

# Brazilian Journal of Infectious Diseases

## CLINICAL CHARACTERISTICS AND MORTALITY PROFILE OF COVID-19 IN HEALTH PROFESSIONALS IN STATE OF TOCANTINS BRAZIL

--Manuscript Draft--

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| <b>Keywords:</b>             | COVID-19<br>TOCANTINS<br>HEALTH PROFESSIONALS<br>SARSV-COV-2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| <b>Abstract:</b>             | <p><b>Objective:</b> In 2019, a new strain of the coronavirus, SARSV-COV-2, known as COVID-19, was discovered. In this context, the work aims to describe the clinical characteristics and mortality profile of health professionals in the state of Tocantins, diagnosed with COVID-19 through the RT-PCR exam. In addition, an analysis was carried out to assess the association between mortality and factors such as sex, age, comorbidities in health professionals.</p> <p><b>Method:</b> This study was carried out through the notifications made available by SUS in which a positive test for the infectious agent was obtained in health professionals working in the state of Tocantins-Brazil, from March 18, 2020 to February 22, 2021. The secondary data were analyzed by the DATASUS system.</p> <p><b>Result:</b> Were 16,412 (5.8%) notifications from health professionals in the state of Tocantins, of these 2,471 (15.1%) were diagnosed through RT-PCR. It was identified that more than half of health professionals are in the age group of 31 to 45 years, which has a lower risk of mortality. Deaths over 60 years represented 6.5% of the notifications in this age group.</p> <p><b>Conclusion:</b> Among the possible measurements, this study highlights the high risk of mortality in populations over 60 years of age. In this sense, the performance of these health professionals in the front line of combating the pandemic should be discouraged by the high risk presented</p> |
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Dear editor,

I am pleased to submit an original research article entitled Clinical features and mortality profile of COVID 19 among health professionals in the state of Tocantins Brasil for consideration for publication in the Brazilian Journal of Infectious Diseases. In this manuscript, we show that there is a high risk of mortality for populations over 60 and that more than half of health professionals are in the age group of 31 to 45 years. We believe that this manuscript is suitable for publication by Brazilian Journal of Infectious Diseases why is an authorial Article, without financial support, with great information about mortality and these health professionals, who can contribute to more information about the disease COVID 19. This manuscript has not been published and is not being considered for publication elsewhere. We don't have conflicts of interest to disclose.

Thank you for the consideration

Graciously,

Bruna Postal Oliveira, Ana clara Ribeiro, Amanda Vitoria Rosa, Ana Clara Carvalho, Jandrei Rogerio Markus.

# COVID-19 IN HEALTH PROFESSIONALS IN STATE OF TOCANTINS BRAZIL

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## **CLINICAL CHARACTERISTICS AND MORTALITY PROFILE OF COVID-19 IN HEALTH PROFESSIONALS IN THE STATE OF TOCANTINS BRAZIL**

**KEY WORDS:** COVID-19; SARSV-COV-2, health professionals; Tocantins.

### **ABSTRACT**

**Objective:** In 2019, a new strain of the coronavirus, SARSV-COV-2, known as COVID-19, was discovered. In this context, the work aims to describe the clinical characteristics and mortality profile of health professionals in the state of Tocantins, diagnosed with COVID-19 through the RT-PCR exam. In addition, an analysis was carried out to assess the association between mortality and factors such as sex, age, comorbidities in health professionals.

**Method:** This study was carried out through the notifications made available by SUS in which a positive test for the infectious agent was obtained in health professionals working in the state of Tocantins-Brazil, from March 18, 2020 to February 22, 2021. The secondary data were analyzed by the DATASUS system.

**Result:** Were 16,412 (5.8%) notifications from health professionals in the state of Tocantins, of these 2,471 (15.1%) were diagnosed through RT-PCR. It was identified that more than half of health professionals are in the age group of 31 to 45 years, which has a lower risk of mortality. Deaths over 60 years represented 6.5% of the notifications in this age group.

