

COVID-19:

Reflexões das ciências da saúde e impactos sociais 5



Luis Henrique Almeida Castro
(Organizador)

Atena
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Telefone: +55 (42) 3323-5493

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APRESENTAÇÃO

Nesta quinta continuação da série “COVID-19: Reflexões das ciências da saúde e impactos sociais” a Atena Editora traz ao leitor 15 estudos que aqui estão organizados por sua temática dentro do contexto pandêmico, respectivamente: prevenção, diagnóstico e tratamento da infecção causada pelo novo coronavírus; aspectos e achados clínicos da doença; processo de imunização; atuação colaborativa de entidades estatais no enfrentamento da pandemia; o efeito das medidas restritivas na saúde física e mental do ser humano em suas fases da vida e ainda nos profissionais de saúde.

Agradecemos aos autores por suas contribuições técnicas e científicas para este tema e desejamos a todos uma boa leitura!

Luis Henrique Almeida Castro


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CUTANEOUS MANIFESTATIONS OF COVID-19 WITH VASCULAR EVIDENCE ON 2200 PATIENTS: LITERATURE REVIEW

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Tânia Rita Moreno de Oliveira Fernandes

<https://orcid.org/0000-0002-7061-2825>

Ana Kívia Silva Matias

<https://orcid.org/0000-0002-2816-3528>

Rebecca Leão Feitoza de Brito

<https://orcid.org/0000-0001-5598-5714>

Orlando Vieira Gomes

<https://orcid.org/0000-0001-63247594>

Carla Eliza Ferraz de Oliveira

<https://orcid.org/0000-0003-3122-3947>

Carlos Dornels Freire de Souza

<https://orcid.org/0000-0001-7995-1893>

ABSTRACT: COVID-19 has been shown like a disease with potential for the spread, with significant increase in contagion in the world population and occurs through contact with infected people. To evaluate the cutaneous manifestations with vascular evidence in patients with Covid-19, a search of the literature was conducted, using the following descriptors: cutaneous, Covid-19, skin, SARS-CoV-2, coronavirus, rash, dermatology, epidemiology, maculopapules, vesicular eruptions, urticarial lesions, acral lesions, chilblain, papules, purple, necrosis, and drugs. According to the inclusion criteria, six studies were included in review. The

review included a sample of 2,200 participants with dermatological manifestations and 1,322 vascular lesions. Thrombotic lesions such as pernio-like lesions and eruptions with vascular evidence were found. A literature review contributes to the study of the relationship between the pathophysiology of Covid-19 and clinical dermatological signs /symptoms, which contribute to both diagnosis and prognosis of the disease.

KEYWORDS: Coronavirus infections; Covid-19; dermatology; pernio; vascular skin diseases.

MANIFESTAÇÕES CUTÂNEAS DA COVID-19 COM EVIDÊNCIAS VASCULARES EM 2200 PACIENTES: REVISÃO DA LITERATURA

RESUMO: COVID-19 tem se mostrado uma doença com potencial de disseminação, com aumento significativo do contágio na população mundial e ocorre pelo contato com pessoas infectadas. Para avaliar as manifestações cutâneas com evidência vascular em pacientes com Covid-19, foi realizada uma busca na literatura, utilizando os seguintes descritores: cutaneous, Covid-19, skin, SARS-CoV-2, coronavirus, rash, dermatology, epidemiology, maculopápulas, erupções vesiculares, lesões urticariformes, lesões acrais, frieiras, pápulas, púrpura, necrose e drogas. De acordo com os critérios de inclusão, seis estudos foram incluídos na revisão. A revisão incluiu uma amostra de 2.200 participantes com manifestações dermatológicas e 1.322 lesões vasculares. Lesões trombóticas como lesões pernio-like e erupções com evidência vascular foram encontradas. Uma

revisão da literatura contribui para o estudo da relação entre a fisiopatologia de Covid-19 e os sinais / sintomas dermatológicos clínicos, que contribuem tanto para o diagnóstico quanto para o prognóstico da doença.

PALAVRAS-CHAVE: Infecção pelo Coronavírus; Covid-19; dermatologia; pernio; doença cutânea vascular.

