

Introduction

The COVID-19 pandemic vastly impacted colleges and universities across the world. The ability to isolate and test symptomatic students quickly, and also identify asymptomatic infections, proved crucial to avoid large outbreaks, especially among students living in close quarters in dormitories. As we look forward to future academic years, the ability to recognize a symptomatic student as being low or high-risk for SARS-CoV-2 infection due to their symptom constellation would be valuable.

Objective

The objective of this study was to examine clinical history and demographic data from all students presenting to UVA Student Health and Wellness from September 1, 2021 to March 13, 2021 due to symptoms concerning for SARS-CoV-2 infection.

Methodology

- Study design: Cross-sectional study.
- Data source: The University of Virginia's Department of Student Health & Wellness (SHW) Student Health Research Database, an IRB-approved de-identified database linking two distinct clinical and academic datasets across the university including:

1 - Medcat, SHW's electronic health record, specifically the COVID-19 template form created for symptomatic students; and SARS-CoV-2 lab test results.

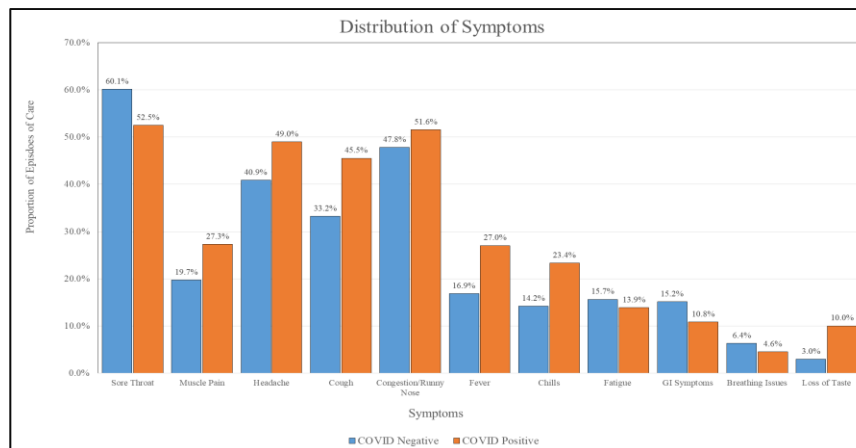
2 - Student information System (SIS), the university student record management system containing demographic information.

- Population: Students with symptoms possibly due SARS-CoV-2 infection.
- Outcome Measures: symptoms and demographic variables associated with positive SARS-CoV-2 test.

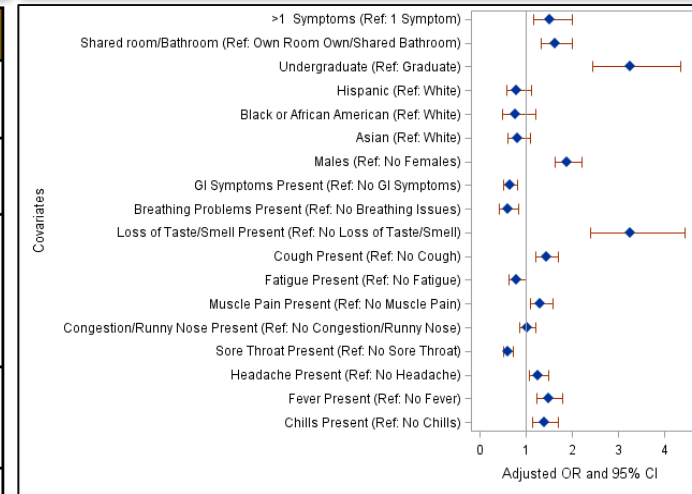
Results: Characteristics and Symptoms for Episodes of Care

Characteristics	Frequency (%)	COVID Negative (n=3084)	COVID Positive (n=1006)
Diagnosis Detected	1006 (24.6%)	--	1006 (100%)
Not Detected	3084 (75.4%)	3084 (100%)	--
Gender*			
Male	1763 (43.1%)	1203 (39.1%)	560 (55.7%)
Female	2327 (56.9%)	1881 (60.9%)	446 (44.3%)
Ethnicity*			
Asian	313 (7.6%)	246 (7.8%)	67 (6.6%)
African American	137 (3.4%)	112 (3.6%)	25 (2.5%)
Hispanic	236 (5.8%)	184 (5.9%)	52 (5.1%)
White	2880 (69.9%)	2136 (69.2%)	744 (73.9%)
Other	534 (13.3%)	406 (13.2%)	118 (11.7%)
Academic Level*			
Graduate	638 (15.6%)	575 (18.6%)	63 (6.2%)
Undergraduate	3439 (84.1%)	2498 (81.1%)	941 (93.5%)
Others/NA	13 (0.3%)	7 (0.3%)	2 (0.2%)
Live*			
Off Grounds	3207 (78.4%)	2477 (80.3%)	730 (72.5%)
On Grounds	817 (19.9%)	556 (18.0%)	261 (25.9%)
Others/NA	66 (1.6%)	51 (1.6%)	16 (1.6%)
Living Facilities*			
Own Room and Own Bathroom	1732 (42.3%)	1353 (43.8%)	379 (37.6%)
Own Room and Shared Bathroom	1383 (33.8%)	1072 (34.7%)	311 (30.9%)
Shared Room and Bathroom	942 (23%)	637 (20.6%)	305 (30.3%)
Others/NA	33 (0.8%)	22 (0.7%)	11 (1.1%)
Episodes*			
1	3411 (83.4%)	2579 (83.6%)	832 (82.7%)
More than 1	679 (16.4%)	505 (16.4%)	174 (17.3%)
Number of Symptoms*			
1	781 (19.1%)	657 (21.3%)	124 (12.3%)
2	1234 (30.1%)	975 (31.6%)	259 (25.7%)
3	1099 (26.8%)	803 (26.1%)	296 (29.4%)
More than 3	976 (24.0%)	649 (21.0%)	327 (32.5%)

*: Significance for differences between COVID Positive and COVID Negative groups derived from chi-sq test (p<0.05)
 Percentages may not add up to 100% due to rounding errors.



Results: Risk Markers of COVID Positive Test



- Undergraduates and males were 3.2 and 1.8 times more likely, respectively, to have a positive SARS-CoV-2 test.
- Sharing a room and bathroom had a 61% higher odds of having a positive SARS-CoV-2 test compared to those who had their own room.
- The symptoms that predicted a positive SARS-CoV-2 test include: loss of taste/smell, cough, muscle pain, headache, fever and chills.

Conclusion and Discussion

- To our knowledge, this is the first study evaluating college students presenting with symptoms possibly due to SARS-CoV-2 infection.
- Undergraduate students were more likely than graduate students to test positive for SARS-CoV-2. This could be due to the fact that they are more likely to seek care at SHW as opposed to community resources. Many undergraduates also live in congregate settings.
- Future directions include continuing to track this data as vaccinations become more common in the college student population. Prior infections and vaccinations will likely change the presentation of SARS-CoV-2 infection.
- Future research should also examine whether different symptom combinations (ex. sore throat and cough), rather than single symptoms, more clearly predict a positive SARS-CoV-2 test in students.