

A nationwide survey on health resources and clinical practices during the early COVID-19 pandemic in Brazil

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Appendix 1 - COVID-19 electronic survey

1. What's your gender?
<ul style="list-style-type: none"> • Male • Female
2. What's your age?
3. Which region of Brazil do you live?
<ul style="list-style-type: none"> • North • Northeast • Middle west • Southeast • South
4. What is your medical background?
<ul style="list-style-type: none"> • Intensivist • Emergencist • General practitioner • Other specialties
5. Which hospital do you work?
6. The hospital that you work is...
<ul style="list-style-type: none"> • Public • Private
7. Is the hospital that you work a university hospital?
<ul style="list-style-type: none"> • Yes • No
8. How many beds does the hospital that you work have?
9. In which department do you work?
<ul style="list-style-type: none"> • Intensive care unit • Emergency department
10. How many intensive care beds are available in the hospital that you work?
11. What is the mean number of patients that is attended at the emergency department of your hospital has per day?
12. Did your hospital increase the number of intensive care beds during the pandemic?
<ul style="list-style-type: none"> • Yes • No • I don't know

13. How many new intensive care beds were opened for COVID-19 patients at the hospital that you work?

14. Has the emergency department of your hospital a different place to attend respiratory patients?

- Yes
- No
- I don't know

15. Did the intensive care unit of the hospital that you work had planned any strategy for patient attendance during the pandemic, before the COVID-19 pandemic started in Brazil?

- Yes
- No
- I don't know

16. Did the emergency department of the hospital that you work had planned any strategy for patient attendance during the pandemic, before the COVID-19 pandemic started in Brazil?

- Yes
- No
- I don't know

17. How many emergency department beds at your hospital are a negative pressure bed?

18. How many intensive care beds at your hospital are a negative pressure bed?

19. How many hours is the mean time to transfer a patient from the emergency department to an intensive care bed at your hospital?

20. The use of disposable gown is recommended for the COVID-19 patient attendance at your hospital?

- Yes, and it is always available (there is enough)
- Yes, but rarely is missing
- Yes, but frequently is missing
- No

21. The use of surgical cap is recommended for the COVID-19 patient attendance at your hospital?

- Yes, and it is always available (there is enough)
- Yes, but rarely is missing
- Yes, but frequently is missing
- No

22. The use of sterile gloves is recommended for the COVID-19 patient attendance at your hospital?

- Yes, and it is always available (there is enough)
- Yes, but rarely is missing
- Yes, but frequently is missing
- No

23. The use of N95 or PPF mask is recommended for the COVID-19 patient attendance at your hospital?

- Yes, and it is always available (there is enough)
- Yes, but rarely is missing
- Yes, but frequently is missing
- No

24. In which frequency does your hospital tell you to change your N95 or PPF mask?

- One mask per shift
- One mask per week
- Undefined

<p>25. Is there a specific protocol for the use of personal protection equipment during endotracheal intubation?</p> <ul style="list-style-type: none"> • Yes • No
<p>26. Did the hospital that you work do a specific protocol for attendance of COVID-19 patients?</p> <ul style="list-style-type: none"> • Yes • No • I don't know
<p>27. Is there a protocol with established criteria for a COVID-19 patient admission at the intensive care unit at the hospital that you work?</p> <ul style="list-style-type: none"> • Yes • No • I don't know
<p>28. Is a chest computed tomography done as a screening in suspected COVID-19 patients at the hospital that you work?</p> <ul style="list-style-type: none"> • Yes • No • I don't know
<p>29. Does the hospital that you work have available videolaryngoscope for tracheal intubation?</p> <ul style="list-style-type: none"> • Yes • No
<p>30. Is there a rule in the hospital that you work for tracheal intubation in COVID-19 patients with videolaryngoscope?</p> <ul style="list-style-type: none"> • Yes • No • I don't know
<p>31. Is there a sedation protocol for tracheal intubation in COVID-19 patients at the hospital that you work?</p> <ul style="list-style-type: none"> • Yes • No • I don't know
<p>32. Is there a mechanical ventilation protocol in COVID-19 patients at the hospital that you work?</p> <ul style="list-style-type: none"> • Yes • No • I don't know
<p>33. Is there a sedation protocol for mechanical ventilation in COVID-19 patients at the hospital that you work?</p> <ul style="list-style-type: none"> • Yes • No • I don't know
<p>34. Is there a protocol for neuromuscular blockage in COVID-19 patients in mechanical ventilation?</p> <ul style="list-style-type: none"> • Yes • No • I don't know
<p>35. Is available non-invasive mechanical ventilation at the hospital that you work?</p> <ul style="list-style-type: none"> • Yes • No
<p>36. Do you use non-invasive mechanical ventilation in COVID-19 patients?</p> <ul style="list-style-type: none"> • Yes, without any restriction • Yes, but only in negative pressure beds • No, in any case