**Conclusion:** Among the possible measurements, this study highlights the high risk of mortality in populations over 60 years of age. In this sense, the performance of these health professionals in the front line of combating the pandemic should be discouraged by the high risk presented

### **INTRODUCTION**

The coronavirus has been causing diseases in humanity for a long time and also infects several types of animals such as bats and dromedaries. The first coronavirus identified in humans occurred in the mid-1960s and, currently, the most common subtypes in humans are alpha coronavirus 229E and NL63 and beta coronavirus OC43, HKU1. In 2019 a new strain was discovered, SARS-COV-2, which caused the disease called Covid-19. It is believed that the virus was transferred to humans by an animal, demonstrating its zoonotic character.<sup>1</sup>

The main symptoms of Covid-19 are of the upper respiratory tract of mild to moderate intensity. The most common symptoms are cough, fever, dyspnea, anosmia, dysgeusia and gastrointestinal disorders. The body's inflammatory response against the virus can advance to various parts of the body and cause multiple organ failure, leading to high numbers of deaths from Covid-19.

For health care teams, the social distance rule, disclosed to society, does not apply. All of them, especially those on the front lines, deal with suspicious and positive patients for Covid-19. Thus, health professionals are a group with greater

susceptibility to the virus. In addition, they face great daily stress, resulting from the pandemic, fear and excessive workload, all of which exacerbate the risk of contracting the virus and evolving unfavorably<sup>2</sup>.

In this context, the work aims to describe the clinical characteristics and mortality profile of COVID-19 in health professionals in the state of Tocantins, diagnosed using the RT-PCR exam. In addition, an analysis was carried out to assess the association between mortality and determining factors such as gender, age and comorbidities in health professionals.

The state of Tocantins has an area of 277,423,630km<sup>2</sup> and an estimated population of 1,590,248 inhabitants distributed in 139 municipalities. These grouped in 8 health regions with about 26,764 health professionals across the state<sup>3</sup>.

## **METHODS**

The cross-sectional study was carried out through the notifications made available by SUS in which a positive test for the infectious agent was obtained in health professionals working in the state of Tocantins-Brazil, from March 18, 2020 to February 22, 2021. The data

secondary data were analyzed by DATASUS system, available in the public domain, without the need for approval by a research ethics committee.

The forms contained epidemiological data, laboratory tests, results for COVID-19 and the clinical evolution of patients. For analysis, data were used in relation to age, sex, signs and symptoms, comorbidities, pregnancy or puerperium, municipality of residence, hospitalization and deaths. Among the classification of symptoms was asymptomatic, headache, runny nose, dyspnoea, sore throat, taste disorders, olfactory disorders, cough, fever and others. In addition, the comorbidities that the patient had at the time of diagnosis.

The ages were grouped into six categories. Mortality rates by 100,000 inhabitants were calculated based on deaths registered in the system and population estimates for the year 2020.

## RESULTS OF

280,710 COVID-19 notifications were registered from March 18, 2020 to February 22, 2021. Of this total, 16,412 (5.8%) were from health professionals in the state of Tocantins.

Of all reported cases, 93,969 (33.5%) were confirmed through some examination. Of these 93,969, 51,494 (18.3%) were through the RT-PCR exam. Considering the 16,412 notifications from health professionals, 4,315 (26.3%) had a positive test for SARS-COV-2, of which 2,471 (15.1%) were diagnosed through RT-PCR.

Most health professionals are between 31 and 45 years old (52.1%). Among the relevant data for this age group we find that the majority are women (64.6%) and the most prevalent symptom is cough (38.9%), followed by fever (34%). In relation to asymptomatic individuals for this group, there were only 41 (3.2%) of positives for this age group.

Considering all confirmed and asymptomatic professionals, there was a total of 77 (3.2%).

Among professionals aged 18 to 30 years, chronic respiratory disease was the most prevalent comorbidity, with a total of 9 (1.77%), whereas in other age groups, chronic heart disease was the most present (45 cases), in the age group 56-60 years old reached 14.85%.

- **Death profile**

Of the 13 deaths recorded in health professionals with positive RT-PCR, the distribution by age groups was between 18 and 30: 1 death; 31 and 45 years: 3 deaths; 46 and 55: 3 deaths; 56 and 60: 3 deaths; 61 and 65: 3 deaths. Deaths over 60 years old represented 6.5% of the notifications in this age group, where 46 were reported and 3 deaths. Observing the gender, the male was the most present with 8 (61.5%).

