



Case Report

COVID-19 Among Residents in a Brazilian Emergency Hospital: A Quick Online Cross-Sectional Survey

Marcus Vinicius Dantas de Campos Martins*, Márcio Barroso Cavaliere, Rodrigo Vaz de Melo, José Roberto Magno de Jesus, Bruno Vaz de Melo

Hospital Municipal Lourenço Jorge, Rio de Janeiro, Brazil

***Corresponding author:** Marcus Vinicius Dantas de Campos Martins, Department of Surgery, Hospital Municipal Lourenço Jorge, Av. Ayrton Senna 2000; Zip code: 22793-000, Rio de Janeiro, Brazil

Citation: de Campos Martins MVD, Cavaliere MB, de Melo RV, de Jesus JRM, de Melo BV. (2020) COVID-19 Among Residents in a Brazilian Emergency Hospital: A Quick Online Cross-Sectional Survey. Ann Case Report 14: 426. DOI: 10.29011/2574-7754.100426

Received Date: 18 June, 2020; **Accepted Date:** 22 June, 2020; **Published Date:** 26 June, 2020

Abstract

Background: Healthcare workers on the front lines of the COVID-19 pandemic are at greater risk of being infected than the general population.

Methods: We sent a questionnaire on symptoms and tests to a group of residents of a public emergency hospital in Rio de Janeiro, Brazil. Using these data, we report the incidence of COVID-19 infection among these healthcare workers group.

Results: The questionnaires were sent to 40 residents of different specialties in the third week of May. Twenty residents answered. Among all respondents, 15% tested positive for COVID-19.

Conclusion: Our study showed a high incidence of COVID-19 positive cases among residents in a Brazilian public emergency hospital.

Introduction

Covid-19 has spread rapidly around the world. Based on the Chinese experience of significantly decrease in the growth rate due to lockdown measures [1], several countries have adopted social isolation as the main strategy to combat the virus. This strategy could reduce new infections, the peak number of infected people and concomitant demands on healthcare facilities and personnel [2]. Brazil has a high burden of COVID-19 and Brazilian studies have also shown that maintaining and strengthening measures of social distancing was necessary to prevent the health system collapse [3].

In the end, most of us are looking for immunity. This herd immunity will build up as more people become infected [4]. Identify people with immunity could be a strategy to reopening [5]. However, despite more than 6 million confirmed cases of COVID-19 have already be reported worldwide (early June, 2020), no more than 2 to 4% has been infected and consequently immune [6]. The seroprevalence of antibodies to SARS-CoV-2 in a community sample drawn from Santa Clara County, California,

was measured and the prevalence, after weighting for population demographics was 2.8% [7].

Health Care Professionals (HCPs), due to greater exposure, should theoretically be infected and develop immunity in a higher percentage than the general population. A screening in a London maternity hospital showed 18% of RT-PCR among 266 staff members [8]. Italian data suggest that health professionals could also have higher infection rates than the general population [9].

In this study, we evaluated SARS-CoV-2 tests among residents of a public emergency hospital in Rio de Janeiro, Brazil.

Methods

A cross-sectional study evaluating infection profiles for SARS-CoV-2 in residents was performed in a public emergency hospital in a high prevalence area of COVID-19 infections.

A questionnaire on symptoms and tests related to COVID-19 infection was sent to 40 residents at Lourenço Jorge Municipal Hospital, Rio de Janeiro, Brazil.

Results

Twenty (50%) of the forty residents answered the questionnaire. Table 1 summarizes the profile of responders.

Gender		n	%
	Male	8	40%
	Female	12	60%
Age			
	21 to 25	3	15%
	26 to 30	9	45%
	31 to 35	5	25%
	36 to 40	3	15%
Specialty			
	General Surgery	8	40%
	Obstetrics	5	25%
	Pediatrics	1	5%
	Anesthesiology	3	15%
	Clinic	3	15%

Table 1: Responders profile.

Among the responders, 10 (50%) had at least one of the following symptoms in the last 2 months: fever > 37,5% (4), cough (8), anosmia (4) or ageusia (3). Of these, 3 were positive for SARS-CoV-2.