1 | INTRODUCTION

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has been responsible for more than 181 million infections and about 3.932.282 deaths worldwide. In Brazil, as of June 29, 2021, it had accounted for 514.000 deaths, according to a survey by Johns Hopkins University.¹ This novel enveloped RNA virus belonging to the Coronaviridae family is the pathogen that causes the disease known as coronavirus disease 2019 (Covid-19), which is related to acute respiratory distress syndrome.²

The spread of the virus has been shown to be very fast, with a high rate of pathogenicity and transmissibility. The clinical severity of Covid-19 depends on the infectivity of the pathogen and on host factors such as age, sex, and associated diseases such as diabetes, cardiovascular problems, hypertension, and neoplasms.^{3,4}

The pathophysiology of the disease is multifactorial, associated with an innate immune response, a state of hypercoagulability, damage to lung tissue, neurological and/or gastrointestinal tract involvement, and monocytic/macrophage activation syndrome, culminating in exaggerated cytokine secretion, known as a (cytokine storm), which leads to aggravation and death.⁵

Accordingly, the cutaneous lesions reported in a quantity of patients who were positive for SARS-CoV-2 are important external manifestations, and they are predictive of systemic imbalance, as they occur in many viral infections.⁵

These systemic conditions may be associated with skin lesions, which have polymorphic aspects. These lesions may be associated with multisystemic manifestations that may occur due to the action of the angiotensin-converting enzyme 2 (ACE2), receptor and transmembrane serine protease, allowing for pulmonary infection and possibly cutaneous manifestation.⁵

Given the above, this study aims to assess the clinical impact of dermatological manifestations in patients with COVID-19, as well as to characterize the skin lesions, relate such lesions to the period and prognosis of the disease, in addition to verifying evidence and quality of recommendation in order to face with dermatological disease in patients with COVID-19.

2 | METHODS

In view of the need to provide safe evidence and quality recommendations for

making decisions regarding detection, prevention, and conduct in handling Covid-19 with cutaneous manifestations on the part of care teams, a narrative review has been carried out. Repositories, publication sites, and articles published in journals with impact factor > 6 were consulted. An exhaustive search of the literature was conducted in PubMed, Elsevier, Plos One, Web of Science, and Cochrane in 2020, using keywords without language restriction. The following descriptors were used: cutaneous, Covid-19, skin, SARS-CoV-2, coronavirus, rash, dermatology, epidemiology, maculopapules, vesicular eruptions, urticarial lesions, acral lesions, chilblain, papules, purple, necrosis, and drugs.

Were included articles related to skin manifestations in patients with Covid-19, regardless of age, sex, origin, and severity, with RT-PCR test (*Reverse Transcriptase - Polymerase Chain Reaction*), positive serology for SARS-CoV-2 for Covid-19, or suspicion of the disease with a compatible clinical picture. Were considered only systematic reviews, epidemiological surveys, clinical trials, prospective studies ($n > 100$), cohort studies, and case-control studies.

3 | RESULTS

This narrative review gathered a total of 202 articles. In the first selection, 25 articles were selected according to the inclusion criteria (Figure 1). Subsequently, a selection form was applied to assess eligibility, and only six studies were included (Table 1) and submitted to data extraction for the review, namely, two prospective studies, two systematic literature reviews, and two cross-sectional cohort studies, with a total sample population of 2,200 participants with dermatological lesions and 1,322 vascular lesions.

