel camminare
- Non sono in grado di camminare

2

CURA DELLA PERSONA

- Non ho difficoltà nel lavarmi o vestirmi
- Ho lievi difficoltà nel lavarmi o vestirmi
- Ho moderate difficoltà nel lavarmi o vestirmi
- Ho gravi difficoltà nel lavarmi o vestirmi
- Non sono in grado di lavarmi o vestirmi

3

ATTIVITÀ ABITUALI (per es. lavoro, studio, lavori domestici, attività familiari o di svago)

- Non ho difficoltà nello svolgimento delle attività abituali
- Ho lievi difficoltà nello svolgimento delle attività abituali
- Ho moderate difficoltà nello svolgimento delle attività abituali
- Ho gravi difficoltà nello svolgimento delle attività abituali
- Non sono in grado di svolgere le mie attività abituali

4

DOLORE O FASTIDIO

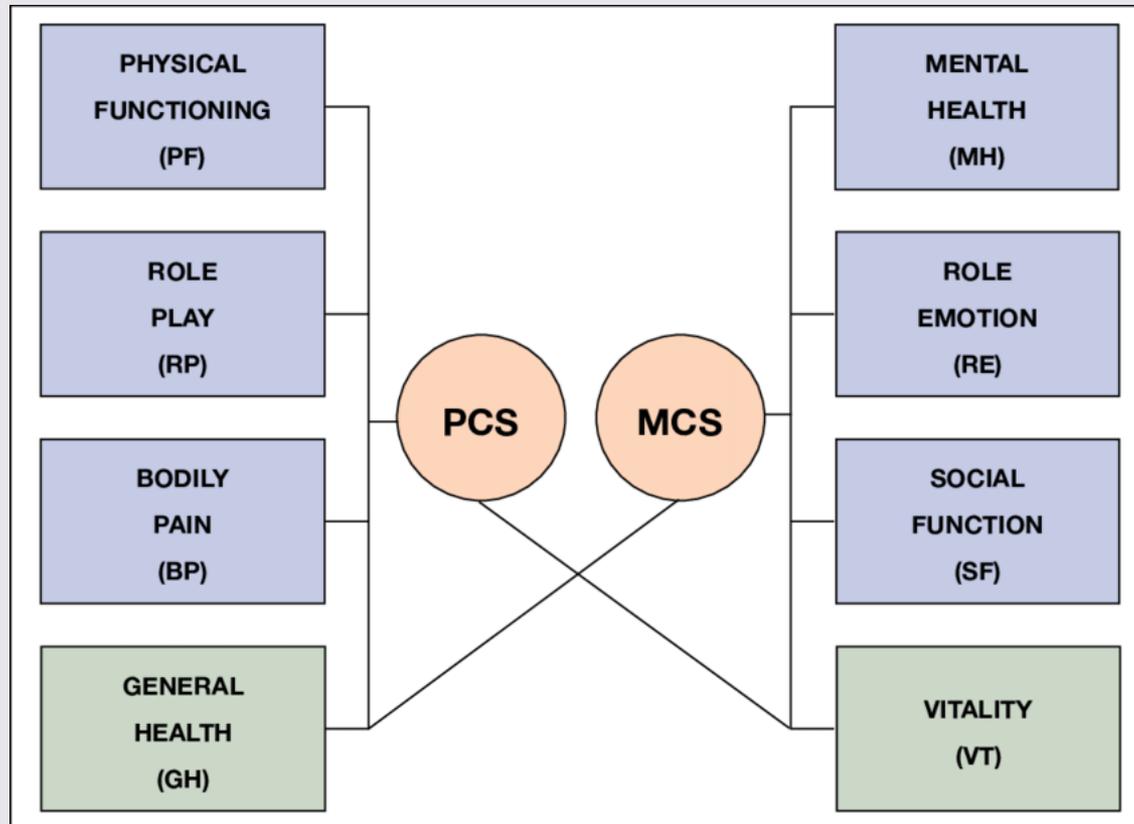
- Non provo alcun dolore o fastidio
- Provo lieve dolore o fastidio
- Provo moderato dolore o fastidio
- Provo grave dolore o fastidio
- Provo estremo dolore o fastidio