Discussion

A higher incidence of SARS-Cov-2 infection among health care professionals is a major concern. Of the 138 admitted patients in a Wuhan Hospital on January of 2020, 40 were HCPs [10]. As of February 11, 2020, the Chinese Center for Disease Control and Prevention reported that a total of 1716 HCPs were confirmed to be COVID-19 patients in China [11]. In a large children's and maternity hospital in Regensburg, Germany, 15.4% of HCPs were COVID-19 cases [12].

Brazil is, until now, the second country in number of COVID-19 in the world and Rio de Janeiro is the second state with the highest number of cases in the country. Protecting medical professionals from COVID-19 infection is mandatory to success in fighting the pandemic.

Working in an environment with large number of cases facilitates infection among HCPs [13]. Many working hours per week, direct patient care and night shifts could make this population more exposed to risk. On the other hand, a recent study published by Steensels et al, suggested that being involved in clinical care, having worked during lockdown phase, being involved in care for patients with COVID-19 were not significantly associated with seroprevalence [14].

Our study showed a high incidence of COVID-19 positive cases among residents in a Brazilian public emergency hospital than in the general population. Future studies are necessary to determine the best way to better protect this population of HCPs.

References

1. Lau H, Khosrawipour V, Kocbach P, Mikolajczyk A, Schubert J, et al. (2020) The positive impact of lockdown in Wuhan on containing the COVID-19 outbreak in China. *J Travel Med* 27: taaa037.
2. Feng Z, Glasser JW, Hill NA (2020) On the benefits of flattening the curve: A perspective. *Math Biosci* 27: 108389.
3. Ganem F, Mendes FM, Oliveira SB, Porto VB, Araujo W, et al. (2020) The impact of early social distancing at COVID-19 outbreak in the largest metropolitan area of Brazil. *medRxiv*.
4. Kupferschmidt K (2020) The lockdowns worked-but what comes next? *Science* 368: 218-219.
5. Kontou PI, Braliou GG, Dimou NL, Nikolopoulos G, Bagos P (2020) Antibody tests in detecting SARS-CoV-2 infection: A Meta-Analysis. *Diagnostics* 10: 319.
6. Flaxman S, Mishra S, Gandy A, Unwin H, Coupland, H et al. (2020) Report 13: Estimating the Number of Infections and the Impact of Non-Pharmaceutical Interventions on COVID-19 in 11 European Countries. Imperial College London.
7. Bendavid E, Mulaney B, Sood N, Shah S, Ling E, et al. (2020) COVID-19 antibody seroprevalence in Santa Clara County, California. *medRxiv*.
8. Khalil A, Hill R, Ladhani S, Pattison K, O'Brien P (2020) COVID-19 screening of health-care workers in a London maternity hospital. *Lancet Infect Dis*.
9. Task force COVID-19 del Dipartimento Malattie Infettive e Servizio di Informatica. Istituto Superiore di Sanità Epidemia COVID-19, Aggiornamento nazionale.
10. Wang D, Hu B, Hu C, Zhu F, Liu X, et al. (2020) Clinical characteristics of 138 hospitalized patients with 2019 novel coronavirus-infected pneumonia in Wuhan, China. *JAMA* 323: 1061-1069.
11. Wu Z, McGoogan J.M (2020) Characteristics of and important lessons from the coronavirus disease 2019 (COVID-19) outbreak in China: summary of a report of 72314 cases from the Chinese center for disease control and prevention. *JAMA* 323: 1239-1242.
12. Brandstetter S, Roth S, Harner S, Buntrock-Dopke H, Toncheva A, et al. (2020) Symptoms and immunoglobulin development in Hospital staff exposed to a SARS-CoV-2 outbreak. *Pediatr Allergy Immunol*.
13. Petersen E, Hui D, Hamer DH, Blumberg L, Madoff LC, et al. (2020) Li Wenliang, a face to the frontline healthcare worker. The first doctor to notify the emergence of the SARS-CoV-2, (COVID-19), outbreak. *Int J Infect Dis* 93: 205-207.
14. Steensels D, Oris E, Coninx L (2020) Hospital-Wide SARS-CoV-2 antibody screening in 3056 staff in a tertiary center in Belgium. *JAMA*.