Associations between Psychiatric Disorders and COVID-19 in JAPAN: Results from the Life Study

Fumiko Murata, Megumi Maeda , Haruhisa Fukuda Department of Health Care Administration and Management, Kyushu University Graduate School of Medical Sciences

Objecitives

To evaluate the influence of COVID-19 on psychiatric and neurological sequelae occurrence within 3 months and 6 months after a diagnosis of COVID-19 in Japan using claims data.

Method

Data **the Longevity Improvement & Fair Evidence (LIFE) Study**, database project managed by Kyushu University (Fukuoka, Japan), from September 2019 to October 2021.

Study participants

we made two cohort;

①primary cohorts: patients hospitalized **with COVID-19**

②control cohort: patients hospitalized **with influenza**

The patients were followed for **3 months and 6 months** after the index infection.

*Using the claims data, we identified patients hospitalized between March 1, 2020 and July 31, 2021 for the 3-month follow-up (until October 31, 2021) and patients hospitalized between March 1, 2020 and April 30, 2021 for the 6-month follow-up (until October 31, 2021).

Covariates sex, age

Outcome

incidence of **14 psychiatric and neurological sequelae**

Statistical analysis

After using propensity score matching to control , we used multivariate logistic regression analyses and Cox proportional hazards analyses.

psychiatric and neurological sequelae	ICD-10
Intracraninal haemorrhage	I60-I62
Ischaemic stroke	I63
Perkinsonism	G20,G21
Guillain-Barre syndrome	G61.0
nerve,nerve root,or plexus disorders	G50-G59
myoneural junciton or muscle disease	G70-G73
encephalitis	G04,G05,A86,A85.8
dementia	F01,F02,F03,G30,G31.0,G31.83
mood/anxiety/psychotic disorder	F30-F39,F40-F48,F20-F29
mood disorder	F30-F39
anxiety disorder	F40-F48
psychotic disorder	F20-F29
substance disorder	F10-F19
insomia	F51.0,G47.0

Results

Table1 shows characteristics of the primary and control cohort. The primary cohort of COVID-19 comprised 674 patients in 3months and 460 patients in 6 months.

After propensity score matching, we conducted multivariate logistic regression analyses.(**Table2**) Patients with COVID-19 were significantly more likely to develop first **psychotic disorder and insomnia** within 3 months and 6 months than the control cohort.

Table1 Characteristics of the primary and control cohorts

	3-Month Follow-Up		6-Month Follow-Up	
	Hospitalized with COVID-19	Hospitalized with influenza	Hospitalized with COVID-19	Hospitalized with influenza
No. of patients	674	1,088	460	972
Sex				
Female	373 (55.3)	569 (52.3)	256 (55.7)	516 (53.1)
Age				
Mean [SD], years	73.0 [16.6]	79.0 [14.6]	72.8 [17.0]	79.0 [14.5]

Table2 Results of the multivariable logistic regression analyses

3-Month Follow-Up

	psychotic disorder				insomnia			
	Odds	95%CI		p-value	Odds	95%CI		p-value
Influenza	Reference				Reference			
COVID-19	1.46	1.07	2.01	0.018	2.08	1.62	2.68	<0.001

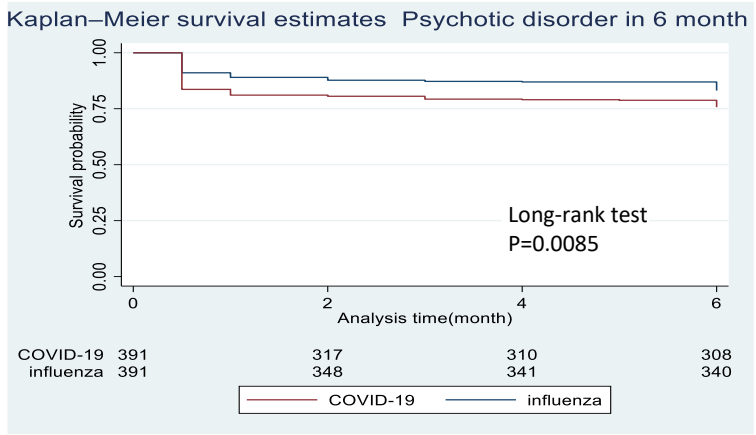
6-Month Follow-Up

	psychotic disorder				insomnia			
	Odds	95%CI		p-value	Odds	95%CI		p-value
Influenza	Reference				Reference			
COVID-19	1.58	1.10	2.27	0.013	2.12	1.57	2.86	<0.001

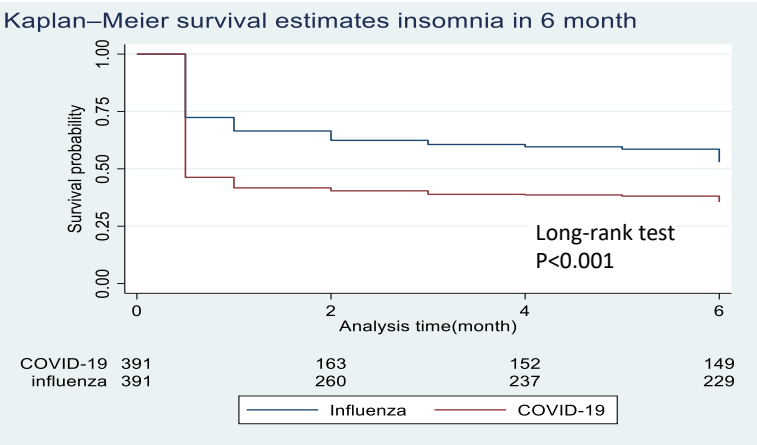
Figure1 shows Kaplan-Meier survival estimates in 6 months. Patients with COVID-19 were significantly more likely to develop a first **psychotic disorder and insomnia** within 3 months and 6 months than the control cohort.

Figure1 Kaplan-Meier survival estimates

Psychotic disorder



Insomnia



Conclusion

COVID-19 was associated with **increased risks of psychotic disorder and insomnia** in Japan. Although this study only indicated associations, it provides useful suggestions to guide further investigations of COVID-19.