<p>37. Is high flow oxygen nasal canula available at the hospital that you work?</p> <ul style="list-style-type: none">• Yes• No
<p>38. Do you use high flow nasal canula in COVID-19 patients?</p> <ul style="list-style-type: none">• Yes, without any restriction• Yes, but only in negative pressure beds• No, in any case
<p>39. What is the positive end expiratory pressure (PEEP) value that you use in the first 24 - 48 hours of mechanical ventilation in COVID-19 patients?</p>
<p>40. How do you choose PEEP in COVID-19 patients in mechanical ventilation?</p> <ul style="list-style-type: none">• Empirical• Guide by the best SaO2 or SpO2• Guide by ARDSnet low PEEP table• Guide by ARDSnet high PEEP table• Guide by the best compliance• Another way• I don't know
<p>41. Is there a specific protocol for weaning from mechanical ventilation in COVID-19 patients at the hospital that you work?</p> <ul style="list-style-type: none">• Yes• No• I don't know
<p>42. Any COVID-19 patient was cannulated for extracorporeal membrane oxygenation (ECMO) support at your intensive care unit?</p> <ul style="list-style-type: none">• Yes• No, I have ECMO in my hospital, but we did not cannulate any patient yet• No, I don't have ECMO in my hospital
<p>43. Which specific therapy for COVID-19 patients do you prescribe? (you can choose more than one alternative)</p> <ul style="list-style-type: none">• Chloroquine or hydroxychloroquine• Chloroquine or hydroxychloroquine with macrolides• Lopinavir/ritonavir• Interleukin 6 inhibitor• Corticosteroids• Ivermectin• Other• I don't prescribe any specific therapy
<p>44. If you prescribe chloroquine or hydroxychloroquine, do you perform electrocardiography in a routine fashion?</p> <ul style="list-style-type: none">• Yes, once a day• Yes, once a week• Yes, but without a defined frequency• No, I don't make electrocardiography control
<p>45. Do you prescribe deep venous thrombosis prophylaxis for COVID-19 patients?</p> <ul style="list-style-type: none">• Yes• No

46. Which pharmacological prophylaxis for deep venous thrombosis do you generally prescribe in COVID-19 patients without renal dysfunction?

- Unfractionated heparin 5.000 UI subcutaneous twice a day
- Unfractionated heparin 5.000 UI subcutaneous three times a day
- Enoxaparin 40mg subcutaneous once a day
- Enoxaparin 40mg subcutaneous twice a day
- Enoxaparin 1mg/kg subcutaneous twice a day

47. Do you change your deep venous thrombosis prophylaxis strategy in COVID-19 patients with elevated d-dimers level?

- Yes
- No

48. Which is your deep venous thrombosis prophylaxis or empirical anticoagulation strategy in COVID-19 patients with elevated d-dimers level?

- I only increase the prophylactic dose
- Empirical anticoagulation with unfractionated heparin intravenous
- Empirical anticoagulation with enoxaparin subcutaneous

49. What value of d-dimers that you consider as a criterion to change the dose of deep venous thrombosis prophylaxis in COVID-19 patient?

