LONG COVID IN PATIENTS WITH DEPRESSION AND OBESITY: A COMPARATIVE STUDY

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DEFINITIONS

Coronavirus Disease (COVID-19)	An infectious disease caused by the SARS-CoV-2 virus (WHO)
	Most people infected with the virus will experience mild to moderate respiratory illness and recover without requiring special treatment (WHO)
	The virus can spread from an infected person's mouth or nose in small liquid particles when they cough, sneeze, speak, sing or breathe (WHO)
Long COVID-19	Broadly defined as signs, symptoms, and conditions that continue or develop after initial COVID-19 or SARS-CoV-2 infection (covid.gov)
	The signs, symptoms, and conditions are present four weeks or more after the initial phase of infection; may be multisystemic; and may present with a relapsing– remitting pattern and progression or worsening over time, with the possibility of severe and life-threatening events even months or years after infection (covid.gov)

TRINETX APPROACH

- COVID-19 Research Network
- 18 – 65 years, Any sex
- Analysis: Measures of Association

Outcomes

- Pain in throat and chest
- Abnormalities of heart beat
- Malaise and fatigue
- Headache
- Fever of other and unknown origin
- Pain, unspecified
- Cough
- Nausea and vomiting
- Dizziness and giddiness
- Disturbances of smell and taste

How do Long Covid Outcomes Compare Between Patients With Obesity and Depression?

Cohort 1 (Overweight/Obese Patients)

- **Inclusion Criteria (must have):**
  - Overweight and obesity diagnosis AND Covid-19 Diagnosis
- **Exclusion Criteria (cannot have):**
  - BMI less than 25 kg/m^2
  - No Positive Covid-19 Test
  - Depression/Anxiety Diagnosis
  - Already enrolled in clinical research program

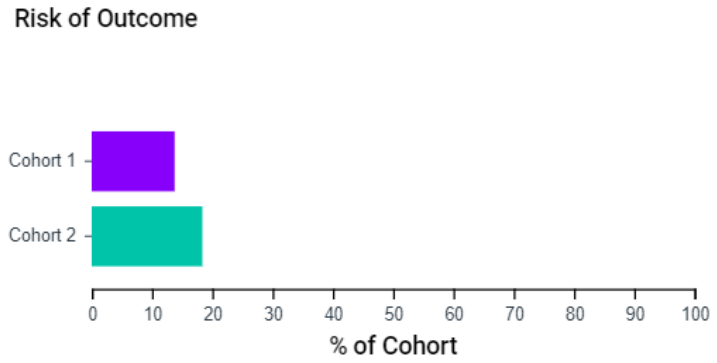
Cohort 2 (Depressed Patients)

- **Inclusion Criteria (must have):**
  - Depression Diagnosis AND Covid-19 Diagnosis
- **Exclusion Criteria (cannot have):**
  - BMI greater than 25 kg/m^2
  - Overweight and obesity diagnosis
  - Already enrolled in clinical research program

RESULTS

How do Long Covid Outcomes Compare Between Patients With Depression and Obesity?

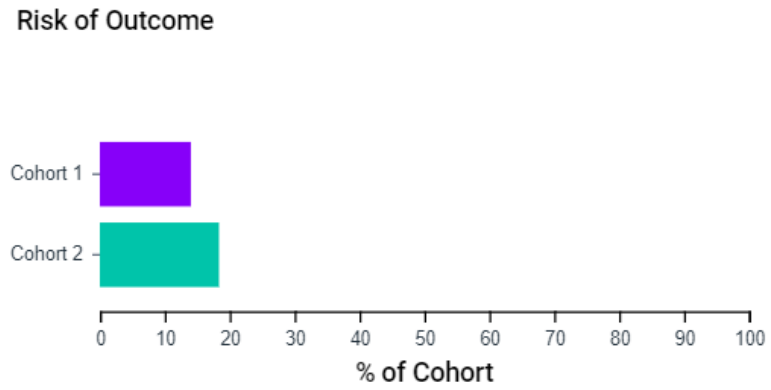
Before Matching



		Cohort Statistics		
	Cohort	Patients in Cohort	Patients with Outcome	Risk
1	C1_ObeseCovid_CovidNetwork	90,108	12,389	13.749%
2	C2_DepressedCovid_CovidNetwork	39,065	7,169	18.351%

Risk Difference				Risk Ratio		Odds Ratio	
Risk Difference	95 % CI	z	p	Risk Ratio	95 % CI	Odds Ratio	95 % CI
-4.602%	(-5.047%,-4.158%)	-21.196	< 0.0001	0.749	(0.73,0.769)	0.709	(0.687,0.732)

After Matching



		Cohort Statistics		
	Cohort	Patients in Cohort	Patients with Outcome	Risk
1	C1_ObeseCovid_CovidNetwork	39,057	5,476	14.021%
2	C2_DepressedCovid_CovidNetwork	39,057	7,168	18.353%

Risk Difference				Risk Ratio		Odds Ratio	
Risk Difference	95 % CI	z	p	Risk Ratio	95 % CI	Odds Ratio	95 % CI
-4.332%	(-4.848%,-3.816%)	-16.436	< 0.0001	0.764	(0.74,0.789)	0.725	(0.698,0.754)

Patients diagnosed with obesity are ~25% less likely to experience long covid than patients diagnosed with depression.

LESSONS LEARNED

- No medical test to record BMI → calculation may be inaccurate.
- Study did not include subjects who conducted Covid-19 Tests at home → cannot be generalized.
- Networks
  - US Collaborative Network → COVID-19 Research Network
- PHI Terms

  Error while running analysis using PHI terms
  - V85.43 Body Mass Index 50.0-59.9, adult
  - V85.44 Body Mass Index 60.0-69.9, adult
  - V85.45 Body Mass Index 70 and over, adult
- Timeline
  - Difficult time indexing events and outcomes

SOURCES

- Covid.gov/Longcovid - virus that causes covid-19 can experience long-term effects from their infection. COVID.gov. Retrieved March 6, 2023, from https://www.covid.gov/longcovid/definitions
- World Health Organization. (n.d.). Coronavirus. World Health Organization. Retrieved March 6, 2023, from https://www.who.int/health-topics/coronavirus#tab=tab_1