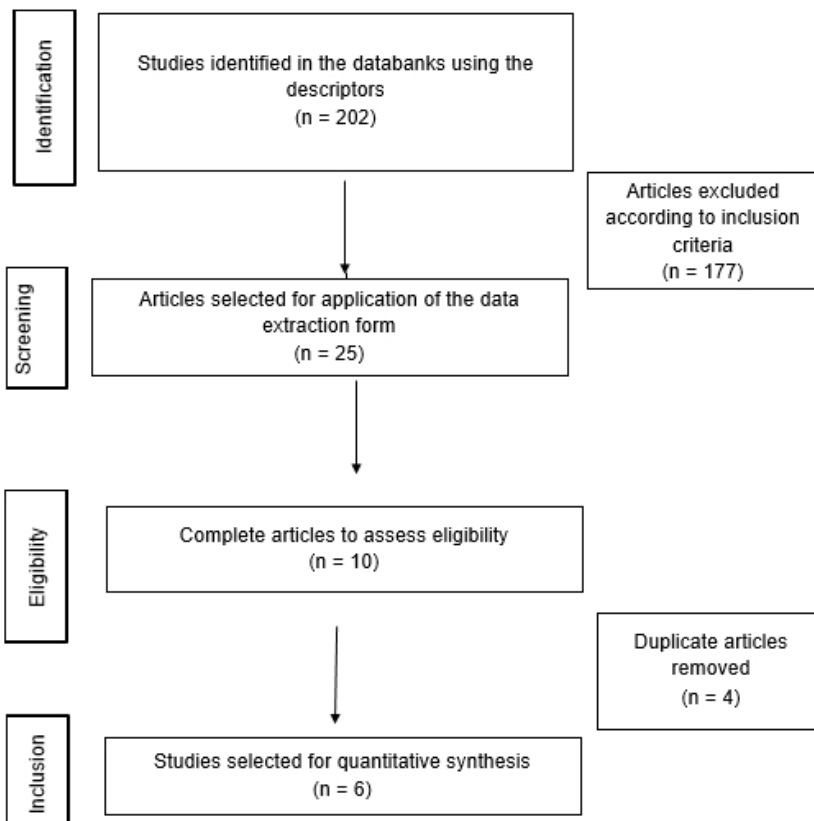


Figure 1 - Review Flowchart

Variables	Art*. 1	Art*. 2	Art*. 3	Art*. 4	Art*. 5	Art*. 6
Author	Freeman et al.	Freeman et al. 2	Daneshgaran et al.	Shah et al.	Zhang et al.	Giorgi et al.
Country	Multicenter/ international	USA	Multicenter/ international	Multicenter/ international	China	China and Italy
Impact factor	7	8	-	-	6	8
Type of study	Retrospective cohort	Retrospective cohort	Systematic review	Systematic review	Prospective cohort	Prospective cohort
Number (N)	505	682	996	149	140	678

*Art= Article

Table 1 - Summary of all articles included in the study and their respective variables

The bibliographic search identified a total of 2,200 patients with dermatological conditions associated with Covid-19, with 2,402 dermatological lesions, 1,322 (55%) of which were of vascular pathophysiology. Manifestations with thrombotic evidence characterized as pernio-like were identified in 1,144 (47.6% of lesions), followed, to a lesser extent, by the following: eruptions similar to livedo, petechiae, purpura, or necrosis in 109 (4.5% of

the lesions); acrocyanosis in 48 (2%); and retiform purpura in 21 (0.87%). Counting all the included studies, the majority of patients were female, and the appearance of cutaneous symptoms was more common after respiratory and/or systemic symptoms (Table 2).

Variables	Art*. 1: Freeman et al.	Art. 2: Freeman et al. 2	Art. 3: Daneshgaran et al.	Art. 4: Shah et al.	Art. 5: Zhang et al.	Art. 6: Giorgi et al.
Most affected sex	Female	Female	Female	Male	-	Male
Thrombotic lesions	Pernio	Pernio; livedo reticularis-like; petechial; purpura/vasculitis; acrocyanosis; retiform purpura.	Livedo/purpura/necrosis	Erythematous to purpuric plaques with macules	No thrombotic lesions	Diffuse petechiae, purpura, and acroischemia
Location	Acral lesions	Arms, hands, legs/buttocks, and feet	Hand and feet; mixed locations; trunk; isolated limbs; face and neck; abdomen	Hands and feet	-	Trunk and upper limbs
Most common dermatological symptom	Pain/ burning	Pain/ burning and pruritus	Pain/ burning and pruritus	NR*	-	Pruritus
Onset of cutaneous symptoms	Appearing shortly after general symptoms	The majority appeared after general symptoms	The majority coincided with general symptoms of Covid-19		-	
Duration	NR	7 to 14 days		In the majority of cases, 1 to 2 weeks	-	3 days
Associated systemic signs	Cough, headache, sore throat, and fever.	Cough, shortness of breath, sore throat, headache, diarrhea, vomiting or nausea, myalgia.		Fever, upper respiratory tract and gastrointestinal infection	-	Fever
Confirmation tests for Covid-19	RT-PCR and serology (IgM and IgG)	RT-PCR, serology, and unspecified test	RT-PCR	RT-PCR	-	

Histopathology	Inflammation by lymphocytic infiltrate, without thrombi	Thrombotic vasculopathy; coagulation and pressure necrosis; leukocytoclastic vasculitis; vascular dermatitis; subepidermal edema and inflammation	Perivascular mononuclear/lymphocytic infiltrate with occasional small vessel thrombosis	Perivascular and perieccrine lymphocytic infiltrate; lymphocytic vasculitis; vascular degeneration	-	
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*=Art.: Article; NR: not reported.