5

ANSIA O DEPRESSIONE

- Non sono ansioso/a o depresso/a
- Sono lievemente ansioso/a o depresso/a
- Sono moderatamente ansioso/a o depresso/a
- Sono gravemente ansioso/a o depresso/a
- Sono estremamente ansioso/a o depresso/a

Questionario di valutazione della qualità della vita (SF-36)



SF-36: DOMANDE

5. Nelle ultime quattro settimane, ha riscontrato i seguenti problemi sul lavoro o nelle altre attività quotidiane, a causa del Suo stato emotivo (quale il sentirsi depresso o ansioso)? Risponda SI o NO a ciascuna domanda

	SI	NO
a. Ha ridotto il tempo dedicato al lavoro o ad altre attività	①	②
b. Ha reso meno di quanto avrebbe voluto	①	②
c. Ha avuto un calo di concentrazione sul lavoro o in altre attività	①	②

9. Le seguenti domande si riferiscono a come si è sentito nelle ultime quattro settimane. Risponda a ciascuna domanda scegliendo la risposta che più si avvicina al Suo caso. Per quanto tempo nelle ultime quattro settimane si è sentito...

(Indichi un numero per ogni domanda)

	Sempre	Quasi sempre	Molto tempo	Una parte del tempo	Quasi mai	Mai
a. Vivace e brillante	①	②	③	④	⑤	⑥
b. Molto agitato	①	②	③	④	⑤	⑥
c. Così giù di morale che niente avrebbe potuto tirarLa su	①	②	③	④	⑤	⑥
d. Calmo e sereno	①	②	③	④	⑤	⑥
e. Pieno di energia	①	②	③	④	⑤	⑥
f. Scoraggiato e triste	①	②	③	④	⑤	⑥
g. Sfinito	①	②	③	④	⑤	⑥
h. Felice	①	②	③	④	⑤	⑥
i. Stanco	①	②	③	④	⑤	⑥

EQ-5D-5L in COVID-19 critically ill survivors after 6 months

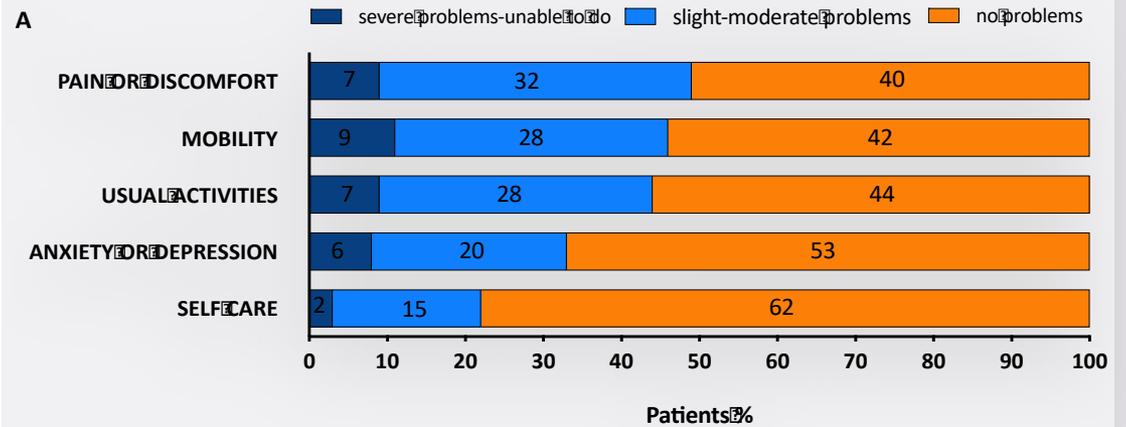
- compared to normal

EQ-5D-5L domains	Y/N	Covid-19 survivors (N=79)	Scalone et al. ²⁷ (N=439)	p
Pain or discomfort	Y	39	147	0.0105
	N	40	292	
Mobility	Y	37	42	< 0.0001
	N	42	397	
Usual activities	Y	35	37	< 0.0001
	N	44	402	
Anxiety and depression	Y	26	116	0.2728
	N	53	323	
Self care	Y	17	9	< 0.0001
	N	62	430	