Considering comorbidities in 9 deaths, none were reported. In 2 deaths, chronic heart disease was observed, in 1 death, advanced stage chronic kidney disease and diabetes and 1 death associated with decompensated chronic respiratory disease.

The mortality of professionals with a positive RT-PCR test was 0.5%, while in the state population, 746 deaths were observed among those who had a positive RT-PCR test, totaling 1.5%

When considering deaths with other types of tests in addition to RT-PCR, it increases to a total of 16 deaths, totaling 0.4% of health professionals who presented any positive test for the disease.

## **DISCUSSION**

In Brazil, the incidence of COVID-19 cases per 100 thousand inhabitants corresponds to 5,983.2 according to the monitoring carried out by the Ministry of Health<sup>4</sup>. Meanwhile, the state of Tocantins has a higher rate, being 8,843.3 per 100 thousand inhabitants. However, in relation to mortality, it is possible to notice that the index per 100 thousand inhabitants in Brazil and in the state of Tocantins, are found at 149.4 and 126.1 respectively<sup>4</sup>.

Following this pattern, the lethality rate in health professionals of 370.7 per 100,000 infected, representing 0.4% of the total of cases, being values similar to those observed

in notifications from the state of Tocantins to health professionals.

Some are the limitations of the study, among them the underreporting of health professionals, as inferred by the small number of asymptomatic patients, 3.2% of the cases confirmed by RT-PCR.

In addition, the incompleteness of notifications in the identification of ages, sex and especially the criteria for confirming cases, is one of the main difficulties for this population-based study that aims to describe the disease scenario in health professionals in Brazil. state of Tocantins. As in all of Brazil, the state suffers from the low availability of diagnostic tests, especially the RT-PCR, generating a great demand in laboratories and delay in notifications.

Another important point is that most professionals are in the age group of 31-45 years, that is, they demonstrate more than half of the notifications and are in an age group with a lower risk of death. Furthermore, it should be remembered that the number of elderly people over the age of 60 infected were considerably low, possibly due to the removal or isolation of these professionals during the pandemic. At the same time it was the population at greatest risk and highest

lethality (6.5%), these values being close to those observed in countries such as Mexico, mortality for the population over 60 years was also 6.5% also.<sup>5</sup>

It is possible to notice that the comorbidities change according to each age group. Thus, health professionals with older ages had a higher rate of comorbidities and complications in COVID-19, and consequently had a higher lethality. However, the younger population has significantly increased the presence of comorbidities, thus, they have been included in the risk group, as they have an increase in the rate of hospitalization, complications and deaths in the last months.<sup>6</sup>

Among the work impasses, the symptom records were flawed, due to the high number of "other symptoms" and the absence of notifications of common manifestations such as gastrointestinal symptoms. According to Lin et al., In a study 61% of patients admitted to the hospital from January to February 2020 had gastrointestinal symptoms at some point in the evolution of the disease.<sup>7</sup>

## CONCLUSION

Thus, health professionals in the state of Tocantins had lower mortality rates than the population of the state. At the same time, health professionals over the age of 60 have a high risk of death with lethality higher than those observed in the general population. Thus, the performance of these health professionals on the front lines of combating the pandemic should be discouraged by the high risk presented.

## REFERENCES

1 coronavirus STATE OF HEALTH SECRETARIAT [Care will be performed by the health team according to the severity of the case.]. Available from: DOI: 10.1093 / gerona / glaa163

2 Noleto LRD. STATE HEALTH PLAN. In: Figueirêdo MS, editor. PES 2020-2023. health secretariat: government of tocantins; 2019.

3 IBGE IBGE2021 [Number of the population of the state of Tocantins, and the size of its territory.]. Available

from: <https://cidades.ibge.gov.br/brasil/to/panorama>.

4 COVID-19 in Brazil [susanalitico.saude.gov.br](https://susanalitico.saude.gov.br): Secretaria de Saúde; 2021 [updated 5/4/2021. Number of recovered, accompanied and deceased due to COVID-19.]. Available from: <https://susanalitico.saude.gov.br/extensions/covid-19.html/covid-19.html.html>.