Table 2 - Summary of variables and their respective authors, taking into consideration patients with diagnosed and suspected Covid-19

4 | DISCUSSION

The existence of evidence that correlates dermatological manifestations with the clinical picture of Covid-19 has been increasingly described in the literature.^{6,7} Given that they are nonspecific lesions, they are similar to other pathologies, making it difficult to correlate the cutaneous lesions with the disease in question.⁸

These dermatological signs are documented with vascular etiology; the latter is represented by different morphologies such as livedo, non-necrotic purpura, retiform purpura, chilblain-like lesions, and acro-ischemia.^{11,12} It has been reported that the histopathology of manifestations such as livedo and retiform purpura exhibits pauci-inflammatory thrombogenic vasculopathy with deposition of C5b-9 and C4d inside the dermal capillaries of affected patients, which is similar to the pathology that occurs in the lungs. Moreover, evidence has shown manifestations of livedo and necrosis as a microthrombotic or vasculitic mechanism.¹¹

With respect to histological and immunohistochemical studies, they define the cutaneous and pulmonary pathologies related to Covid-19 as lesions with microvascular and thrombotic characteristics, which suggest mediation due to intense complement system activation, such as the activation of the alternative route and the lectin pathway. Glycoproteins specific to SARS-CoV-2 with complement system components were found in skin samples, mainly with significant deposits of C5b-9 and C4d inside the dermal capillaries. Vascular deposition of C5b-9 is a characteristic closely correlated to the evidence of microthrombotic syndromes and several of their specific manifestations. Furthermore, histopathology has shown findings of thrombogenic vasculopathy, associated with extensive necrosis of the epidermis and annex structures, and interstitial and perivascular neutrophilia with important leukocytoclasia.¹²

These mechanisms, in conjunction with the increase in vascular permeability, can contribute to occlusive phenomena in the vessel lumen and hemorrhage conditions in individuals affected by the coronavirus.¹³ Covid-19 has been associated with an elevated

incidence of thrombotic events during the period of hospitalization; however, there are reports regarding post-discharge conditions.

It has been mentioned that the immunothrombotic mechanism is associated with endothelial injury, with the consequent activation of the coagulation cascade and production of thrombin. In groups with severe conditions, the risk of venous thromboembolism extends beyond the period of hospitalization, with 80% of events occurring after discharge from the hospital; events are influenced by factors such as age, coagulation profile, comorbidities, disease severity, and degree of immobility.¹⁴

In addition to the increased risk of venous thromboembolism; venous thrombosis, pulmonary embolism, arterial thrombosis, myocardial infarction, and strokes have also been reported as conditions disease complication.¹¹

5 | CONCLUSION

Cutaneous eruptions in conjunction with the viral clinical picture may suggest diagnosis of Covid-19 in an early manner. Ischemic and vascular lesions, such as pernio-like lesions, livedo, petechiae, purpura, necrosis, acrocyanosis, and retiform purpura may be more important, both epidemiologically and as a predictor of the severity of the disease. We may accordingly consider dermatological lesions as an important marker of the epidemiological profile, stage, prognosis, and severity of the disease. It is, therefore, essential for health professionals to be aware of these cutaneous manifestations and to consider them in the diagnosis and evolution of Covid-19.