Data are represented as numbers. Y= problems of any level (level 2 to level5); N=no problems (level 1). Fisher's exact test.

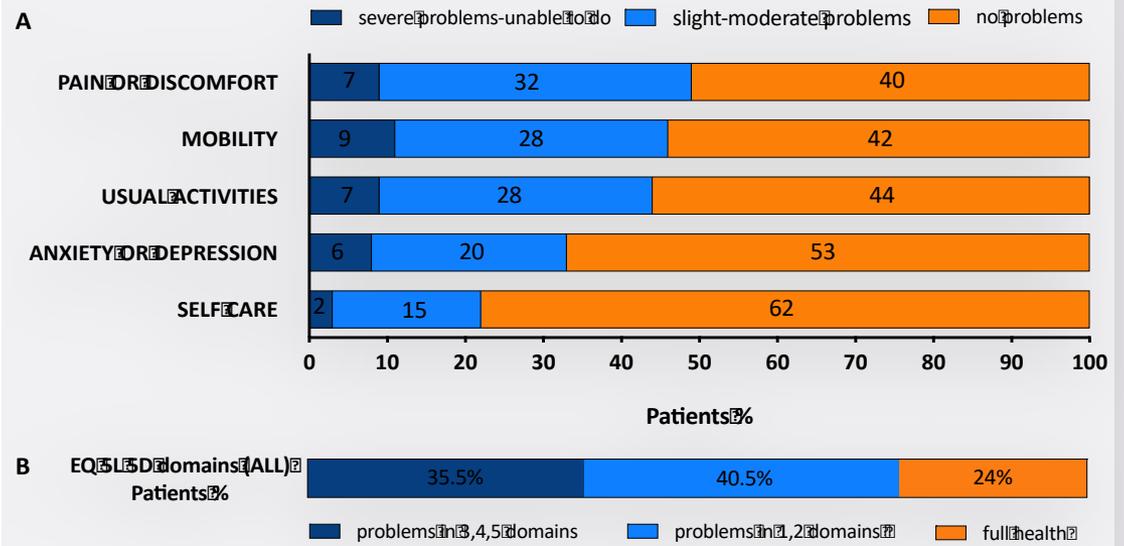
Health related quality of life in COVID-19 critically ill survivors after 6 months

