To study the impact of Long Covid-19 in the US - A 9-month retrospective study

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Introduction

The Coronavirus infection is not just about surviving the acute illness; many Covid-19 survivors also endure "Long Covid-19," a group of developing disorders with symptoms that last for four weeks or more. It is characterized by a variety of symptoms persisting for months and significantly impacting the lives of those affected.

Objective

To study the impact of Long Covid-19 on Covid-19 survivors during 2020-2021 in the US.

Method

- A retrospective cohort study was performed on 222,381 patients diagnosed with Covid-19 between 20 March 2020 to 31 March 2021 with relevant ICD-10-CM diagnosis recorded in the Optum® de-identified Market Clarity Dataset for a follow-up period of 9 months.
- Patients who were vaccinated were excluded from the analysis.
- Patients were classified into two cohorts, Acute Covid-19 patients (symptoms for <4 weeks) and Long Covid-19 patients (symptoms persisting ≥4 week).
- The symptoms for long and acute Covid-19 were identified using SDS terms from EHR and diagnosis codes from EHR and claims database.

Results

- The number of patients affected with Long Covid-19 (97,616) was higher as compared to Acute Covid-19 (66,873).
- Top three symptoms in the overall Long Covid-19 patient cohort were breathing difficulties (21%), body ache (18%), and bowel changes (14%).
- Top three symptoms in the overall Acute Covid-19 patient cohort were breathing difficulties (16%), cough (13%), and body aches (12%).
- The neurological symptoms increased from 3.5% in Acute to 11.1% in long Covid-19 patients and the cardiovascular symptoms increased from 8.2% in Acute to 12.5% in Long Covid-19 patients.
- Relatively higher percentage of females (62%) suffer from Long Covid-19 as compared to 58% of females in the Acute Covid-19 cohort.
- In the ninth month, Long Covid-19 patients experienced a sharp drop in the top 3 symptoms, but during the entire follow-up period, a consistent decline in symptoms was observed.
- In Acute Covid-19 patients, a fast decline was observed after the first week in the top 3 symptoms and a gradual decline during the following weeks.

Figure 1: Comparison of Acute & Long Covid-19 symptoms (in overall patients)

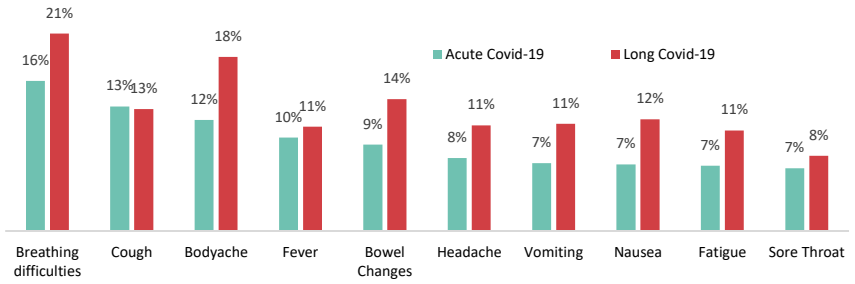

Figure 2: Top 3 symptoms in Long Covid-19 for 9 months follow up period (month-wise analysis)

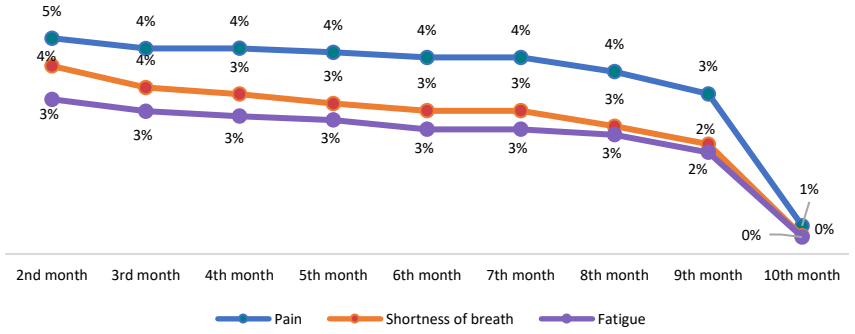

Figure 3: Top 3 symptoms in Acute Covid-19 for 1st month (week-wise analysis)

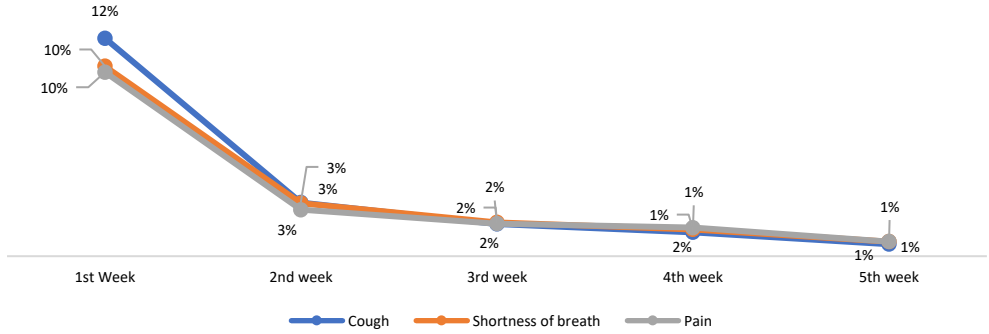

Table 1: Patient Demographics of Study Population (n= 222,381)

		Acute Covid-19	Long Covid-19
Age (In Years)	Under 18	21,240 (5%)	37,062 (6%)
	18 to 65	293,686 (73%)	464,315 (73%)
	Above 65	90,005 (22%)	130,870 (21%)
Gender	Female	234,378 (58%)	390,404 (62%)
	Male	170,495 (42%)	241,705 (38%)
Race / Ethnicity	African American	63,304 (16%)	88,756 (14%)
	Asian	8,218 (2%)	1,636 (2%)
	Caucasian	294,013 (73%)	470,364 (74%)
Region	Midwest	199,399 (49%)	278,995 (44%)
	Northeast	117,669 (29%)	214,931 (34%)
	South	66,087 (16%)	98,046 (16%)
	West	7,100 (2%)	14,230 (2%)

Conclusion

- Most Acute Covid-19 patients suffered from respiratory symptoms whereas in Long Covid-19 an increase in cardiovascular and neurological symptoms along with respiratory symptoms was observed.
- In Acute Covid-19 patients, in the first week the symptoms of disease are the most prevalent.
- Long Covid-19, a chronic and long-term medical illness, can take up to nine months from the time of incidence or onset to demonstrate measurably improved chronic symptoms.

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