- D-dimers > 2x maximal limit of normal value
- D-dimers > 3x maximal limit of normal value
- D-dimers > 4x maximal limit of normal value
- Elevated D-dimers but without any team consensus

50. Estimate the percentage of COVID-19 patients at the intensive care unit that are mechanically ventilated at this moment.

51. Estimate the percentage of mechanically ventilated COVID-19 patients at the intensive care unit that are using neuromuscular blockade at this moment.

52. Estimate the percentage of mechanically ventilated COVID-19 patients at the intensive care unit that are in prone position at this moment.

53. Estimate the percentage of COVID-19 patients at the intensive care unit that are in renal replacement therapy at this moment.

54. Estimate the percentage of COVID-19 patients at the intensive care unit that are on any vasopressor (norepinephrine, epinephrine, vasopressin) therapy at this moment.

55. Does the hospital that you work have a contingency plan to cover physician's shifts in case of a medical license for COVID-19 infection?

- Yes
- No
- I don't know

56. Estimate the number of COVID-19 patients per intensive care physician.

57. Estimate the number of COVID-19 patients per intensive care nurse.

58. Estimate the number of COVID-19 patients per intensive care physiotherapist.

Table 1S - Administrated treatments according to participants, comparing public and private hospitals

	All participants (n = 284)	Private hospitals (n = 132)	Public hospitals (n = 152)	p value*
Which specific COVID-19 therapy do you prescribe?				
Chloroquine or hydroxychloroquine	11 (3.9)	5 (3.8)	6 (3.9)	1.000†
Chloroquine or hydroxychloroquine + macrolide	102 (35.9)	57 (43.2)	45 (29.6)	0.024†
Lopinavir ritonavir	7 (2.5)	2 (1.5)	5 (3.3)	0.563†
Interleukin 6 inhibitor	19 (6.7)	15 (11.4)	4 (2.6)	0.007†
Corticosteroids	162 (57.0)	81 (61.4)	81 (53.3)	0.211†
Ivermectin	52 (18.3)	23 (17.4)	29 (19.1)	0.837†
Other	70 (24.6)	28 (21.2)	42 (27.6)	0.265†
None	65 (22.9)	24 (18.2)	41 (27.0)	0.106†
Use DVT prophylaxis in COVID-19 patients	272 (95.8)	132 (100)	140 (92.1)	0.003†
Which pharmacological DVT prophylaxis do you prescribe for COVID-19 patients without renal insufficiency?				0.050†
Enoxaparin 1mg/kg SC twice a day	17 (6.3)	7 (5.3)	10 (7.1)	
Enoxaparin 40mg SC once a day	140 (51.7)	80 (61.1)	60 (42.9)	
Enoxaparin 40mg SC twice a day	55 (20.3)	23 (17.6)	32 (22.9)	
Unfractionated heparin 5000 IU SC twice a day	25 (9.2)	9 (6.9)	16 (11.4)	
Unfractionated heparin 5000 IU three times a day	34 (12.5)	12 (9.2)	22 (15.7)	
Change in strategy for DVT prophylaxis in COVID-19 patients with elevated d-dimer levels? Yes	182 (64.1)	88 (66.7)	94 (61.8)	0.471†
Anticoagulation strategy in COVID-19 patients with elevated d-dimer?				0.194†
Full anticoagulation with SC enoxaparin	104 (57.1)	47 (53.4)	57 (60.6)	
Full anticoagulation with IV unfractionated heparin	29 (15.9)	12 (13.6)	17 (18.1)	
Only increase the dose of prophylactic anticoagulation	49 (26.9)	29 (33.0)	20 (21.3)	
Which value of elevated d-dimer do you use as a criterion to change the heparin dose in COVID-19 patients?				0.276†
D-dimer 2x the higher reference value	33 (18.1)	18 (20.5)	15 (16.0)	
D-dimer 3x the higher reference value	58 (31.9)	22 (25.0)	36 (38.3)	
D-dimer 4x the higher reference value	30 (16.5)	15 (17.0)	15 (16.0)	
Elevated d-dimer, but there is no consensus	61 (33.5)	33 (37.5)	28 (29.8)	

DVT - deep venous thrombosis; SC - subcutaneous; IU - international units; IV - intravenous. * p values were calculated with the use of the † chi-square test. Values expressed as n (%).