REFERENCES

1. Johns Hopkins. Covid-19 Map - Johns Hopkins Coronavirus Resource Center [Internet]. Johns Hopkins Coronavirus Resource Center. 2021 [cited 2021 Dec 1]. Available from: <https://coronavirus.jhu.edu/map.html>
2. Huang C, Wang Y, Li X, Ren L, Zhao J, Hu Y, et al. Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. *The Lancet* [Internet]. 2020 Feb [cited 2021 Dec 1];395(10223):497–506. doi: [https://doi.org/10.1016/S0140-6736\(20\)30183-5](https://doi.org/10.1016/S0140-6736(20)30183-5)
3. Organização Pan-Americana da Saúde. Folha informativa Covid-19 - Escritório da OPAS e da OMS no Brasil - OPAS/OMS. Organização Pan-Americana da Saúde [Internet]. Paho.org. 2021 [cited 2021 Jan 8]. Available from: <https://www.paho.org/pt/covid19>
4. Zhang J, Dong X, Cao Y, Yuan Y, Yang Y, Yan Y, et al. Clinical characteristics of 140 patients infected with SARS-CoV-2 in Wuhan, China. *Allergy* [Internet]. 2020 Feb 27 [cited 2021 Dec 1];75(7):1730–41. doi: <https://doi.org/10.1111/all.14238>
5. Criado PR, Abdalla BMZ, de Assis IC, van Blarcum de Graaff Mello C, Caputo GC, Vieira IC. Are the cutaneous manifestations during or due to SARS-CoV-2 infection/Covid-19 frequent or not? Revision of possible pathophysiologic mechanisms. *Inflammation Research* [Internet]. 2020 Jun 2 [cited 2021 Dec 1];69(8):745–56. doi: <https://doi.org/10.1007/s00011-020-01370-w>

6. Daneshgaran G, Dubin DP, Gould DJ. Cutaneous Manifestations of Covid-19: An Evidence-Based Review. *American Journal of Clinical Dermatology* [Internet]. 2020 Aug 31 [cited 2021 Dec 1];21(5):627–39. doi: <https://doi.org/10.21203/rs.3.rs-33992/v1>
7. De Giorgi V, Recalcati S, Jia Z, Chong W, Ding R, Deng Y, et al. Cutaneous manifestations related to coronavirus disease 2019 (Covid-19): A prospective study from China and Italy. *Journal of the American Academy of Dermatology* [Internet]. 2020 Aug [cited 2021 Dec 1];83(2):674–5. doi: <https://doi.org/10.1016/j.jaad.2020.05.073>
8. Freeman EE, McMahon DE, Lipoff JB, Rosenbach M, Kovarik C, Desai SR, et al. The spectrum of Covid-19–associated dermatologic manifestations: An international registry of 716 patients from 31 countries. *Journal of the American Academy of Dermatology* [Internet]. 2020 Oct [cited 2021 Dec 1];83(4):1118–29. doi: <https://doi.org/10.1016/j.jaad.2020.06.1016>
9. Galván Casas C, Català A, Carretero Hernández G, Rodríguez-Jiménez P, Fernández-Nieto D, Rodríguez-Villa Lario A, et al. Classification of the cutaneous manifestations of Covid-19: a rapid prospective nationwide consensus study in Spain with 375 cases. *British Journal of Dermatology* [Internet]. 2020 Jun 10 [cited 2021 Dec 1];183(1):71–7. doi: <https://doi.org/10.1111/bjd.19163>
10. Bouaziz JD, Duong TA, Jachiet M, Velter C, Lestang P, Cassius C, et al. Vascular skin symptoms in Covid-19: a French observational study. *Journal of the European Academy of Dermatology and Venereology* [Internet]. 2020 Jul 20 [cited 2021 Dec 1];34(9). doi: <https://doi.org/10.1111/jdv.16544>
11. Shah P, Lo Sicco K, Caplan AS, Femia AN, Zampella JG. Dermatologists' Role in the Diagnosis and Management of Coronavirus Disease 2019 Coagulopathy. *American Journal of Clinical Dermatology* [Internet]. 2020 Jul 9 [cited 2021 Dec 1];21(4):599–600. doi: <https://doi.org/10.1007/s40257-020-00540-0>
12. Magro C, Mulvey JJ, Berlin D, Nuovo G, Salvatore S, Harp J, et al. Complement associated microvascular injury and thrombosis in the pathogenesis of severe Covid-19 infection: A report of five cases. *Translational Research* [Internet]. 2020 Jun [cited 2021 Dec 1]; 220:1–13. doi: <https://doi.org/10.1016/j.trsl.2020.04.007>
13. Kaya G, Kaya A, Saurat J-H. Clinical and Histopathological Features and Potential Pathological Mechanisms of Skin Lesions in Covid-19: Review of the Literature. *Dermatopathology* [Internet]. 2020 Jun 30 [cited 2021 Dec 1];7(1):3–16. doi: <https://doi.org/10.3390/dermatopathology7010002>
14. Patell R, Bogue T, Koshy A, Bindal P, Merrill M, Aird WC, et al. Postdischarge thrombosis and hemorrhage in patients with Covid-19. *Blood* [Internet]. 2020 Sep 10 [cited 2021 Dec 1];136(11):1342–6. Available from: <https://10.1182/blood.2020007938>

