

## Introduction

- Stroke rehabilitation follows standardized protocols that promote high-quality care for functional recovery.
- COVID-19 pandemic has adversely impacted all in-person health care interactions<sup>(1)</sup>.
- The COVID-19 pandemic is becoming more widely recognized as a factor affecting a person's physiological, physical, and cognitive states<sup>(2)</sup>.
- In addition, contracting COVID-19 infection can lead to exacerbation of post-stroke deficits and interferes with the care pathways<sup>(3)</sup>.

## Objective & Hypotheses

- To assess the impacts of the COVID-19 pandemic on the rehabilitation care and outcomes of post-stroke users admitted to 10 COVID-19 designated rehabilitation centres.

### We Included 3 groups

- COVID+**: post-stroke individuals with COVID-19 infection during their rehabilitation.
- COVID-**: post-stroke individuals without COVID-19 infection during their rehabilitation.
- pre-COVID**: individuals that underwent rehabilitation the year before the pandemic.

### Inclusion criteria

- COVID+** and **COVID-** post-stroke users admitted to a COVID-19 designated rehabilitation centre between March 2020 and May 2021, representing the first 3 waves of the pandemic with higher intensive care admissions and the non-availability of vaccination for most of the population at the time.

### Hypotheses

In comparison to the **pre-COVID** users, the rehabilitation potential and care continuum might negatively be affected in:

- COVID+** users due to the deterioration of their health condition.
- COVID+** & **COVID-** users due to the limited provision of rehabilitation services and caregivers.

## Fundings

- Nouvelles Initiatives* grant from Centre for Interdisciplinary Research in Rehabilitation of Greater Montreal (CRIR).
- Appel à projets ciblés sur la COVID-19* from Réseau provincial de recherche en adaptation-réadaptation (REPAR).
- CRIR Bursary Master's Fellowship awarded to PV.
- REPAR Master's Fellowship awarded to PV.

## Methods & Data Collection

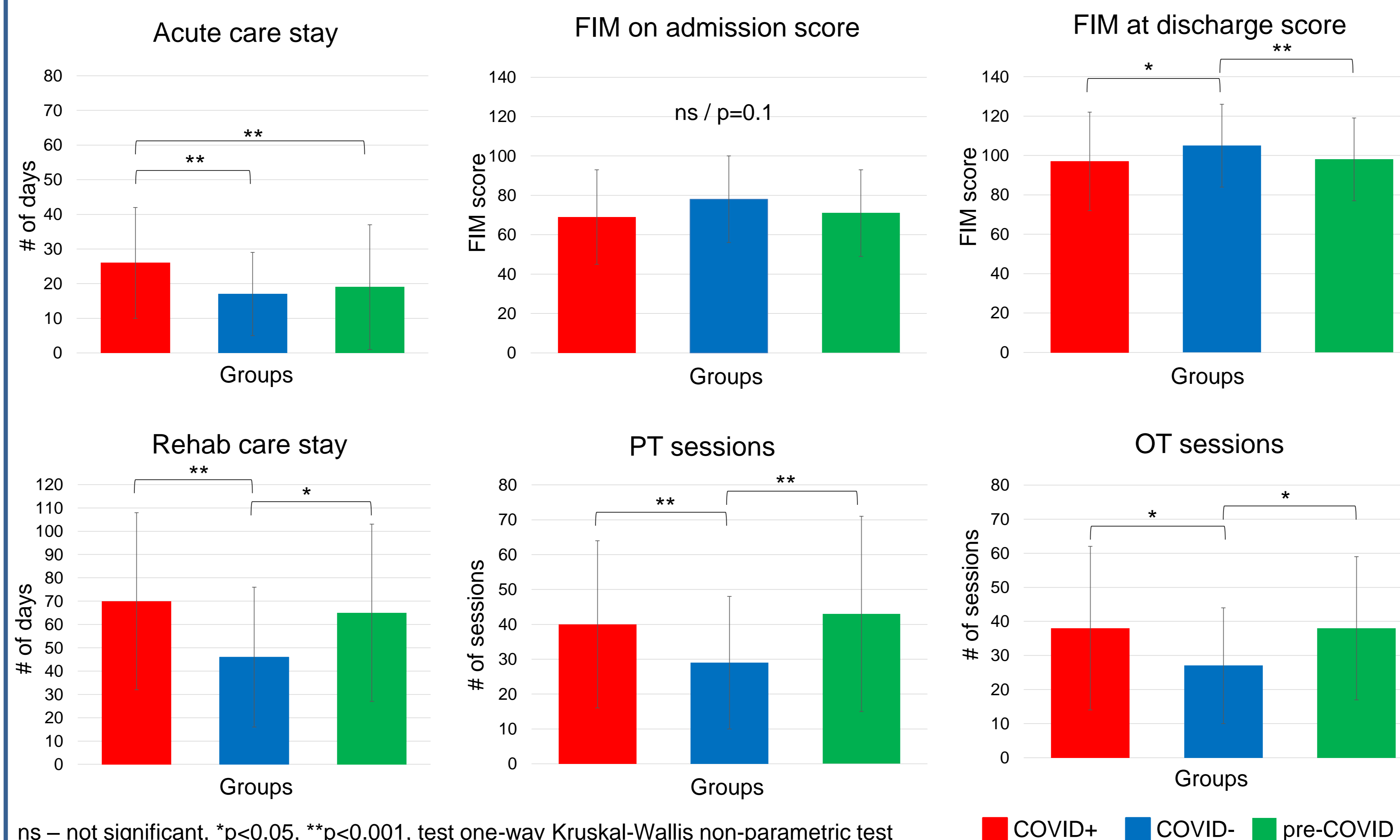
- A retrospective analysis of the medical charts of stroke users was performed at Villa Medica Rehabilitation Hospital & Jewish Rehabilitation Hospital (JRH).
- We have used the Functional Independence Measure (FIM)<sup>(4)</sup> as our primary variable to assess the level of disability and potential for recovery on admission and discharge (total FIM score=126).
- The number of physiotherapy (PT) and occupational therapy (OT) sessions, length of stay in acute and rehabilitation care were also collected.