Table 2S - Participants answers about the presence of protocols stratified by sector (emergency department x intensive care unit)

	ED (n = 124)	ICU (n = 160)	p value*
Presence of specific protocol for PPE utilization during endotracheal intubation? Yes	100 (80.6)	149 (93.1)	0.003†
<i>Video laryngoscope available</i>	46 (37.1)	68 (42.5)	0.424†
Is there a sedation protocol for tracheal intubation for COVID-19 patients?			0.472†
Yes	92 (74.2)	124 (77.5)	
No	30 (24.2)	31 (19.4)	
I do not know	2 (1.6)	5 (3.1)	
Is there an invasive mechanical ventilation protocol for COVID-19 patients?			0.001†
Yes	74 (59.7)	122 (76.2)	
No	40 (32.3)	37 (23.1)	
I do not know	10 (8.1)	1 (0.6)	
Is there a sedation protocol during mechanical ventilation for COVID-19 patients?			0.009†
Yes	72 (58.1)	105 (65.6)	
No	41 (33.1)	53 (33.1)	
I do not know	11 (8.9)	2 (1.2)	
Is there a protocol for the use of neuromuscular blockage in COVID-19 patients?			0.002†
Yes	64 (51.6)	101 (63.1)	
No	46 (37.1)	56 (35.0)	
I do not know	14 (11.3)	3 (1.9)	
Which way do you choose PEEP value in mechanically ventilated COVID-19 patients?			< 0.001†
Empirically	12 (9.7)	9 (5.6)	
Guided by SaO ₂ or SpO ₂	27 (21.8)	21 (13.1)	
Guided by ARDSnet high PEEP table	12 (9.7)	14 (8.8)	
Guided by ARDSnet low PEEP table	11 (8.9)	29 (18.1)	
Guided by the best compliance	27 (21.8)	80 (50.0)	
Other way	3 (2.4)	2 (1.2)	
I do not know	32 (25.8)	5 (3.1)	
Is there a specific protocol for weaning from mechanical ventilation in COVID-19 patients?			< 0.001†
Yes	39 (31.5)	83 (51.9)	
No	47 (37.9)	68 (42.5)	
I do not know	38 (30.6)	9 (5.6)	

ED - emergency department; ICU - intensive care unit; PEEP - positive end expiratory pressure. * p values were calculated with the use of (†) chi-square test. Values expressed as n (%).

Table 3S - Survey participants answer about resources stratified by region which they work

	North (n = 17)	Northeast (n = 38)	Central West (n = 17)	Southeast (n = 159)	South (n = 53)	p value*
Did your hospital increase the number of COVID-19 ICU beds during pandemic? n (%)						0.030†
Yes	9 (75.0)	14 (82.4)	3 (37.5)	82 (81.2)	14 (63.6)	
No	3 (25.0)	3 (17.6)	4 (50.0)	18 (17.8)	8 (36.4)	
I do not know	0 (0.0)	0 (0.0)	1 (12.5)	1 (1.0)	0 (0.0)	
NIV available	12 (70.6)	21 (55.3)	11 (64.7)	139 (87.4)	46 (86.8)	< 0.001†
HFNC available	4 (23.5)	10 (26.3)	10 (58.8)	78 (49.1)	12 (22.6)	0.001†
<i>Video laryngoscope available</i>	4 (23.5)	8 (21.1)	5 (29.4)	75 (47.2)	22 (41.5)	0.019†

ICU - intensive care unit; NIV - non-invasive ventilation; HFNC - high flow nasal cannula. * p values were calculated with the use of (†) chi-square test. Values expressed as n (%).