Profile of patients notified with suspected coronavirus in a public hospital in the Federal District

RESUMO | Objetivo: Analisar o perfil clínico epidemiológico dos pacientes notificados com suspeita de Covid-19 em um hospital público do Distrito Federal, Brasil. Método: Estudo epidemiológico descritivo, quantitativo, com delineamento transversal, pautado em dados da ficha de registro individual de casos de Síndrome Respiratória Aguda Grave do Núcleo de Vigilância Epidemiológica (NUVEI) do Hospital Regional da Asa Norte (HRAN). A coleta de dados ocorreu em etapa única no período compreendido entre 01 e 10 de março de 2021, e a análise estatística descritiva realizada por meio de frequência absoluta e frequência relativa. Resultados: Observou-se maior prevalência de hospitalizações em indivíduos do sexo masculino (53,47%), com média de idade de 52,25 anos, portadores de doença cardiovascular crônica, e presença de dispneia, tosse e febre. Conclusão: Concluímos que ainda existe muitas lacunas incompreendidas acerca do novo coronavírus, e ressaltamos a importância do preenchimento correto das notificações dos casos suspeitos.
Descritores: Coronavirus; SARS-CoV-2; COVID-19.

ABSTRACT | Objective: To analyze the clinical epidemiological profile of patients notified with suspected Covid-19 in a public hospital in the Federal District, Brazil. Method: Descriptive, quantitative, cross-sectional epidemiological study, based on data from the individual record form of cases of Severe Acute Respiratory Syndrome of the Epidemiological Surveillance Center (NUVEI) of Hospital Regional da Asa Norte (HRAN). Data collection took place in a single step in the period between March 1 and 10, 2021, and descriptive statistical analysis was performed using absolute frequency and relative frequency. Results: There was a higher prevalence of hospitalizations in male individuals (53.47%), with a mean age of 52.25 years, with chronic cardiovascular disease, and presence of dyspnea, cough and fever. Conclusion: We conclude that there are still many ununderstood gaps about the new coronavirus, and we emphasize the importance of correctly filling out the notifications of suspected cases.
Descriptors: Coronavirus; SARS-CoV-2; COVID-19

RESUMEN | Objetivo: Analizar el perfil clínico-epidemiológico de los pacientes notificados con sospecha de Covid-19 en un hospital público del Distrito Federal, Brasil. Método: Estudio epidemiológico descriptivo, cuantitativo, transversal, basado en datos del formulario de registro individual de casos de Síndrome Respiratorio Agudo Severo del Centro de Vigilancia Epidemiológica (NUVEI) del Hospital Regional da Asa Norte (HRAN). La recolección de datos se realizó en un solo paso en el período comprendido entre el 1 y el 10 de marzo de 2021, y se realizó un análisis estadístico descriptivo utilizando frecuencia absoluta y frecuencia relativa. Resultados: Hubo mayor prevalencia de hospitalizaciones en varones (53,47%), con una edad média de 52,25 años, con enfermedad cardiovascular crónica, presencia de disnea, tos y fiebre. Conclusión: Concluimos que aún existen muchas lagunas incomprendidas sobre el nuevo coronavirus, y destacamos la importancia de completar correctamente las notificaciones de casos sospechosos
Descriptores: Coronavirus; SARS-CoV-2; COVID-19

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INTRODUCTION

COVID-19 is an infectious disease caused by the new coronavirus (SARS-CoV-2) and its main symptoms are fever, tiredness and dry cough. Some patients may experience nasal congestion, headache, conjunctivitis, sore throat, diarrhea, loss of taste or smell, skin rash, or discoloration of the fingers or toes. Transmissibility occurs through interpersonal contact close to a confirmed case due to exposure to droplets containing the virus, in addition to direct contact with contaminated surfaces and objects. SARS-CoV-2 is the etiologic agent responsible for severe acute respiratory syndrome (SARS). 1

In early 2020, the world was surprised by a new disease called COVID-19. 2 In March 2020, the World Health Organization (WHO) upgraded the SARS-CoV-2 classification to pandemic. At the time, 118 countries including Brazil had already registered confirmed cases of severe acute respiratory syndrome of the infection. 3 In Brazil, the first case of a new coronavírus was confirmed by the Ministry of Health, a 61-year-old man who was admitted to Hospital Israelita Albert Einstein, in São Paulo, with a history of traveling to Italy. 4 Brazil occupied the third position in the number of infected individuals and the 2nd place with the highest number of deaths attested in June 2021.

