Demographic Profile of Patients with COVID-19 at Mater Misericordiae University Hospital: A Cross Sectional Study

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Introduction

It is recognised that a considerable proportion of people with COVID-19 infection will develop an illness that requires hospitalised treatment.

There is little published data on length of hospital stay with COVID-19 in Ireland and our study aims to expand on this knowledge. Furthermore, the demographics of patients presenting for treatment in Mater Misericordiae University Hospital (MMUH) may reflect the impact of COVID-19 in a deprived urban area.

In order to enhance our understanding of patients with COVID-19 who require hospital treatment, we sought to examine the demographic characteristics of patients admitted to MMUH and compare this cohort with the national and international data.

Methods

We conducted a retrospective, observational study of patients admitted to MMUH for treatment of COVID-19 from the onset of the outbreak (28th February 2020) until May 31st 2020. The variables analysed were patient age, gender, date of admission and discharge, length of hospital stay and outcome.

Patients included in the study were identified as clinical cases of COVID-19 under the care of a 'COVID team' or otherwise. We recognise that the total of 433 patients does not encompass all COVID-19 patients that were admitted to MMUH, as many were treated by various inpatient teams and by varying case definition, particularly as the outbreak progressed in the 'Delay Phase' and 'Mitigation Phase' and numbers of admissions increased.

Results

A total of 433 patients were included in the study. With regard to patient characteristics, 237 (54.4%) were male and 196 (45%) were female. The median age was 63 years (IQR: 46-78). The highest number of hospital admissions (87, 20.1%) by age group was the 75-84 year old age group.

With regards to length of hospital stay, the median length of stay was 11 days, IQR: 6-25, mean 20.6 and mode 7. Twenty-four patients (5.5%) were inpatients for less than 48 hours; 76 (17.6%) patients were admitted for 2-5 days, 95 (21.9%) for 6-10 days, 110 (25.4%) for 11-20 days, 63 (14.5%) for 21-40 days and 55 (12.7%) for greater than 40 days. 10 patients (2.3%) remained inpatients at time of data collection.

Table 1: Number of COVID-19 cases by age-group – MMUH study group vs. national data (NPHET) as of 31st May 2020

Age Group	MMUH COVID-19 Admissions	NPHET National Data – Total Number of Cases
15-24	10 (2.3%)	1,824 (7.32%)
25-34	37 (8.5%)	4,185 (16.79%)
35-44	52 (12.0%)	4,385 (17.59%)
45-54	69 (15.9%)	4,476 (17.96%)
55-64	63 (14.5%)	3,197 (12.83%)
65-74	70 16.2%)	1,777 (7.13%)
75-84	87 (20.1%)	2,261 (9.07%)
≥85	45 (10.4%)	2,334 (9.36%)

Sixty-one patients (14%) died during their hospital admission. Of patients who died, the median age was 77 years and median length of hospital stay was 16 days prior to death. Of those who died, 19 (26%) were in the 75-84 year old age group.

Table 2: Case Fatalities by Age Group – MMUH COVID-19 fatalities and case fatality ratio (CFR) vs. national data (NPHET) as of 31st May 2020.

Age Group	MMUH COVID-19 Fatalities and CFR	NPHET National Data – Total Number of Fatalities and CFR
15-24	0 (0%)	2 (0.1%)
25-34	0 (0%)	6 (0.14%)
35-44	2 (3.85%)	10 (0.23%)
45-54	1 (1.45%)	23 (0.51%)
55-64	10 (15.87%)	59 (1.85%)
65-74	13 (18.57%)	200 (11.25%)
75-84	19 (21.84%)	476 (21.05%)
≥85	16 (35.56%)	614 (26.31%)
Total	61 (14.04%)	1,390 (5.58%)

Conclusion

Our findings demonstrate the demographic characteristics of patients treated for COVID-19 in MMUH between March 2020 and May 2020. When compared to the national data, our study sample appears to be older and include a higher proportion of males. MMUH had a higher median age of 63 years compared to 48 years nationally. In our sample, 237 (54.4%) were male, compared to 42.6% of that nationally.

The median length of stay (11 days; IQR: 6-25) observed in our sample is comparable to that reported by Rees et al who examined length of hospital stay in the early stages of the pandemic in Wuhan and found a median of 14 days.