EQ-5L-5D



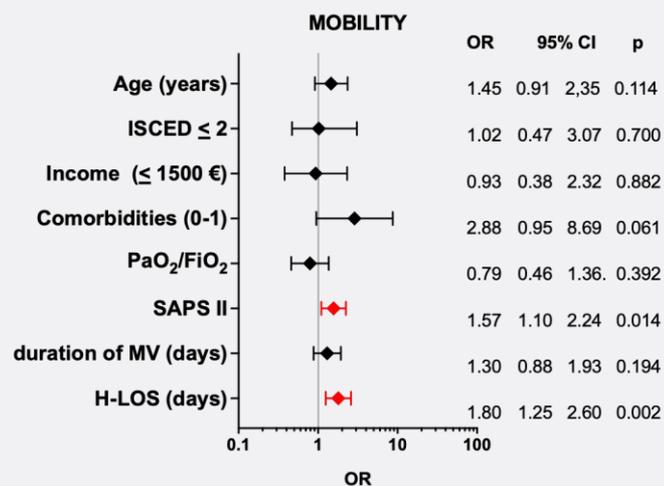
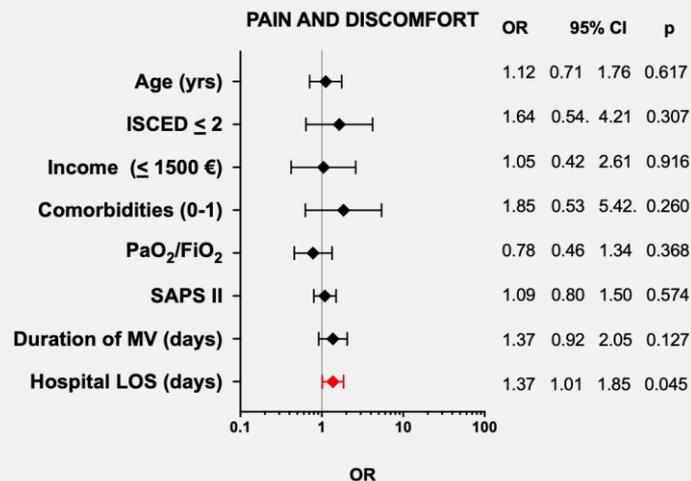
Health related quality of life in COVID-19 critically ill survivors after 6 months

EQ-5L-5D



Factors associated with Health related quality of life in COVID-19 critically ill survivors after 6 months

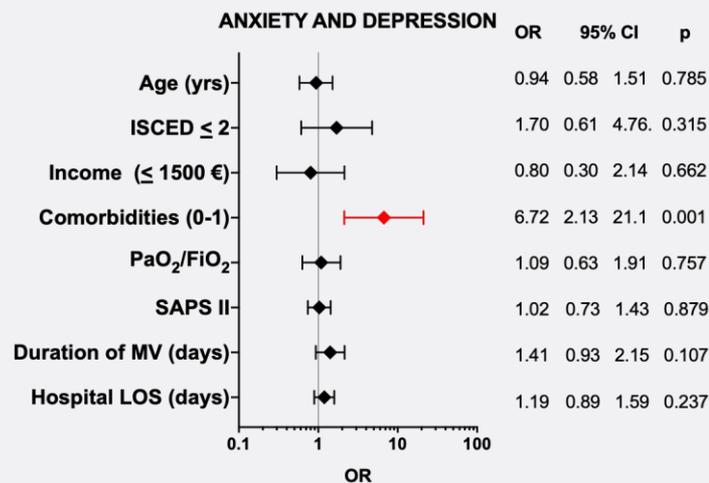
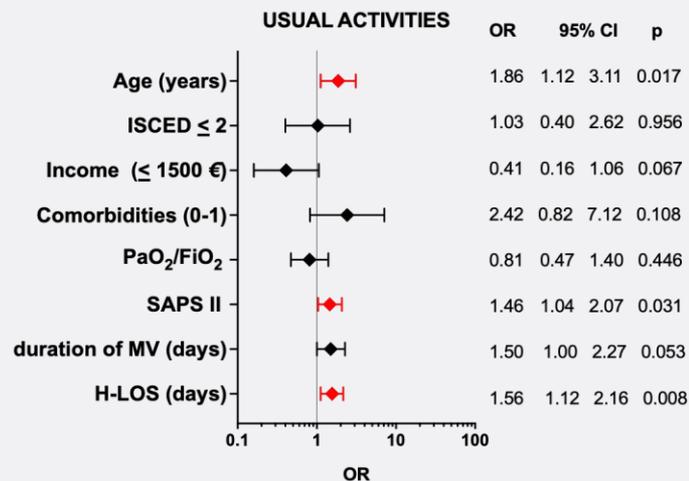
- Dolore
- Mobilità



Logistic regression analysis of factors (γ axis) associated with problems (of any severity) in each of the five EQ-5D-5L domains (dependent variable) and the correspondent forest plots.

