

# LONG TERM COGNITIVE AND FUNCTIONAL STATUS IN DANISH ICU PATIENTS WITH COVID-19

A NATIONWIDE, POPULATION-BASED, PROSPECTIVE COHORT STUDY

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# OUTCOMES – 6 & 12 måneder

## Primære

- ❖ Kognitive funktion → The Mini Montreal Cognitive Assessment (MiniMoCA)
- ❖ Skrøbelighed → Clinical Frailty Scale (CFS)

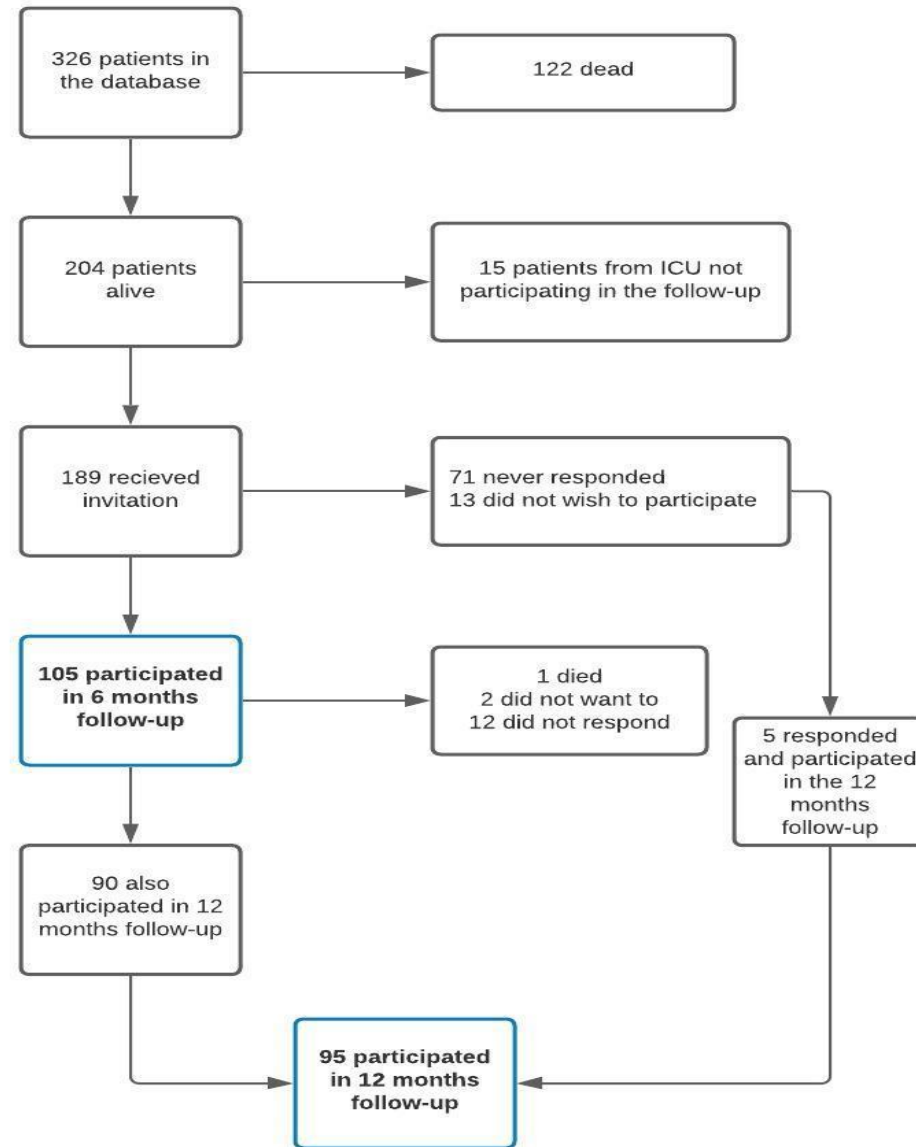
## Sekundære

- ❖ Mortalitet
- ❖ Selvvurderet helbred → 5Q-5D-5L
- ❖ Funktionel status → Barthel (ADL) & Lawton-Brody (IADL)
- ❖ Fatigue → Fatigue Assessment Scale (FAS)
- ❖ Association mellem respiratordage & CFS/MiniMoCA

# METODE

- ❖ Prospektivt kohorte studie
- ❖ Datatilsynet & VEK
- ❖ Tilladelse fra hver intensiv til at kontakte patienter
- ❖ E-boks & telefon opkald
- ❖ Mundtlig & skriftlig tilladelse
- ❖ Præ-indlæggelse data fra danske COVID-19 database
- ❖ Telefon interviews 6 & 12 (+/- 2) måneder efter ITA indlæggelse