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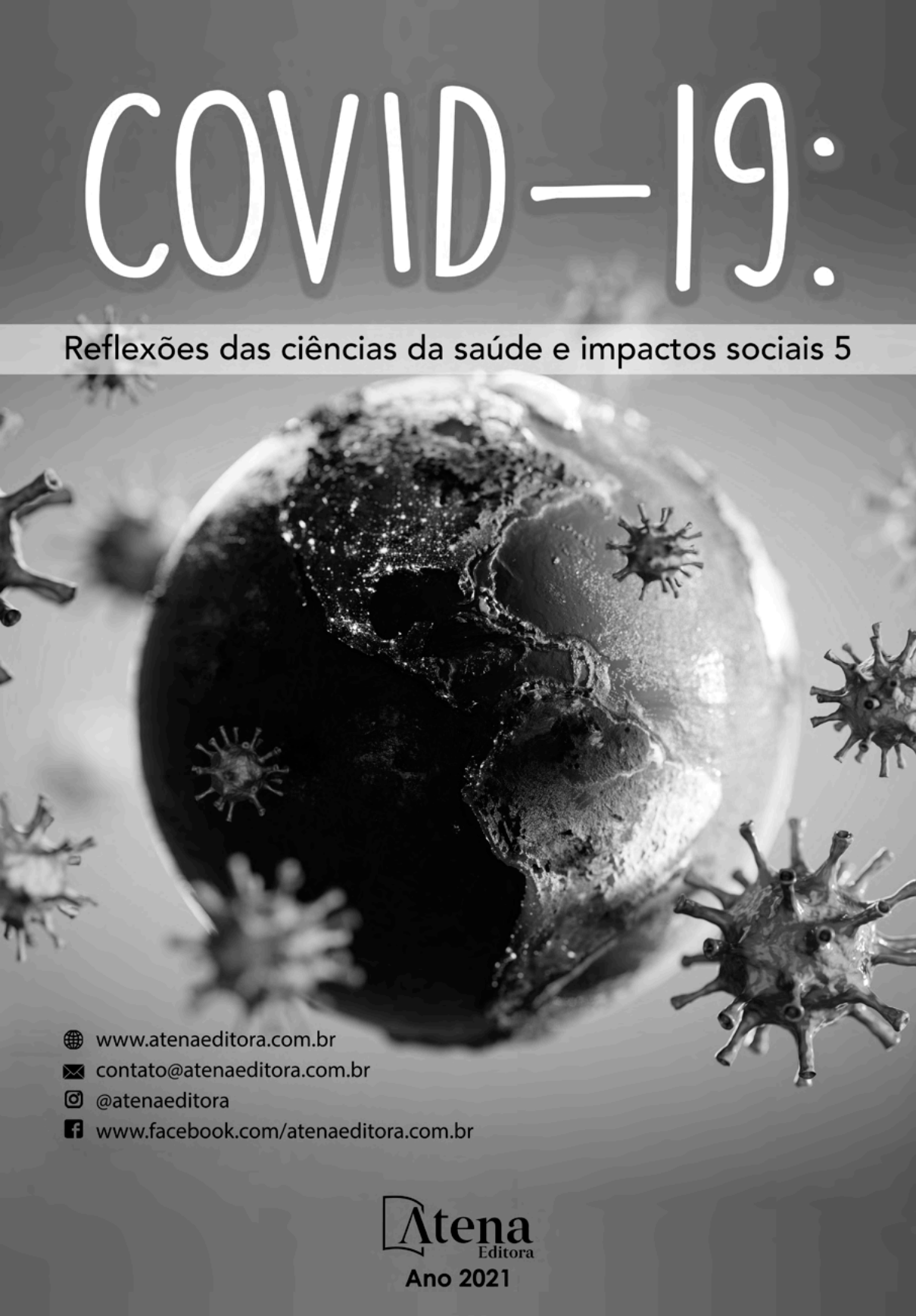
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