Purpose: The IFMSA, voicing the opinion of 1.3 million medical students from 131 countries, acknowledges the importance of health literacy in driving social change. Today, the Pandemic is accompanied by a global epidemic of misinformation, spreading rapidly through social media platforms and other outlets, posing a critical threat to public health due to the COVID-19 outbreak. As this problem continues to mount, it becomes even more evident that a unified approach is required to secure high levels of compliance with public health measures and combat the infodemic.

Methods & Materials: A global study was conducted by IFMSA, in collaboration with the WHO, composed of a survey to get data about all the organizations, institutions, NGOs, and other entities that focus on fact-checking and correcting misinformation about COVID-19. The survey was filled by medical students from the end of April to the end of May who reported name, type, the scope of work, languages, primary funding source, type, and source of information shared by the organization.

Results: We discovered 182 initiatives from 62 countries worldwide that verified information in 48 languages. Social media, the internet, radio, SMS, printed media, and hearsay were identified as the main sources of misinformation. Video podcasts with experts, regular social media updates and newsletters, were described as best practices, in addition to debunking myths on a regular basis and verifying statements by public figures. Also, the quality of fact-checking differed between initiatives.

Conclusion: Data showed that myths and false information are spreading through different means from public figures to daily social media outlets. Fighting misinformation should use innovative and accessible approaches, There is an urgent need for national initiatives and political engagement for myth-busting. IFMSA and WHO is following up by designing a platform to share fact-checking initiatives and recommendations openly, and by creating an AI system with Amazon to analyze articles in social media. Our surveys identified the need for fact-checking quality and quantity improvement and help provide an open-access source for worldwide and national fact-checking initiatives.

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Topic 07: COVID-19 Infection Prevention and Control

PS07.01 (222)

COVID-19 Variants of Concern: An Analysis of Critical Care Admission in Hospitalized Patients in a Canadian Health Region

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Purpose: To examine outcomes in COVID-19 positive acute care patients and the differential impact of the presence of COVID-19 Variants of Concern (VOCs).

Methods & Materials: This study was a cross-sectional analysis using patient data from the patient's electronic medical records. Inclusion criteria were COVID-19-positive patients hospitalized within acute care sites in Fraser Health (British Columbia) between January 1 and April 30, 2021. Data analysis was conducted using SAS Studio 3.8 and STATA 17.0.

Results: Of the patients included in the study, 934 (33%) were classified as having a VOC. The proportion of VOC-related COVID-19 cases steadily increased from 0.6% of all COVID-19 admissions in January 2021 to 67.2% in April 2021. Males were more likely to have VOCs than females (36% vs. 30%). The age groups with the highest proportion of VOCs were 40-49 (51%), 50-59 (44%), and 60-69 (40%). After controlling for sex and age, it was shown that

patients with VOCs were more than twice as likely to require critical care admission than those without VOCs (OR=2.04, 95%CI:1.67, 2.48; p<0.001). There was no statistically significant difference in overall length of stay (p=0.502) or length of stay in critical care (p=0.237) for those with VOCs after controlling for age and sex. While patients with VOCs were more than twice as likely to require critical care, there was no difference in mortality (OR=1.03, 95%CI:0.75,1.41), p=0.877).

Conclusion: VOCs were more likely to be present in middle-aged hospitalized patients than in older patients, and were more prevalent in males. Patients with VOCs were more likely to require critical care; however, there was no difference in length of stay in critical care, or in overall mortality. This is important to understand, as VOCs make up a larger proportion of COVID-19 cases, and will likely place significant burden on critical care resources. Limitations of this study are that other factors such as co-morbidities and socioeconomic status have not been controlled for, and the findings may not be generalizable to other health regions with different populations and health care systems. This study provides groundwork for future research on this evolving topic.

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PS07.02 (212)

Identification of Co-Infections by Viral and Bacterial Pathogens in Covid-19 Hospitalized Patients in Peru: Molecular Diagnosis and Clinical Characteristics

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Purpose: The impact of respiratory coinfections in COVID-19 is still not well understood. This study sought to identify the respiratory pathogens causing coinfections in patients with moderate/severe SARS-CoV-2 pneumonia from a hospital in Peru. Also, to describe the clinical characteristics and outcomes of coinfected and non-coinfected patients.

Methods & Materials: A descriptive study was conducted on hospitalized patients with a confirmed diagnosis of moderate/severe pneumonia due to SARS-CoV-2 infection. The selection criteria included patients older than 18 years of age who were admitted to the Guillermo Almenara Irigoyen Hospital in Lima, Peru during the period July-November 2020. Pregnant women were excluded from the study. A nasopharyngeal swab sample was obtained from the patients included in the study. Diagnosis of SARS-CoV-2 infection was performed by reverse-transcriptase polymerase chain reaction (RT-PCR). The detection of the following respiratory viruses was performed by RT-PCR: *Influenza* A and B, *Respiratory syncitial virus* (RSV) A and B; and *Adenovirus*. The detection of atypical bacteria, *Mycoplasma pneumoniae* and *Chlamydia pneu-*

moniae was carried out using conventional polymerase chain reaction.