# RESULTATER



# RESULTATER

	Interviewed n = 110	Not interviewed n = 94
<b>Age, median (range)</b>	67 (25 – 86)	62 (23 – 90)
<b>Male, n (%)</b>	77 (70%)	64 (68%)
<b>Ventilator treatment, n (%)</b>	88 (80%)	72 (77%)
<b>Ventilator days median (IQR)</b>	9.5 (4 – 17)	11.5 (3.3 – 18)
<b>ICU length of stay – days, median (IQR)</b>	13.5 (8 – 21)	14 (7.3 – 23)
<b>Dialysis treatment, n (%)</b>	15 (14%)	17 (18%)
<b>Comorbidity (any), n (%)</b>	73 (66%)	59 (63%)
<b>Hypertension</b>	54 (49%)	41 (44%)
<b>Ischemic heart disease</b>	13 (12%)	11 (12%)
<b>Hearth failure</b>	3 (3%)	4 (4%)
<b>Chronic pulmonary disease</b>	16 (15%)	14 (15%)
<b>Chronic kidney disease</b>	13 (12%)	5 (5%)
<b>Liver cirrhosis</b>	0	0
<b>Diabetes</b>	22 (20%)	17 (18%)
<b>Active cancer</b>	2 (2%)	3 (3%)
<b>Haematological malignancy</b>	4 (4%)	2 (2%)
<b>Immunosuppressed</b>	8 (7%)	8 (9%)
<b>Region, n</b>		
<b>Capital region</b>	39	41
<b>Zealand region</b>	21	4
<b>Northern region</b>	10	10
<b>Central region</b>	25	17
<b>Southern region</b>	15	22

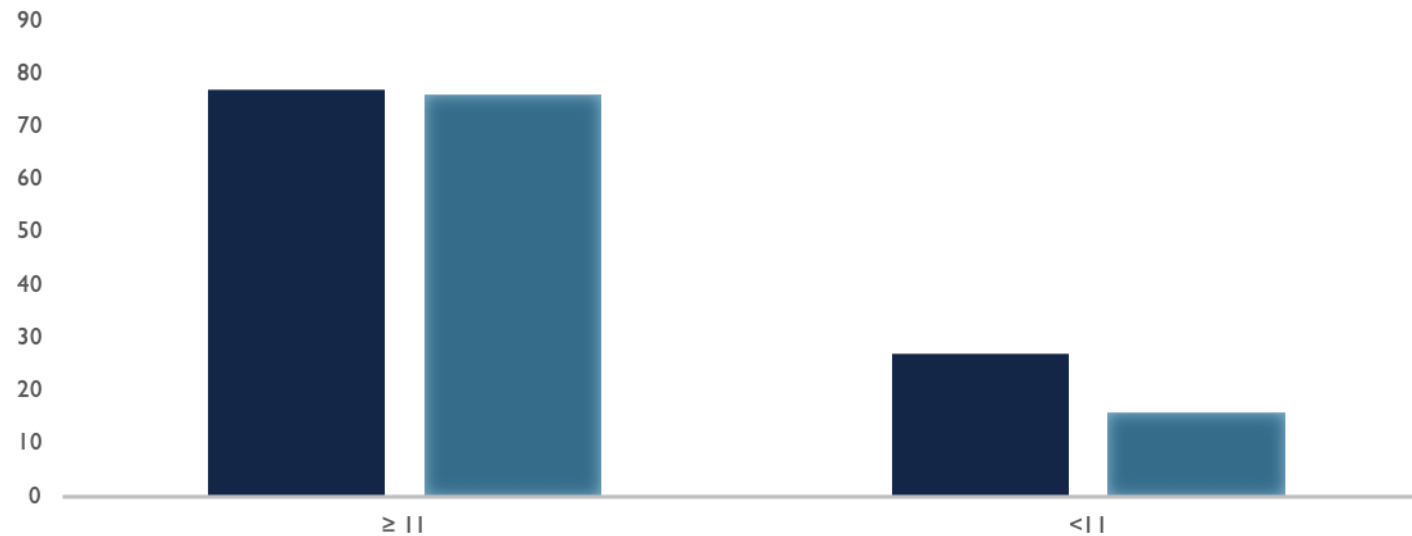
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# PRIMÆR OUTCOME