5 Bello-Chavolla OY. Unequal impact of structural determinants of health and comorbidity on the severity and lethality of COVID-19 in older Mexican adults: considerations beyond chronological aging. In: González-Díaz A, editor. :: J Gerontol A Biol Sci Med Sci; February 25, 2021.DOI: 10.1093 / gerona / glaa163

Ak. Aging and inequalities: social protection policies for the elderly due to Pandemic Covid-19 in Brazil. In: 1 AdS, publisher. Brazilian Journal of Geriatrics and Gerontology2020. [dx.doi.org/10.1590/1981-22562020023.200122](https://doi.org/10.1590/1981-22562020023.200122)

7 LIN, L. Gastrointestinal symptoms in 95 cases with SARS-CoV-2 infection. JIANG, X.: PUBMED 2020. Doi: 10.1136 / gutjnl-2020-321013



|                           | Colunas1     | Colunas2 | Colunas3     | Colunas4     |
|---------------------------|--------------|----------|--------------|--------------|
| Idades:                   | Total:       |          | 18-30anos    | 31-45 anos   |
| Pacientes:                | 2471         |          | 508          | 1097         |
| Gênero                    |              |          |              |              |
| Feminino                  | 1859 (75,23% |          | 367 (72,2%)  | 832 (75,84%) |
| Masculino                 | 612 (24,77%) |          | 141 ( 27,8%) | 265 (24,15%) |
| Assintomáticos            | 77 (3,11%)   |          | 15 (2,95%)   | 41 (3,73%)   |
| Coriza                    | 314 (12,99%) |          | 73 (14,37%)  | 16 (1,45%)   |
| Febre                     | 1016 (41,11% |          | 217 (42,71%) | 438 (39,92%) |
| Tosse                     | 1146 (46,3%) |          | 227 (44,68%) | 500 (45,57%) |
| Dispneia                  | 240 (9,71%)  |          | 40 (7,87%)   | 121 (11,03%) |
| Dor de cabeça             | 451 (8,65%)  |          | 108 (21,25%) | 190 (17,31%) |
| Distúrbio gustativo       | 197 (8,15%)  |          | 55 (10,82%)  | 82 (7,47%)   |
| Distúrbio olfativo        | 235 (9,72%)  |          | 58 (11,41%)  | 98 (8,93%)   |
| Outros sintomas:          | 1824 (75,46% |          | 379 (74,6%)  | 796 (72,56%) |
| Comorbidades              |              |          |              |              |
| Diabetes                  | 44 (1,82%)   |          | 1 (0,19)%    | 12 (1,09%)   |
| Obesidades                | 11 (0,45%)   |          | __           | 7 (0,63%)    |
| Doença renal crônica      | 1 (0,041%)   |          | __           | __           |
| Doença cardíaca crônica   | 86 (3,48%)   |          | 1 (0,19%)    | 22 (2,005%)  |
| Doença respiratória crôni | 32 (1,29%)   |          | 9 (1,77%)    | 14 (1,27%)   |
| Portador de doença crom 3 | (0,1%)       |          | 1 (0,19%)    | __           |
| Imunossupressão           | 14 (0,56%)   |          | 1 (0,19%)    | 4 (0,36%)    |
| Outras condições:         |              |          |              |              |
| Gestantes                 | 15 (0,6%)    |          | 5 (0,98%)    | 5 (0,45%)    |
| Óbitos                    | 13 (0,52%)   |          | 1 (0,19%)    | 3 (0,27%)    |
|                           |              |          |              |              |
|                           |              |          |              |              |
|                           |              |          |              |              |
|                           |              |          |              |              |