### Baseline characteristics & FIM scores

	COVID+	COVID-	pre-COVID
# of patients	64	64	64
Age in years (mean ± sd*)	75 ± 12	76 ± 9	74 ± 9
Sex: Male/Female	29/35	29/35	29/35
FIM Admission (mean ± sd)	69 ± 24	78 ± 22	71 ± 22
FIM Discharge (mean ± sd)	97 ± 25	105 ± 21	98 ± 21

\*sd- standard deviation

## Results



ns – not significant, \*p<0.05, \*\*p<0.001, test one-way Kruskal-Wallis non-parametric test  
Multiple comparison post hoc Wilcoxon rank-sum test

## References

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- Wang, C. C., et al. Care for Patients with Stroke During the COVID-19 Pandemic: Physical Therapy and Rehabilitation Suggestions for Preventing Secondary Stroke. *Journal of stroke and cerebrovascular diseases*. 2020,29(11), 105182.
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## Conclusions

In accordance with our hypotheses, these preliminary findings suggest that:

- COVID+** group was more affected (↓ FIM) at discharge than **COVID-** users despite the fact that it spent more time in rehabilitation and had ↑ OT/PT sessions.
- COVID+** group had ↑ length of stay in acute care compared to **COVID-** & **pre-COVID** groups suggesting that it needed more medical care before being admitted to rehabilitation.
- There was a trend for **COVID-** group to be less affected (↑ FIM) than **COVID+** & **pre-COVID** users on admission.
- COVID-** group showed better outcomes despite being provided with fewer rehab therapies (↓ OT/PT sessions) and discharged earlier from the rehab care as compared to the two other groups.

### Other results

- COVID+** group had a functional profile that resembled the one of the **pre-COVID** group suggesting that a longer length of stay in rehab could have minimized the impact of having had COVID.

## Future Plans

- We expect 100 post-stroke individuals to be included in our complete dataset.
- More variables will be included in our analysis (n=67) such as the presence of comorbidities, relapses days & length of stay in intensive care.
- Correlation analyses will be carried out to evaluate the association between the different variables.
- Multiple linear regression models will be used to estimate the influence of predictor variables on our primary outcome (FIM).
- Our study will contribute to the elaboration of recommendations to develop efficient and standardized rehabilitation protocols for stroke survivors in the advent of other pandemics.

## Acknowledgments

- Virginia Cornea, Aram Deyirmendjian & Alicia Nguy, research assistants involved in data collection.
- Carole Lavallée, Professional Practices Coordinator at Villa Medica.
- Valérie Vigneault, Specialist in Clinical Activities (Interim), coordinator at the Jewish Rehabilitation Hospital.