## MINIMOCA

■ MinMoCA 6 months ■ MinMoCA 12 months

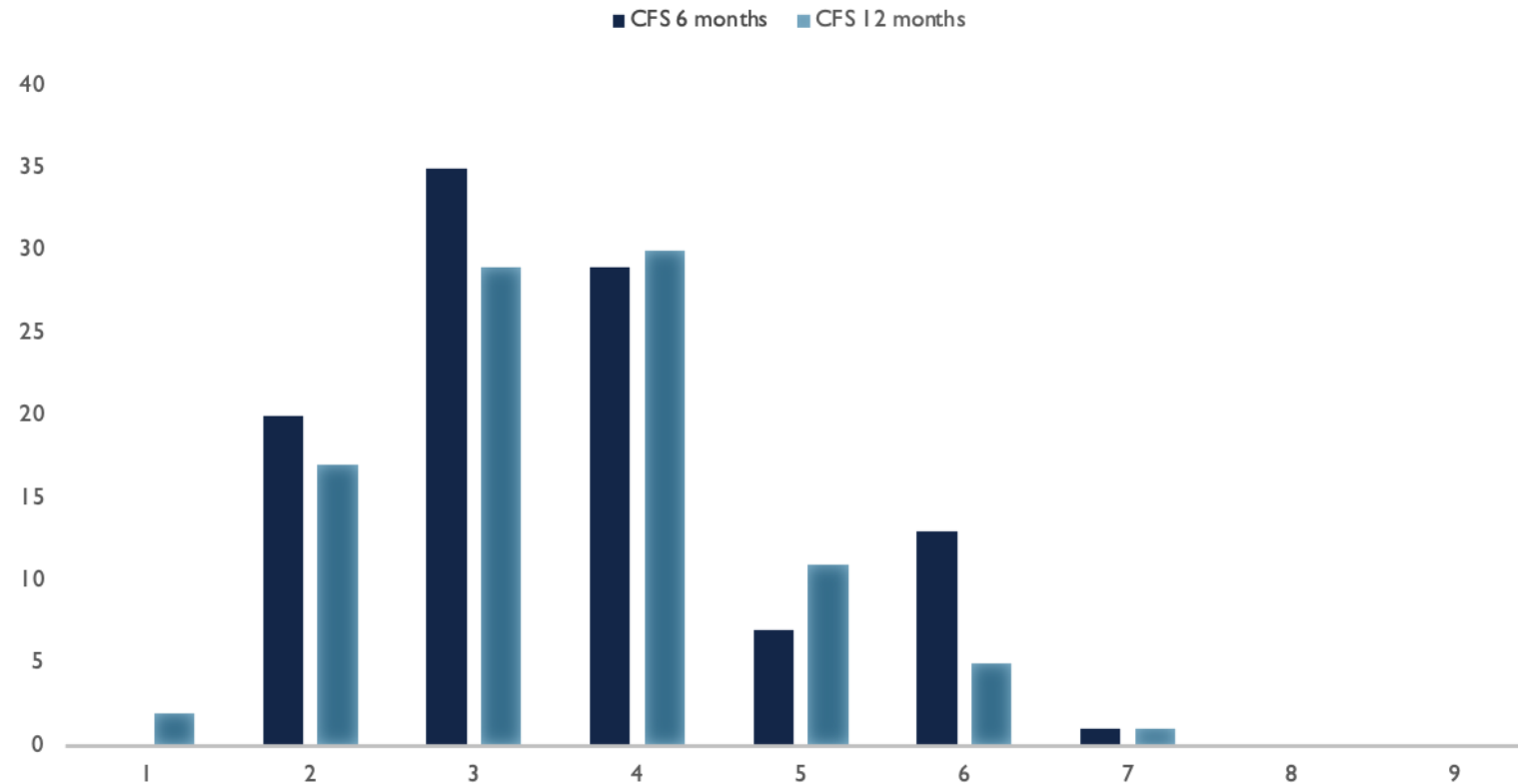


### Svækket kognitiv funktion

- ▮ 26% ved 6 måneder
- ▮ 17% ved 12 måneder

# PRIMÆR OUTCOME

## CLINICAL FRAILTY SCALE

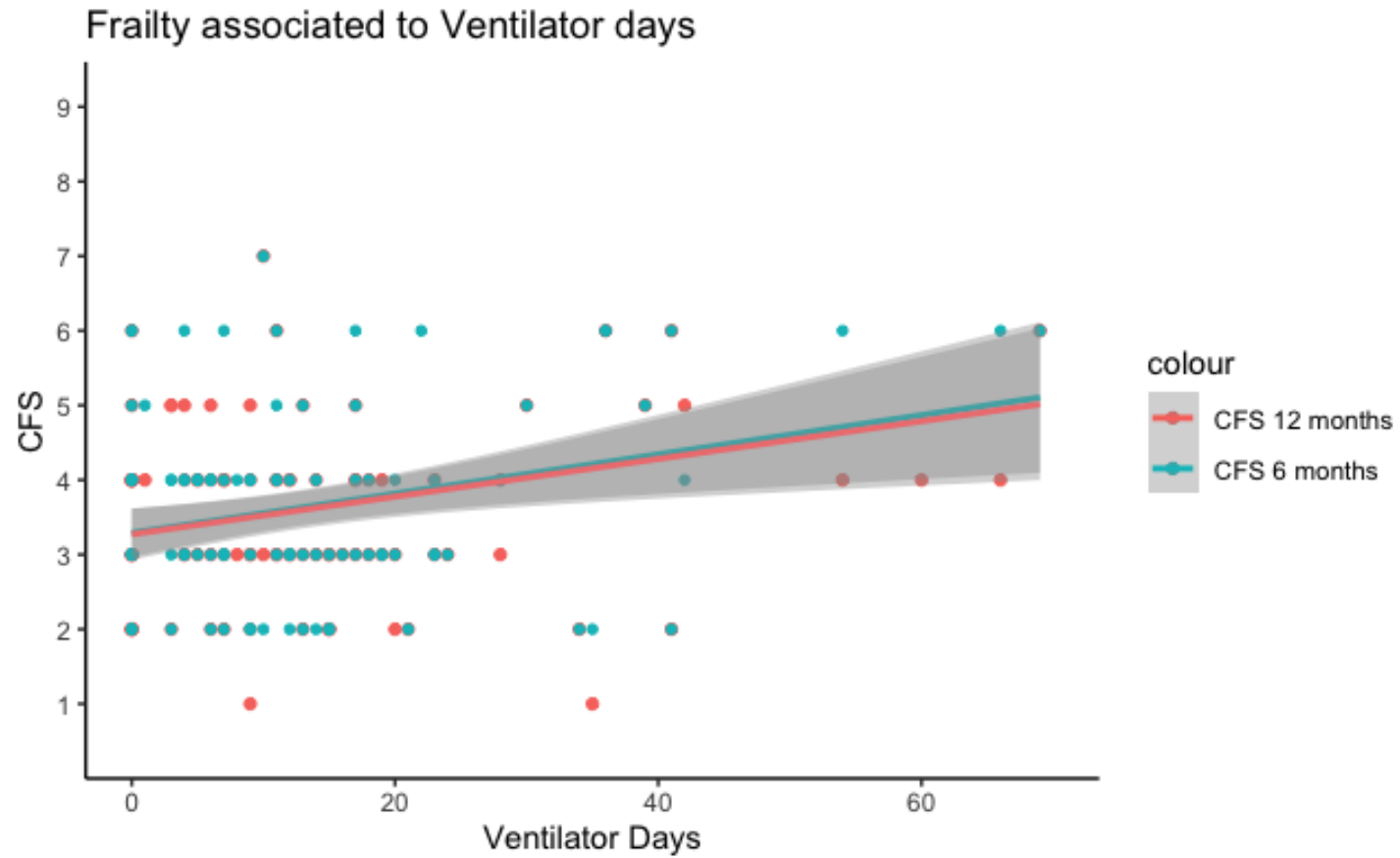


### Skrøbelig

- ☛ 20% ved 6 måneder
- ☛ 18% ved 12 måneder

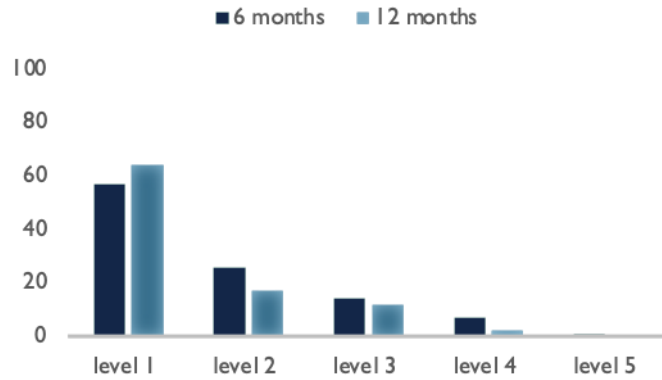


# SEKUNDÆR OUTCOME

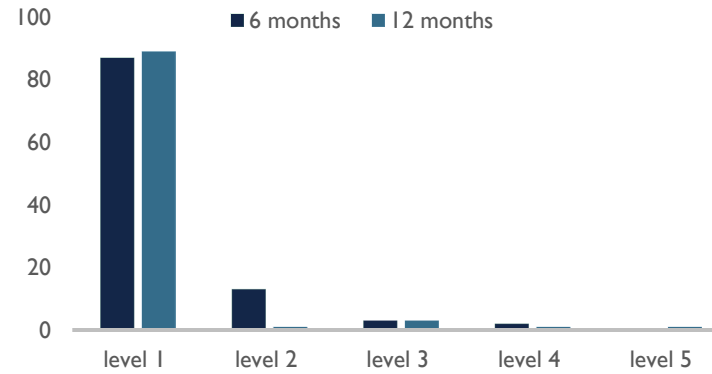


# SEKUNDÆR OUTCOME

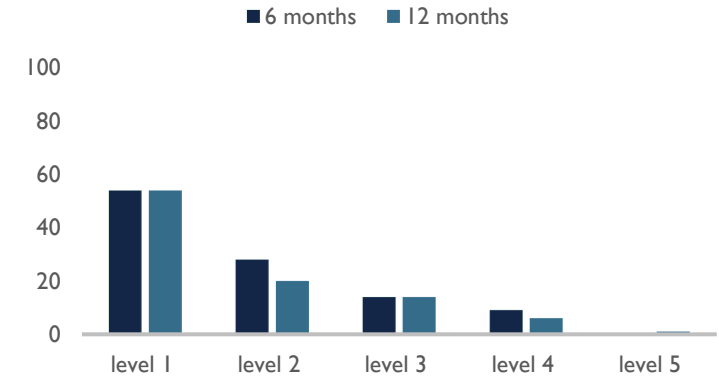
## MOBILTY



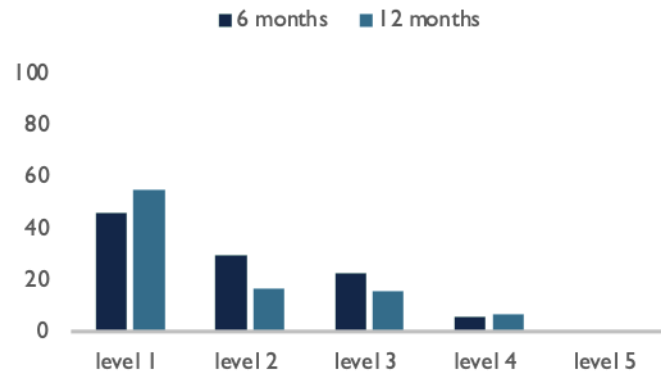