Factors associated with Health related quality of life in COVID-19 critically ill survivors after 6 months

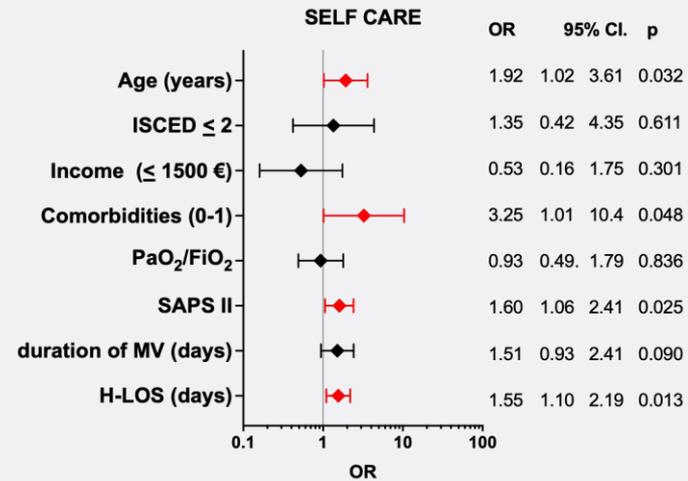
- Attività quotidiane
- Ansia e depressione



Logistic regression analysis of factors (γ axis) associated with problems (of any severity) in each of the five EQ-5D-5L domains (dependent variable) and the correspondent forest plots.

Factors associated with Health related quality of life in COVID-19 critically ill survivors after 6 months

- Cura di sè



Logistic regression analysis of factors (y axis) associated with problems (of any severity) in each of the five EQ-5D-5L domains (dependent variable) and the correspondent forest plots.

Factors associated with **IMPAIRED** quality of life in COVID-19 critically ill survivors after 6 months

- Prolonged hospital stay
- Increased SAPS II
- Increased Age
- Comorbidities

EQ-5L-5D	PAIN DISCOMFORT	MOBILITY	USUAL ACTIVITIES	ANXIETY DEPRESSION	SELF-CARE
Hospital-LOS	X	X	X		X
SAPS II		X	X		X
Age			X		X
Comorbidities				X	X
Education					
Income					
PaO2/FiO2					
Ventilation					

SF-36 measured Health related quality of life in COVID-19 critically ill survivors after 6 months

- compared to normal

SF-36 DOMAINS	COVID 19 SURVIVORS (N=79)	APOLONE ET AL. ²³ (N=2031)	P
Physical function	78.23 (25.60)	84.46 (23.18)	0.0197
Role physical	48.10 (48)	78.21 (35.93)	< 0.0001
Bodily pain	73.92 (28.77)	73.67 (27.65)	0.9373
General health	43.8 (26.03)	65.22 (22.18)	< 0.0001
Vitality	57.03 (20.64)	61.89 (20.69)	0.0405
Social functioning	64.4 (33.44)	77.43 (23.34)	<0.0001
Role emotional	76.79 (40.07)	76.16 (37.25)	0.8831
Mental health	72.91 (19.31)	66.59 (20.89)	0.0082

Data are represented as mean (SD). Differences were analyzed using T-test.

SF-36 domain scores according to demographics, socio-economic and clinical characteristics in critically ill, COVID-19 survivors at follow up