| Colunas5     | Colunas6    | Colunas7     | Colunas8   | Colunas9 |  |
|--------------|-------------|--------------|------------|----------|--|
| 46-55 anos   | 56-60 anos  | 61-65 anos   | 66 ou mais |          |  |
| 87           | 101         | 34           | 12         |          |  |
|              |             |              |            |          |  |
| 73 (83,9%)   | 72 (71,28%) | 20 (58,82%)  | 3 (25%)    |          |  |
| 14 (16,1%)   | 29 (28,71%) | 14 (41,17%)  | 9 (75%)    |          |  |
| 2 (2,29%)    | 2 (1,98%)   | 2 (5,88%)    | -          |          |  |
| 14 (16,09%)  | 12 (11,88%) | 2 (5,88%)    | -          |          |  |
| 44 (50,57%)  | 51 (50,49%) | 15 (44,11%)  | 4 (33,33%) |          |  |
| 48 (55,17%)  | 45 (44,55%) | 20 (58,82%)  | 5 (41,66%) |          |  |
| 4 (4,59%)    | 11 (10,89%) | 3 (8,82%)    | -          |          |  |
| 19 (21,83%)  | 19 (18,81%) | 4 (11,76%)   | 1 (8,33%)  |          |  |
| 8 (9,19%)    | 4 (3,96%)   | 2 (5,88%)    | -          |          |  |
| 8 (9,19%)    | 5 (4,95%)   | 2 (5,88%)    | -          |          |  |
| 66 ( 75,86%) | 71 (70,29%) | 25 ( 73,52%) | 6 (50%)    |          |  |
|              |             |              |            |          |  |
| 1 (1,14%)    | 6 (5,94%)   | 4 (11,76%)   |            |          |  |
| 2 (2,29%)    | —           | -            |            |          |  |
| —            | —           | -            |            |          |  |
| 8 (9,19%)    | 15 (14,85%) | -            |            |          |  |
| —            | 3 (2,97%)   | -            | 1 (8,33%)  |          |  |
| 1 (1,14%)    | —           | 1 (2,94%)    |            |          |  |
| 1 (1,14%)    | —           | 2 (5,88%)    |            |          |  |
|              |             |              |            |          |  |
| —            | —           | —            | -          |          |  |
| 3 (3,44%)    | 3 (2,97%)   | 3 (8,82%)    | -          |          |  |
|              |             |              |            |          |  |
|              |             |              |            |          |  |
|              |             |              |            |          |  |

| Coluna1 | Coluna2 | Coluna3 | Coluna4 | Coluna5 | Coluna6 | Coluna7 | Coluna8 | Coluna9 |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|         |         |         |         |         |         |         |         |         |

|                                 |                   |                   |
|---------------------------------|-------------------|-------------------|
| <b>Idades:</b>                  | <b>18-30 anos</b> | <b>31-45 anos</b> |
| <b>Profissionais de Saúde:</b>  | 508 (20,55%)      | 1287 (52,08%)     |
| <b>Gênero:</b>                  |                   |                   |
| Feminino                        | 367 (72,2%)       | 832 (64,64%)      |
| Masculino                       | 141 ( 27,8%)      | 265 (20,59%)      |
| <b>Sintomas:</b>                |                   |                   |
| Assintomáticos                  | 15 (2,95%)        | 41 (3,18%)        |
| Coriza                          | 73 (14,37%)       | 16 (1,24%)        |
| Febre                           | 217 (42,71%)      | 438 (34,03%)      |
| Tosse                           | 227 (44,68%)      | 500 (30,85%)      |
| Dispneia                        | 40 (7,87%)        | 121 (9,40%)       |
| Dor de cabeça                   | 108 (21,25%)      | 190 (14,66%)      |
| Distúrbio gustativo             | 55 (10,82%)       | 82 (6,3%)         |
| Distúrbio olfativo              | 58 (11,41%)       | 98 (7,61%)        |
| Outros sintomas                 | 379 (74,6%)       | 796 (61,84%)      |
| <b>Comorbidades:</b>            |                   |                   |
| Diabetes                        | 1 (0,19)%         | 12 (0,93%)        |
| Obesidades                      | -                 | 7 (0,54%)         |
| Doença renal crônica            | -                 | -                 |
| Doença cardíaca crônica         | 1 (0,19%)         | 22 (1,7%)         |
| Doença respiratória crônica     | 9 (1,77%)         | 14 (1,08%)        |
| Portador de doença cromossômica | 1 (0,19%)         | -                 |
| Imunossupressão                 | 1 (0,19%)         | 4 (0,31%)         |
| <b>Outras condições:</b>        |                   |                   |
| Gestantes                       | 5 (0,98%)         | 5 (0,38%)         |
| <b>Óbitos :</b>                 | 1 (0,19%)         | 3 (0,23%)         |