## SELF-CARE



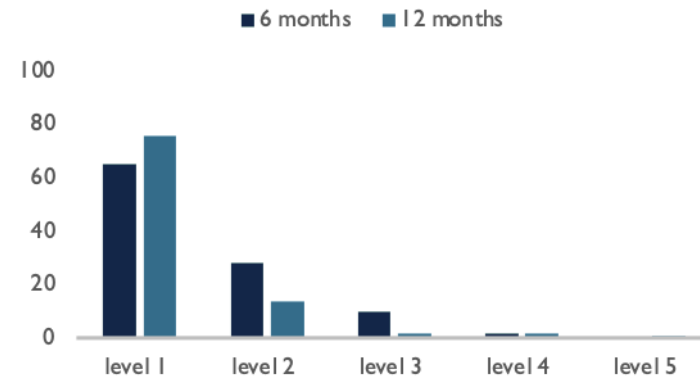
## USUAL ACTIVITIES



## PAIN/DISCOMFORT



## ANXIETY/DEPRESSION

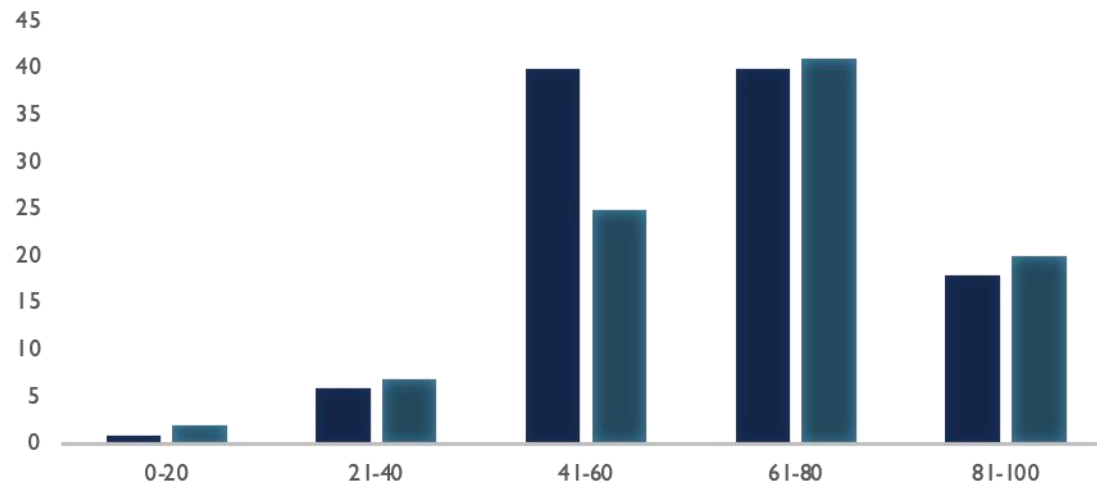


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# SEKUNDÆR OUTCOME

## EQ-VAS

■ 6 months ■ 12 months

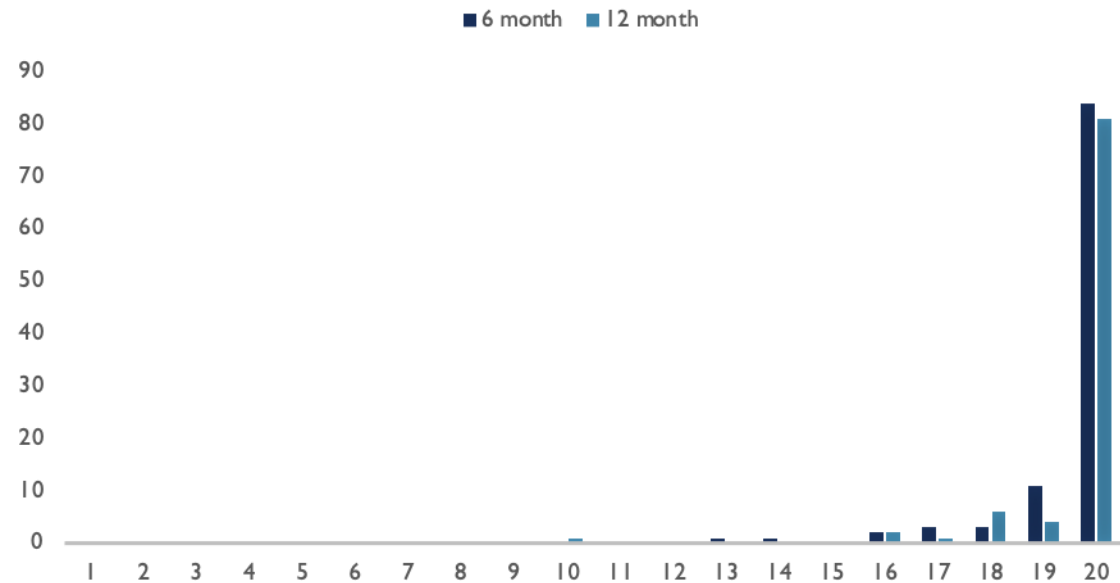


## Selvurderes helbred

- ▣ 55% vurderer >60 ved 6 måneder
- ▣ 64% vurderer >60 ved 12 måneder

# SEKUNDÆR OUTCOME

## BARTHEL ADL

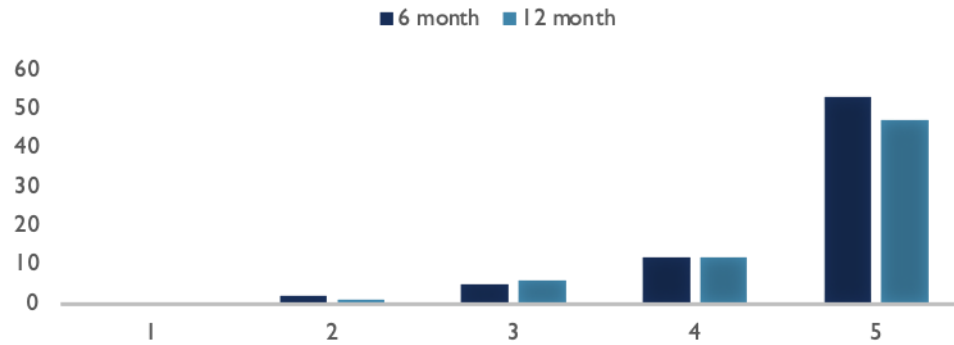


## Funktions status ADL

- 80% højest mulig ved 6 måneder