		N=79	Physical Function	Physical Health	Emotional Problems	Energy Fatigue	Emotional Well Being	Social Function	Pain	General Health
Age (yrs)	< 65	43	90 (80-97.5)	75 (0-100)	100 (67-100)	65 (53-70)	80 (70-88)	75 (50-88)	90 (68-100)	40 (25-60)
	>65	36	85 (64-95)	12.5 (0-100)	100 (67-100)	55 (40-71)	78 (56-88)	62.5 (25-100)	77.5 (45-100)	48 (20-70)
	p		p=0.2158	p=0.5171	p=0.9152	p=0.3882	p=0.5626	p=0.4159	p=0.1615	p=0.6715
Education (ISCED)	0-2	27	85 (80-98)	50 (0-100)	100 (100-100)	60 (45-78)	84 (64-92)	87.5 (50-100)	90 (68-100)	50 (20-70)
	> 2	51	85 (63-95)	25 (0-100)	100 (33-100)	55 (45-70)	76 (64-88)	62.5 (25-88)	77.5 (45-100)	45 (25-60)
	p		p=0.3815	p=0.9121	p=0.1990	p=0.5873	p=0.2109	p=0.1362	p=0.0920	0.4841
Monthly Income €	< 1500	41	85 (80-95)	0 (0-100)	100 (67-100)	55 (45-70)	80 (68-88)	62.5 (25-88)	87.5 (50-100)	45 (25-60)
	> 1500	35	90 (70-98)	100 (0-100)	100 (83-100)	65 (50-70)	80 (64-88)	75 (56-100)	77.5 (55-100)	50 (20-75)
	p		p=0.7281	p=0.1537	p=0.7816	p=0.3575	p=1.000	p=0.1844	p=0.8466	0.2239
Comorbidities	0-1	61	90 (80-100)	50 (0-100)	100 (100-100)	65 (50-75)	80 (68-88)	88 (50-100)	90 (68-100)	50 (30-70)
	>1	18	70 (41-90)	0 (0-100)	0 (0-100)	45 (26-55)	62 (45-80)	31 (13-75)	50 (25-85)	15 (5-45)
	p		p=0.0037	p=0.2446	p<0.0001	p=0.0010	P=0.0017	P=0.0021	P=0.0018	P=0.004

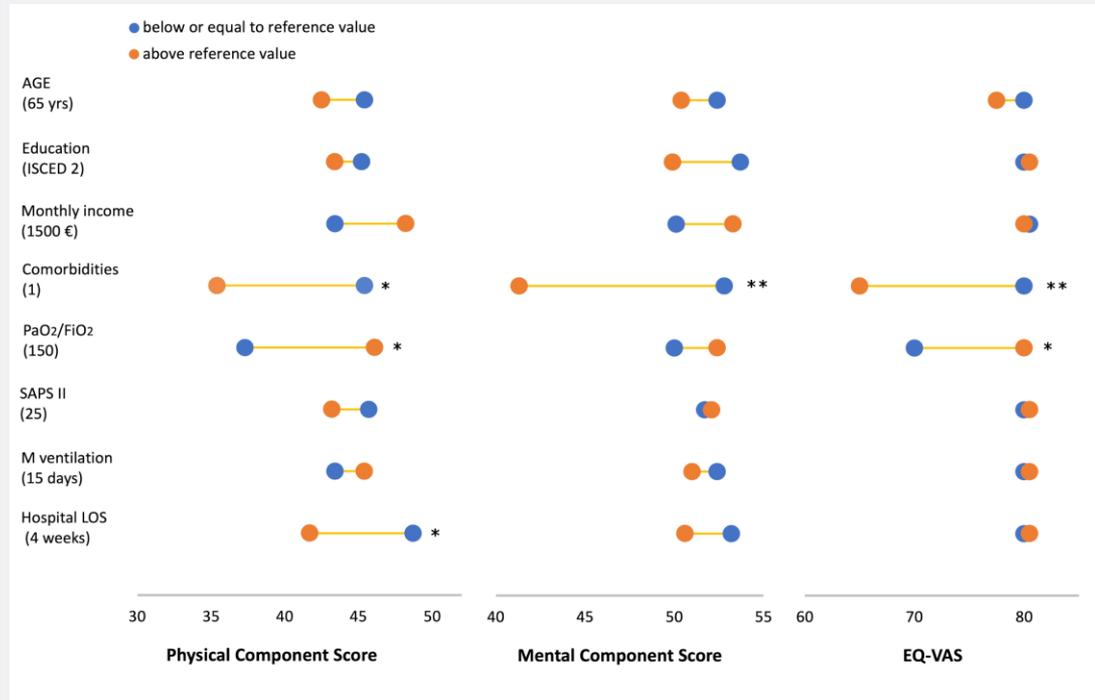
Data are expressed as median (25th -75th percentile) of transformed SF-36 domains. Data are analyzed with Mann-Whitney U test. P values < 0.05, were considered significant.

