Thyroid disease
Malignancy
Chronic obstructive pulmonary disease
Cerebrovascular disease
Coronary artery disease
Chronic kidney disease
Diabetes
Hypertension

Comorbidity

Table 1. Comorbidities of patients with COVID-19 admitted to the ICU

| Comorbidity                        | N (%) |
|-----------------------------------|-------|
| Hypertension                      | 288 (75.3%) |
| Obesity                           | 184 (48.16%) |
| Diabetes                          | 181 (47.38%) |
| Chronic kidney disease            | 91 (23%) |
| Coronary artery disease           | 47 (12%) |
| Cerebrovascular disease           | 36 (9.4%) |
| Chronic obstructive pulmonary disease | 27 (7.06%) |
| Malignancy                        | 29 (7.5%) |
| Thyroid disease                   | 23 (6%) |

Figure 1. Mortality by age groups

Figure 2. Mortality by cumulative number of comorbidities

Conclusion. Nepali had lower COVID-19 infection and case-fatality rates compared to other countries most affected by the pandemic. This was due to several factors, most notably early implementation of strict lockdown measures and closing of international borders on March 24, 2020 after the second confirmed COVID-19 case. As lockdown restrictions were lifted on July 7, 2020, COVID-19 cases and deaths in Nepal rose rapidly. As vaccination began on January 27, 2021, cases started to slow down until the most recent outbreak coinciding with the second wave in its neighboring country, India. Now, infection and case-fatality rates in Nepal are at an all-time high, prompting further lockdowns on April 29, 2021.

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403. Clinical Characteristics and Outcomes of Patients with COVID-19 Admitted to the Intensive Care Unit in the Dominican Republic

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Session: P-17. COVID-19 Global Response/Response in Low Resource Settings

Background. The disease caused by SARS-CoV-2, COVID-19, has caused a global public health crisis. Reported mortality rates across the world vary by region, local population characteristics and healthcare systems. There is a paucity of data on COVID-19 in low and middle income countries (LMICs). Our objective is to describe the clinical characteristics of critically ill patients with COVID-19 in the Dominican Republic (DR)

Methods. We performed a retrospective review of patients admitted to the intensive care unit (ICU) with severe COVID-19 from March to December 31, 2020, at a 295-bed tertiary teaching hospital in the DR. Clinical characteristics, demographics, comorbidities, management and outcomes were tabulated. Survival was categorized by age and comorbidities.

Results. A total of 382 patients were admitted to the ICU. The median age was 64 (range 14-97) and 64.3% (246) were male. Hypertension, diabetes, and obesity were the most common risk factors (Table 1). Corticosteroids were used in 91.6% (350), tocilizumab in 63% (82), and remdesivir in 31.6% (31). Antibacterials were used in 99.2% (379) of patients in the ICU. All-cause mortality in the ICU was 55.3% (135). Mortality was higher in older age groups (Figure 1) and in patients with multiple coexisting comorbidities (Figure 2).

Table 1. Comorbidities of patients with COVID-19 admitted to the ICU

| Comorbidity                        | N (%) |
|-----------------------------------|-------|
| Hypertension                      | 288 (75.3%) |
| Obesity                           | 184 (48.16%) |
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| Malignancy                        | 29 (7.5%) |
| Thyroid disease                   | 23 (6%) |

Figure 1. Mortality by age groups

Conclusion. Hypertension, obesity and diabetes were common in critically ill patients with COVID-19 in the DR. Corticosteroids and tocilizumab were commonly used. Antibacterials were used in >99% of patients admitted to the ICU and may signal a target for future antimicrobial stewardship. Higher mortality rates were present in older age groups and those with multiple comorbidities. Risk of death increased drastically after age 40 and was comparative to those in advanced age groups. In patients with 4 comorbidities and above, mortality was more than three times higher.

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404. COVID-19 Normality Rate: Criteria for Optimal Time to Return to In-person Learning

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Session: P-17. COVID-19 Global Response/Response in Low Resource Settings

Background. The COVID-19 pandemic created the most severe global education disruption in history. According to UNESCO, at the peak of the crisis over 1.6 billion learners in more than 190 countries were out of school. After one year, half of the world’s student population is still affected by full or partial school closures. Here we investigated whether or not it is possible to build a multivariate score for dynamic school decision-making specially in scenarios without population-scale RT-PCR tests.