- 85% højest mulig ved 12 måneder

# SEKUNDÆR OUTCOME

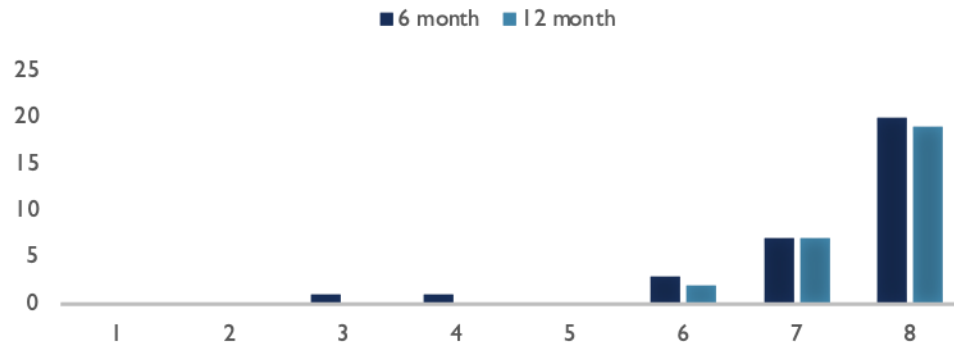
## LAWTON-BRODY IADL MALE



### Funktions status IADL mænd

- 73% højest mulig ved 6 måneder
- 71% højest mulig ved 12 måneder

## LAWTON-BRODY IADL FEMALE



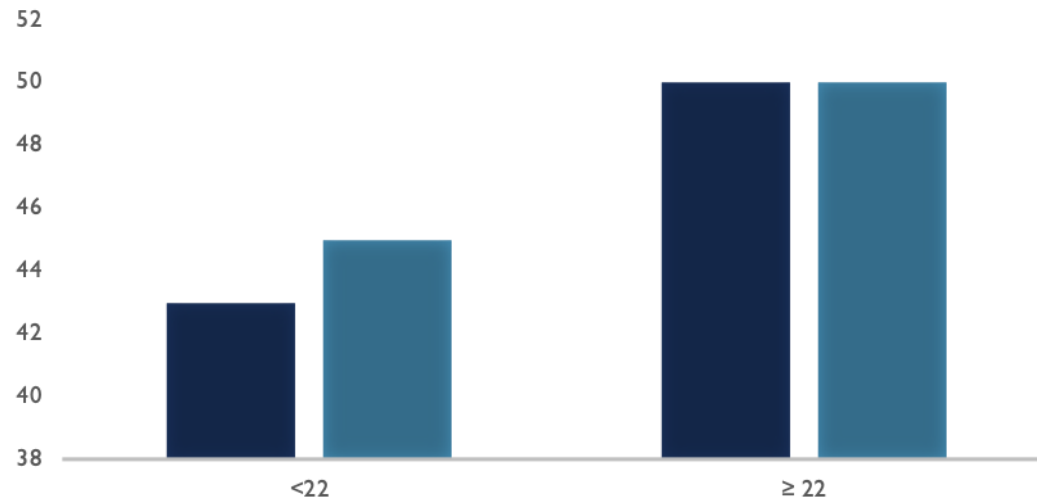
### Funktions status IADL kvinder

- 63% højest mulig ved 6 måneder
- 68% højest mulig ved 12 måneder

# SEKUNDÆR OUTCOME

## FATIGUE

■ 6 months ■ 12 months



## Fatigue

- ▮ 52% ved 6 måneder
- ▮ 47% ved 12 måneder

# STYRKER & SVAGHEDER

- ❖ Patienter fra 5 regioner