SF-36 domain scores according to demographics, socio-economic and clinical characteristics in critically ill, COVID-19 survivors at follow up

		N=79	Physical Function	Physical Health	Emotional Problems	Energy Fatigue	Emotional Well Being	Social Function	Pain	General Health
PaO2/FiO2 on ICU admission	<150	34	82.5 (65-95)	0 (0-100)	100 (0-100)	55 (41-69)	80 (58-88)	56 (25-88)	78 (38-100)	33 (16-58)
	>150	44	90 (80-96)	100 (0-100)	100 (0-100)	60 (50-71)	76 (64-88)	88 (50-100)	90 (55-100)	48 (29-71)
	p		p=0.1007	P=0.0388	p=0.0330	p=0.1276	p=0.4059	P=0.0225	P=0.0529	p=0.0313
SAPS II	< 25	28	90 (85-100)	75 (0-100)	100 (67-100)	62.5 (55-73.8)	78 (62-88)	75 (50-87.5)	90 (67.5-100)	37.5 (16-54)
	> 25	51	85 (65-95)	25 (0-100)	100 (67-100)	55 (45-70)	80 (64-88)	75 (25-100)	77.5 (45-100)	50 (25-70)
	p		p=0.0202	p=0.2835	p=0.4662	p=0.1268	p=0.5614	p=0.1481	p=0.0363	0.9283
M ventilation (days)	<15	34	90 (75-99)	50 (0-100)	100 (100-100)	60 (46-70)	78 (60-88)	75 (41-88)	90 (55-100)	40 (20-69)
	>15	44	85 (65-95)	38 (0-100)	100 (67-100)	60 (45-70)	80 (68-88)	69 (38-100)	78 (54-100)	45 (25-61)
	p		p=0.4920	p=0.6844	p=0.3814	p=0.8595	p=0.7883	p=0.8460	p=0.6661	p=0.7352
Hospital LOS (weeks)	<4	23	90 (85-100)	100 (0-100)	100 (100-100)	60 (55-80)	84 (70-88)	88 (50-100)	100 (89-100)	45 (20-63)
	>4	56	85 (64-95)	0 (0-100)	100 (33-100)	58 (40-70)	76 (59-88)	75 (25-88)	73 (45-100)	45 (20-65)
	p		p=0.0344	p=0.0112	p=0.0806	p=0.0411	p=0.1061	p=0.0945	p=0.0025	p=0.4634

Data are expressed as median (25th -75th percentile) of transformed SF-36 domains. Data are analyzed with Mann-Whitney U test. P values < 0.05, were considered significant.

SF-36 PHYSICAL and MENTAL and EQ-VAS according to population characteristics



Conclusioni

A 6 mesi e oltre dalla dimissione dalla terapia intensiva, molti pazienti riferiscono una qualità della vita sensibilmente ridotta, per problemi di salute fisica o psichica come dolore, limitazione della mobilità, compromissione nello svolgimento delle attività quotidiane, mentre sintomi come ansia e depressione sono meno frequenti.

Più di una comorbidità, insufficienza respiratoria grave all'ingresso (i.e. ipossiemia), score di gravità elevato (SAPS) e ricovero ospedaliero prolungato sono associati a una qualità di vita percepita inferiore nei sopravvissuti alla terapia intensiva.

Se ciò sia frutto del “long covid” o se faccia parte della syndrome post terapia intensiva (PICS), molto frequente nei pazienti non-covid in TI, non è chiaro

GRAZIE



Functional status of COVID-19 critically ill survivors at ICU and hospital discharge

- N=118 COVID-19 survivors treated with invasive mechanical ventilation