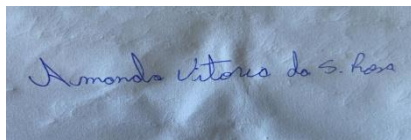
| 46-55 anos   | 56-60 anos  | 61-65 anos   | 66 ou mais | Total:        |
|--------------|-------------|--------------|------------|---------------|
| 525 (21,24%) | 101 (4,08%) | 34 (1,37%)   | 12 (0,48%) | 2471          |
|              |             |              |            |               |
| 73 (13,90%)  | 72 (71,28%) | 20 (58,82%)  | 3 (25%)    | 1859 (75,23%) |
| 14 (2,66%)   | 29 (28,71%) | 14 (41,17%)  | 9 (75%)    | 612 (24,77%)  |
|              |             |              |            |               |
| 2 (0,38%)    | 2 (1,98%)   | 2 (5,88%)    | -          | 77 (3,11%)    |
| 14 (2,67%)   | 12 (11,88%) | 2 (5,88%)    | -          | 314 (12,99%)  |
| 44 (8,38%)   | 51 (50,49%) | 15 (44,11%)  | 4 (33,33%) | 1016 (41,11%) |
| 48 (9,14%)   | 45 (44,55%) | 20 (58,82%)  | 5 (41,66%) | 1146 (46,3%)  |
| 4 (0,76%)    | 11 (10,89%) | 3 (8,82%)    | -          | 240 (9,71%)   |
| 19 (3,61%)   | 19 (18,81%) | 4 (11,76%)   | 1 (8,33%)  | 451 (8,65%)   |
| 8 (1,52%)    | 4 (3,96%)   | 2 (5,88%)    | -          | 197 (8,15%)   |
| 8 (1,52%)    | 5 (4,95%)   | 2 (5,88%)    | -          | 235 (9,72%)   |
| 66 ( 12,57%) | 71 (70,29%) | 25 ( 73,52%) | 6 (50%)    | 1824 (75,46%) |
|              |             |              |            |               |
| 1 (0,19%)    | 6 (5,94%)   | 4 (11,76%)   |            | 44 (1,82%)    |
| 2 (0,38%)    | -           | -            |            | 11 (0,45%)    |
| -            | -           | -            |            | 1 (0,041%)    |
| 8 (1,52%)    | 15 (14,85%) | -            |            | 86 (3,48%)    |
| -            | 3 (2,97%)   | -            | 1 (8,33%)  | 32 (1,29%)    |
| 1 (0,19%)    | -           | 1 (2,94%)    |            | 3 (0,1%)      |
| 1 (0,19%)    | -           | 2 (5,88%)    |            | 14 (0,56%)    |
|              |             |              |            |               |
| -            | -           | -            | -          | 15 (0,6%)     |
| 3 (0,57%)    | 3 (2,97%)   | 3 (8,82%)    | -          | 13 (0,52%)    |

Esteemed,

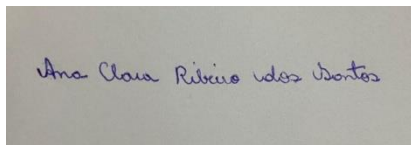
The authors, undersigned, declare that this manuscript is original, has not been published before and is not submitted for any other publication.

We would like to ask the editor's attention to the present publication of us authors, referring to aspects of this manuscript submitted. We confirm that the manuscript has been read and approved by all signatory authors and that there is no other author to be part of but those listed. We also confirm that the order of the authors listed in the manuscript was approved by all.

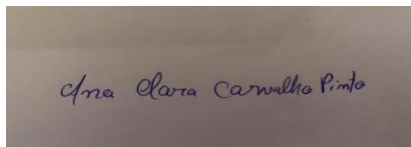
We understand that the Author for Correspondence will be the only contact for the editorial process. She will be solely responsible for communicating with the other authors about the progress of submission, revision of the manuscript and its final approval.



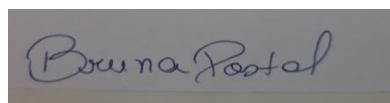
Amândia Vitorino da S. Rosa



Ana Clara Ribeiro dos Santos



Ana Clara Carvalho Pinto



Bona Postal



A stylized handwritten signature in blue ink.