- ❖ Lignende baseline karakteristika
- ❖ Data fra 6 & 12 måneder
- ❖ Alle interviews udført af SW



- ❖ Lille population
- ❖ Lost-to-follow-up
- ❖ Ingen præ-data

# DISKUSSION & KONKLUSION

- ▮ Kognitiv svækkelse og skrøbelighed blandt overleverne, kausalitet ?
- ▮ Højt grad af uafhængighed ADL & IADL
- ▮ Sammenhæng mellem respiratordage og skrøbelighed ved 6 måneder
- ▮ 50% rapporterer fatigue
- ▮ Ingen betydelig udvikling fra 6 → 12 måneder





# DISKUSSION – ekstra

- ❖ 26% → 17% kognitiv svækket. Belgisk studie finder 47% kognitiv svækket ved 3 måneder på COVID ITA population<sup>1</sup> men hollandsk finder 16% efter 1 år<sup>4</sup>
- ❖ 20% → 18% er skrøbelig. Det er lavt i forhold til andre studier. Men vi vurderer det også først 6 måneder. Høj association mellem frailty og mortalitet<sup>2</sup>
- ❖ Fatigue på omkring 50%. Minder om andre studier<sup>4</sup> (NL), samme rapportering af fatigue for ICU og stamafsnit COVID<sup>3</sup> (UK)
- ❖ Hollandsk studie rapporterer at 53% har problemer med at komme tilbage til arbejdet efter 1 år<sup>4</sup>