Methods. Normality rate is based on a COVID-19 risk matrix (Table 1). Total score (TS) is obtained by summing the risk scores for COVID-19, considering the six parameters of the pandemic in a city. The COVID-19 Normality Rate (CNR) is obtained by linear interpolation in such a way that a total score of 30 points is equivalent to a 100% possibility of normality and, in a city with only six total points would have zero percent chance of returning to normality: CNR = (TS – 6)/24 (%). The criteria were national and provincial daily cases, total cases, daily deaths, and total deaths.

Table 1. Limits for each parameter of the risk matrix and ‘normality’ scores in relation to COVID-19: the lower the risk, higher is the ‘normality’ score.

| Parameter                          | ‘Normality’ score |
|-----------------------------------|------------------|
| Active cases                       | CNR (TS = 2)     |
| Active deaths                      | CNR (TS = 2)     |
| Total cases                        | CNR (TS = 2)     |
| Total deaths                       | CNR (TS = 2)     |
| Active cases                       | CNR (TS = 3)     |
| Active deaths                      | CNR (TS = 3)     |
| Total cases                        | CNR (TS = 3)     |
| Total deaths                       | CNR (TS = 3)     |

Table 2. Criteria for opening and closing schools in a city according to the COVID-19 Normality Rate.

| Normality Rate | Status                          | Criteria |
|----------------|---------------------------------|----------|
| < 50%          | Full school closure             |          |
| 50% to 70%     | In-person learning only for 5 years and 8 months-old children |          |
| 71% to 80%     | In-person learning extended to children age 12 years and less |          |
| 81% to 90%     | In-person learning extended to the student population age 18 years |          |
| 91% to 100%    | In-person learning extended to all the student population |          |
Results. at June 3rd, 2021, we evaluated all 5,570 Brazilian cities (Figure 1): 2,708 cities (49%) with COVID-19 normality rate less than 50% (full schools closure), 2,223 cities (40%) with normality rate between 50% and 70% (in-person learning for only 5 years and 8 months-old children), 583 cities (normality rate between 71% and 80% (in-person learning extended to children age 12 years and less), and just one city with 92% COVID-19 normality rate (in-person learning extended to all the student population). We calculated the COVID-19 normality rate between January and May, 2021, in four countries: Brazil, USA, UK, and Italy (Figure 2). At Jun, 3rd, 2021, percentage of people fully vaccinated in Brazil varied from 0% to 69%, an average of 11%.

Conclusion. COVID-19 vaccination programs take several months to implement. Besides fully vaccination of the population, it is important to check if people became really safe from the virus. The COVID-19 Normality Rate is a double check for the vaccine. Besides, it becomes really safe from the virus. The COVID-19 Normality Rate is a double check for the vaccine.

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405. A Qualitative Study Based on a Case Series of Obstetric COVID-19 Patients to Determine Risks in Management Associated with Severity in a Government Hospital in the Philippines
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Session: P-17. COVID-19 Global Response/Response in Low Resource Settings

Background. Enterprise Risk Management (ERM) in healthcare is a method used to identify, assess and reduce risks to patients and the hospital organization. The objective of this study is to identify clinical and organizational challenges and risks in healthcare management caused by COVID-19, and its impact on patients and healthcare workers in a low-resource obstetric setting.

Methods. From a census of patients from 1 April 2020 to 30 July 2020, four cases of COVID-19 in pregnancy representing different severity levels were selected. A patient tracer activity was done for each patient, documenting events that the patient and healthcare team experienced from admission to discharge. A case series on these patients was written. A focus group consisting of an OB-GYN resident, OB-GYN consultant, OB-GYN nurse, OB-GYN infectious disease consultant, and internal medicine resident and consultant, was formed. Each case was presented to the focus group to establish the context of risk assessment. Risks were identified using the framework of Enterprise Risk Management. Each risk was classified according to their risk domain and severity. Root cause analysis using the fishbone method was used to identify the causes of the risks.

Results. Operational risks identified were delayed swab results, false negative swab results, and delayed patient transport. Clinical/Patient risks identified were COVID-19 exposure of healthcare workers and other non-COVID patients, inadvertent community exposure risk for severe clinical manifestations of COVID-19, and lack of specific treatment for COVID-19. Risk to human capital identified were COVID-19 infection of hospital staff and decreased quantity of workforce due to quarantine. Most risks were assessed to be moderate risk or high risk in terms of severity. Root cause analysis showed that common causes of risks were due to exposure to asymptomatic patients and delayed and false-negative swab results.

Conclusion. The results of this study may be used towards the final steps of ERM: risk evaluation, treatment and management, in a low resource setting.

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