Currently, the only measure that reduces the increasing incidence of new cases caused by COVID-19 is mass immunization. In Brazil there are four vaccines authorized by the National Health Surveillance Agency (Anvisa), two of an emergency nature (Sinovac/Butantan and Janssen) and two with definitive registration (AstraZeneca/Fiocruz and Pfizer/Wyeth). 6 Other preventive measures against the infection are maintained, including the use of masks, hand hygiene and social distancing. 6

The socioeconomic unevenness and geographic extension of Brazil have a significant impact on the distribution of the disease, considering the basic sanitation and educational conditions of the population, in addition to the income division in the country. 7 The geographic distribution of COVID-19 numbers in Brazil in June 2021 suggests greater provisions for the Southeast and South regions of the country, with a higher incidence in the Midwest with 10.706,2 per 100,000 inhabitants. The Brazilian capital, Distrito Federal, is the second federal unit in the Midwest region with just over 410.000 registered cases. 8

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According to a study carried out at Hospital Israelita Albert Einstein that analyzed the clinical and epidemiological characteristics of patients, it was observed that the most frequent variables associated with complications of the clinical picture requiring intensive care are related to non-communicable chronic diseases that affect the circulatory system and diabetes mellitus, also emphasizes the body mass index (BMI), which is correlated with patients who require hospitalization. 9 Given the above, this study aimed to analyze the clinical epidemiological profile of patients notified with suspected Covid-19 in a public hospital in the Federal District, Brazil.

METHOD

This is a descriptive, quantitative, cross-sectional epidemiological study, based on data from the individual record form of cases of Severe Acute Respiratory Syndrome of the Epidemiological Surveillance Center (NUVEI - Núcleo de Vigilância Epidemiológica) of the Hospital Regional da Asa Norte (HRAN). The Hospital Regional da Asa Norte (HRAN) is a hospital unit, located in Brasília, Federal District, with 367 beds, being a reference in urgent/emergency care, general surgeries and care for burn victims.

The study population consisted of all hospital admissions for suspected Severe Acute Respiratory Syndrome at Hospital Regional da Asa Norte (HRAN). Hospital admissions of adult individuals from March 1st to August 31th, 2020 with suspected SARS were included in this study. Hospital admissions that presented a case registration form with incomplete completion, erroneous or duplicate data were excluded.

The study data were made available by the Epidemiological Surveillance Center (NUVEI) of the Asa Norte Regional Hospital (HRAN). The study variables were scrutinized into two categories: sociodemographic aspects (gender, age group and race/color) and clinical aspects (signs and symptoms, risk factors/comorbidities and RT-PCR results).

Data collection took place in a single step in the period between March 1st and 10th, 2021. The collected data were properly organized in a Microsoft Excel 2016 data sheet and descriptive statistical analysis was performed using absolute frequency and relative frequency. To analyze the data regarding the clinical profile of hospitalizations, the N of the study was adjusted, due to the high number of individual records of cases of Severe Acute Respiratory Syndrome without filling in the information.

This study followed the precepts established by Resolution nº 466/2012 of the National Health Council. It began after approval by the Research Ethics Committee of the Health Sciences Education and Research Foundation, under opinion nº 4.498,459, and authorization of the Epidemiological Surveillance Center and of the Hospital Management through initials of the Institutional Consent Term.

RESULTS

From March to August 2020, 2785 hospital admissions of suspected cases of infection by the new coronavirus were registered in the HRAN. There was a higher prevalence of hospitalizations in males (53,47%) compared to females (46,53%), as shown in Figure 1.

The mean age of hospitalized patients was 52,25 years, as shown in Table 1. The value of the first quartile (Q1) indicates that 25% of the individuals observed were aged 40 years or less, while 75% of the individuals were > 40 years. The 95th percentile value means that 95% of hospitalized individuals are up to 83 years old. The mode indicates that the most frequent age among patients was 57 years and the median (54 years) represents the age of half of the individuals.

Regarding the variable race/color, it was found that 75,03% of hospitalizations had no records of race/color, indigenous (17,08%), white (6,19%), black (1,41%) and yellow (0,21%). Table 2 shows the clinical profile of hospital admissions for suspected COVID-19. It was found that 86,90% of patients had dyspnea, 84,58% cough, 80, 21% fever and 71,83% had O2 saturation <95%. Regarding comorbidities, it was observed that 66,55% of patients had chronic cardiovascular disease, and 42,81% had diabetes mellitus (DM).

