

- The occupancy bed rate, exceeding 100% in ICU, highlighted the health system collapse in managing COVID-19 patients.

Health system saturation in managing COVID-19 patients in Monastir, Tunisia

Manel Ben Fredj

D Ben Hassine^{1,2}, *I Zemni*^{1,2,3}, *W Dhouib*^{1,2,3}, *M Ben Fredj*^{1,2,3}, *C Bennasrallah*^{1,2,3}, *M Kacem*^{1,2,3}, *H Abroug*^{1,2,3}, *C Chriaa*⁴, *I Bouanene*^{1,2}, *A Belguith Sriha*^{1,2,3}

¹Faculty of Medicine, University of Monastir, Monastir, Tunisia

²Epidemiology and Preventive Medicine, Fattouma Bourguiba Hospital, Monastir, Tunisia

³Research Laboratory, Technology and Medical Imaging, University of Monastir, Monastir, Tunisia

⁴Human Resources Department, Fattouma Bourguiba Hospital, Monastir, Tunisia

Contact: manel-ben-fredj@hotmail.fr

Background:

COVID-19 emerged in late 2019 and quickly became a serious public health problem worldwide. This study aimed to determine the average length of stay, occupancy bed rate and bed turnover rate for COVID-19 patients in Monastir university hospital between the 1st October 2020 and 28th february 2021.

Methods:

This is a cross-sectional study that enrolled all hospitalizations for COVID19 in Monastir University hospital, the unique third level healthcare in this region, between the 1st October 2020 and 28th february 2021. The following indicators: the average length of stay, the occupancy bed rate and the bed turnover rate were calculated during the study period.

Results:

We included 762 hospitalizations for COVID-19 during the study period. The average age of our population was 64,22 years (standard deviation= 14,17). Male predominance was noted with sex ratio=1,63. The median length of stay was significantly longer in the intensive care unit (ICU) than in the other departments (11 (7;16) days, versus 7(2;14) days), $p = 0.008$. The average number of beds available for COVID-19 patients during the study period was 13 in the ICU and 65 in the other wards. The bed turnover rate and the bed occupancy rate per month were respectively 2,66 patient/bed/month and 96,26% in the ICU versus 1,74 patient/bed/month and 62,26% in the other wards. The occupancy bed rate in the ICU exceeded the 100% during the outbreak of January and February 2021 (129,72% and 120,66% respectively).

Conclusions:

Despite the efforts by the health services and social isolation measures in Tunisia, this study highlighted the saturation of our health system with an overload in intensive care units.

Key messages:

- Length of stay for patients with Covid-19 was significantly the longest in ICU.