

Case Report

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

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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.

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