Results: A total of 295 patients with confirmed SARS-CoV-2 infection were enrolled during the study period. A coinfection with one or more respiratory pathogen was detected in 154 (52.20%) patients at hospital admission. The most common coinfections were *Mycoplasma pneumoniae* (28.12%), *Chlamydia pneumoniae* (8.81%) and with both bacteria (11.53%); followed by *Adenovirus* (1.70%), *Mycoplasma pneumoniae/Adenovirus* (0.71%), *Chlamydia pneumoniae/Adenovirus* (0.71%), RSV-B/*Chlamydia pneumoniae* (0.32%), *Mycoplasma pneumoniae/Chlamydia pneumoniae/Adenovirus* (0.32%). Sepsis was more frequent among coinfected patients than non coinfected (33.12% vs 20.57%, p = 0.018). Expectoration was less frequent in coinfected individuals compared to non coinfected (5.84% vs 12.77%, p = 0.045). We could highlight that the majority of patients were administered an antibiotic (69.50%). The correlation between the empirical use of macrolides in patients with *Mycoplasma pneumoniae* and *Chlamydia pneumoniae* was observed in 41% of the cases.

Conclusion: *Mycoplasma pneumoniae* and *Chlamydia pneumoniae* were the main microorganisms associated with SARS-CoV-2 coinfection at hospital admission. The presence of multiple coinfections was described in some patients. Antibiotics should be carefully prescribed, as high rates of antibiotic use was found, particularly with macrolides.

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PS07.03 (146)

Mask-Wearing and Individual Risk of Respiratory Illness during the COVID-19 Pandemic

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Purpose: Ecological and laboratory studies suggest face masks are an effective non-pharmaceutical intervention for reducing spread of SARS-CoV-2. These studies cannot measure individual risk reduction or account for individual behavioral and demographic confounders. Here we present a novel longitudinal assessment of the protective role of masks in a national cohort of individuals enrolled in a syndromic surveillance tool prior to the first case of COVID-19 in the United States.

Methods & Materials: The study population consisted of a subset of participants (N=4,723 adults) enrolled in Flu Near You (FNY), a web-based longitudinal syndromic surveillance platform. Weekly self-reports of respiratory syndromes were used to assess the onset of COVID-like illness (CLI) symptoms from January to June 2020. An annual retrospective questionnaire submitted by this subset of FNY participants assessed precautionary behaviors (masking, distancing, etc.) and demographic information. We used a previously validated exposure variable (self-reported likelihood to wear masks while visiting family and friends and while grocery shopping) to measure mask wearing. A Cox proportional hazards model was used to assess the effect of mask wearing on CLI while controlling for age, gender, precautionary behavior (social distancing contacts, adoption date), county population density and time-varying county COVID-19 burden.

Results: There were 1,293 reports of respiratory symptoms over the study period. Individuals characterized as most likely to wear masks were 45% [24%-61%] less likely to report symptoms of COVID-like illness compared to individuals characterized as least likely to wear masks. Mask-wearing also demonstrated a protective effect for those characterized as somewhat likely to wear masks (HR: 0.60, 95% CI: 0.42-0.84, p=0.003) and those who were likely to wear masks in only one of the two circumstances (HR. 0.59, 95% CI: 0.42-0.83, p=0.002), compared to respondents least likely to wear masks. Sensitivity analyses with alternative broad and narrow CLI definitions produced a similar magnitude and protective effect.

Conclusion: Face masks were effective as a non-pharmaceutical intervention at preventing respiratory illness in the FNY population. The individual risk reduction was consistent with previous ecological measures of the protective effect of face masks, as well as robust to adjustment for behavioral, demographic, and environmental confounders.

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PS07.04 (578)

India's Second COVID Wave: How is it different from the First Wave?

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Purpose: India is witnessing the resurgence of the COVID-19 pandemic in the form of a hard-hitting second wave. We wanted to compare the clinical profile of the first wave (April-June 2020) with the second wave (March-May 2021) of the severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2), to help prioritize the target population group and management strategies. This will further help in the management of any upcoming third COVID wave.

Methods & Materials: We conducted a retrospective observational study and examined the demographic profile, symptoms, illness severity, baseline investigations, treatment given, comorbidities, and outcomes of the COVID-19 patients belonging to the first (W1) and the second (W2) waves of the Indian COVID pandemic.

Results: W2 had most people affected in the age group 50.5 (17.7) years compared with 37•1 (16•9) for W1. Baseline oxygen saturation was lower for W2 [84•0 (13•4) % versus(v/s) 91•9 (7•4) %] than W1. 70.2 % of the cases belonged to the severe category in W2 compared to 37.5% in W1. The level of hepatic transaminases was higher for W2 [AST, 108.3 (99.3) v/s 54.6 (69.3); ALT, 97.6 (82.3) v/s 58.7 (69.7) IU/L] than W1. CT severity score in W2 [29.5 (6.7)] was greater than W1 [23•2 (11•5)] [All P<0.05]. The standardized mortality ratio for W2 was 3.5 times that of W1. Higher proportion of patients require oxygen (81.8% v/s 11.2%), high flow nasal cannula (11.4% v/s 5.6%), non-invasive ventilation (41.2% v/s 1.5%), invasive ventilation (24.5% v/s 0.9%), and ICU admissions (56.4% v/s 12.0%) in W2 as compared with W1. We found the second wave to be stronger in terms of oxygen requirement, organ dysfunction, and mortality

Conclusion: Higher age, oxygen and ventilator requirement, ICU admissions, and organ failure are more prevalent in the second COVID wave that has hit India compared to the first wave and is associated with more deaths. India swiftly needs to scale up the prevalent ICU set up and oxygen production capacity to help accommodate the higher load.

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