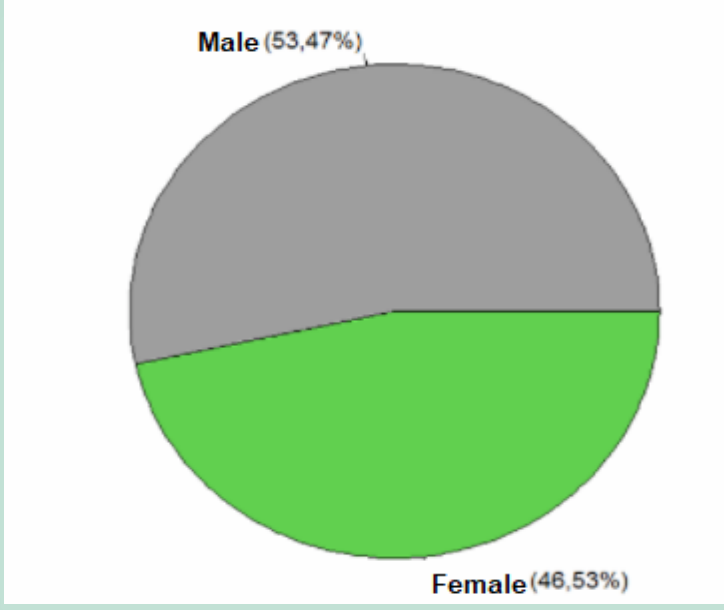
When analyzing the clinical profile of hospitalizations according to gender, there was a higher prevalence of dyspnea (47,62%), cough (47,32%), and fever (45,36%) in males. And higher prevalence of vomiting (5,0%) in female individuals, as shown in Table 3.

Regarding the RT-PCR test, 63,40% of the patients had a detectable sample for SARS-CoV-2, and 22,94% had no detectable one.

DISCUSSION

The sociodemographic profile of patients hospitalized for suspected SARS-CoV-2 infection showed a higher percentage of admissions in males (53,47%). A study carried out in a fe-

Figure 1. Distribution of admissions for suspected COVID-19, according to gender, Brasília, Brazil, 2021.



Source: The authors, 2021

Table 1 – Coefficient of variation (CV), mean, mode, median, first quartile (Q1) and 95th percentile (P95) for the variable age, Brasília, Brazil, 2021.

Statistics	Results
CV	38,24%
Mean	52,25
Mode	57,00
Median	54,00
Q1	40,00
P95	83,00

Source: The authors, 2021

deral hospital in Rio de Janeiro identified a higher prevalence of admissions among females (52,90%). 10 Research carried out at Hospital Israelita Albert Einstein, in São Paulo (SP) found a higher percentage of female individuals (68,10%). 9 A survey of 351 medical records of hospitalized patients with coronavirus-19 found a higher percentage among men (74,10%). 11

Regarding the age of patients, the mean age recorded was 52,25 years. Research in a hospital unit observed a higher percentage of hospitalizations among individuals aged between 50 and 69 years. 10 A research carried out in São Paulo identified a higher concentration of cases in the 50 to 64 age group. 9 The survey found a higher prevalence of hospitalizations among individuals aged 70 to 79 years.11 A study identified in the study carried out at the University Hospital of Brasília (HUB), the average age of 64,6 years. 13 Studies point to advanced age as an important determinant in the need to seek medical care, and correlate advanced age as two important conditioning factors for the prognosis of SARS-CoV-2.

Regarding the presence of comorbidities, it was shown that 66,55% of patients had chronic cardiovascular disease (66,55%) and diabetes mellitus (42,81%). A study in a hospital unit observed that 25,00% of the individuals had arterial hypertension and 20,00%

Table 2. Clinical profile of hospital admissions for suspected COVID-19, Brasília, Brazil, 2021.

Variable	N adjusted (%)	Yes (%)	No (%)	Ignored (%)
Fever	2.628 (94,36%)	80,21	18,11	1,67
Cough	2.665 (95,69%)	84,58	14,45	0,98
Sore throat	2.287 (82,12%)	11,59	85,31	3,1
Dyspnea	2.642 (94,87%)	86,90	12,57	0,53
Respiratory discomfort	2.415 (86,71%)	60,17	39,01	0,83
O2 Saturation <95%	2.364 (84,88%)	71,83	27,03	1,14
Diarrhea	2.325 (83,48%)	16,73	81,55	1,72
Vomit	2.281 (81,90%)	9,51	88,6	1,89
Chronic Cardiovascular Disease	1.743 (62,59%)	66,55	32,99	0,46
Diabetes Mellitus	1.689 (60,65%)	42,81	56,36	0,83
Chronic Lung Disease	1.652 (59,32%)	12,77	86,14	1,09

Source: The authors, 2021

Table 3. Clinical profile of hospital admissions for suspected COVID-19, according to gender, Brasília, Brazil, 2021.