<sup>1</sup> Rousseau A-F, Minguet P, Colson C, Kellens I, Chaabane S, Delanaye P, et al. Post-intensive care syndrome after a critical COVID-19: cohort study from a Belgian follow-up clinic. *Ann Intensive Care*. 2021

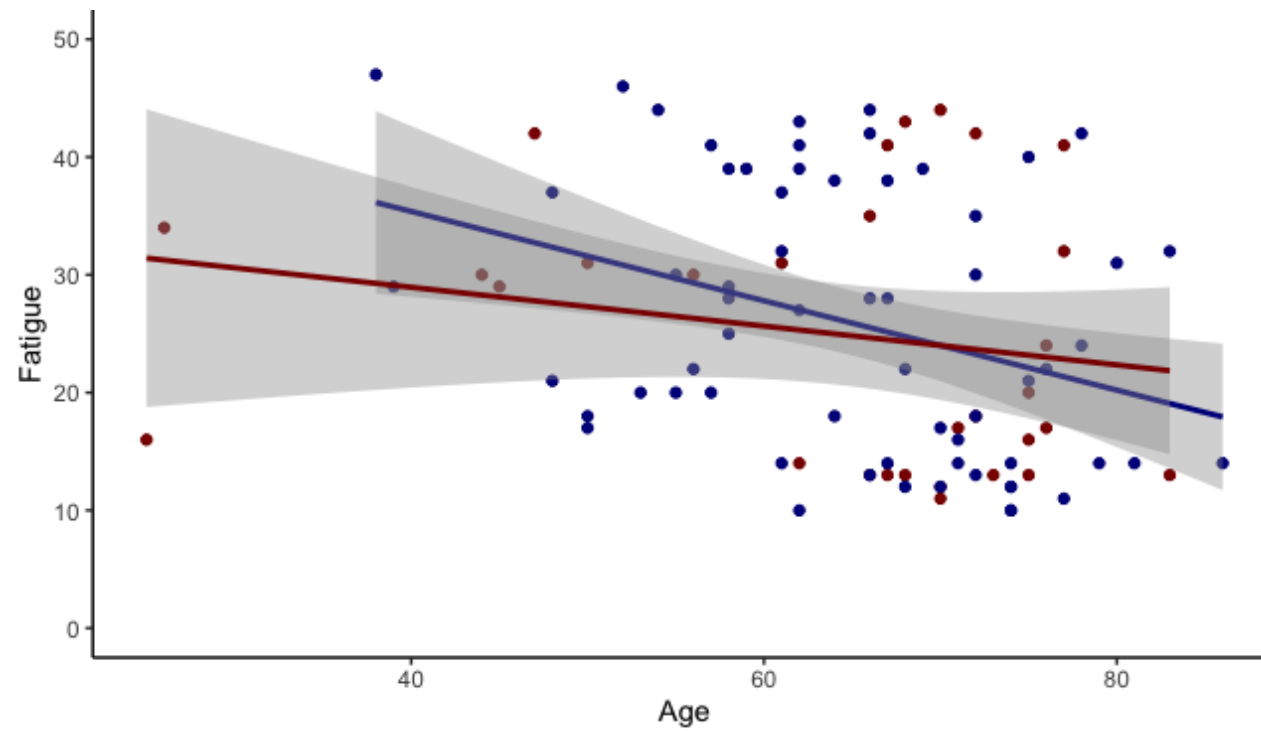
<sup>2</sup> Fernando SM, McIsaac DI, Rochweg B, Bagshaw SM, Muscedere J, Munshi L, et al. Frailty and invasive mechanical ventilation: association with outcomes, extubation failure, and tracheostomy. *Intensive Care Med*.

<sup>3</sup> Halpin SJ, McIvor C, Whyatt G, Adams A, Harvey O, McLean L, et al. Postdischarge symptoms and rehabilitation needs in survivors of COVID-19 infection: A cross-sectional evaluation. *J Med Virol*. 2021;93:1013–1022..

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<sup>4</sup> Heesakkers H, van der Hoeven JG, Corsten S, Janssen I, Ewalds E, Simons KS, et al. Clinical Outcomes Among Patients With 1-Year Survival Following Intensive Care Unit Treatment for COVID-19. *JAMA*. 2022

# RESULTATER – ekstra



# EKSTRA