Variable		Male	(%)	Female	(%)
Fever	Yes	1192	45,36%	916	34,86%
	No	197	7,50%	279	10,62%
	Ignored	28	1,07%	16	0,61%
Cough	Yes	1261	47,32%	993	37,26%
	No	157	5,89%	228	8,56%
	Ignored	19	0,71%	7	0,26%
Sore Throat	Yes	143	6,25%	122	5,33%
	No	1026	44,86%	925	40,45%
	Ignored	43	1,88%	28	1,22%
Dyspnea	Yes	1258	47,62%	1038	39,29%
	No	148	5,60%	184	6,96%
	Ignorad	9	0,34%	5	0,19%

Respiratory discomfort	Yes	825	34,16%	628	26,00%
	No	448	18,55%	494	20,46%
	Ignored	11	0,46%	9	0,37%
O2 Saturation <95%	Yes	964	40,78%	734	31,05%
	No	274	11,59%	365	15,44%
	Ignored	16	0,68%	11	0,47%
Diarrhea	Yes	196	8,43%	193	8,30%
	No	1007	43,31%	889	38,24%
	Ignored	28	1,20%	12	0,52%
Vomit	Yes	103	4,52%	114	5,00%
	No	1067	46,78%	954	41,82%
	Ignored	31	1,36%	12	0,53%
Other signs	Yes	753	30,57%	705	28,62%
	No	463	18,80%	377	15,31%
	Ignored	90	3,65%	75	3,05%

Source: The authors, 2021

had Diabetes Mellitus. 13 In a study carried out at the Hospital Israelita Albert Einstein it was found that 20,80% of the patients were hypertensive and 13,90% had Diabetes Mellitus. 9 Pre-existing diseases or comorbidities such as arterial hypertension, diabetes and chronic obstructive pulmonary disease are risk factors for the evolution of unfavorable outcomes in individuals with COVID-19, and contribute to longer hospital stays and mortality. 13 The existence of comorbidities that, according to some authors, have an impact on the clinical evolution of the disease. Thus, they state in studies that individuals with multiple comorbidities have an increased risk of death by 9,44 times compared to the group without previous diseases. 14

Dyspnea, cough and fever were the signs/symptoms with the highest prevalence in the present study. Research on the clinical profile of patients in a hospital unit showed that 80,60% of hospitalized patients had fever, 11,11% dyspnea and 23,60% cough. 8 Individuals with flu-like symptoms, fever and myalgia are considered mild cases, in the moderate form there are complaints of dyspnea on moderate and intense exertion associated with flu-like symptoms, whereas in the severe form, patients need ventilatory support. 15

Women had a higher percentage of vomiting (5,0%) when compared to males. However, in the literature consulted, no evidence was found to discuss this result. The molecular result for COVID-19 identified that 63,4% of patients had a detectable (positive) result. The RT-PCR test is considered the gold standard for early diagnosis, and it can be linked, when necessary, to the request of other tests that corroborate the removal or validation of the infection. 16

CONCLUSION

The clinical epidemiological profile of hospitalizations for suspected coronavirus infection at the Asa Norte Regional Hospital (HRAN) showed a higher prevalence among men (53,47%), with a mean age of 52,25 years, with chronic cardiovascular disease , with the presence of dyspnea, cough and fever.

The potential of this study consisted of elucidating the clinical epidemiological profile of patients assisted by the Hospital Regional da Asa Norte. Regarding the limitations of the study, we mentioned the lack of filling in information about race/color and variables related to the clinical profile of the illness by COVID-19. We emphasize the importance of completing the notification form completed by the responsible professional, as this information may be useful in the development of research in order to contribute to the competent authorities in the implementation of sanitary barriers against COVID-19.

We conclude that there are still many ununderstood gaps about the new coronavirus, but that the mass vaccination of the world population with the numerous immunizations developed and in progress will give timely time to develop national and international policies to eradicate this virus as well as other infectious diseases.

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