

LETTER TO THE EDITOR

Increase in the number of Sjögren's syndrome cases in Brazil in the COVID-19 Era

The Editor,

The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) disease 2019 (COVID-19) pandemic deeply affected all Brazilian macroregions. Brazil has become the epicenter of the world's COVID-19, with an average of almost 4,000 deaths daily and already has approximately 13.5 million cases of COVID-19 and over 350,000 deaths to date (April 11, 2021) (<https://covid.saude.gov.br/>).

The COVID-19 pandemic scenario represents a source of concern for managing patients with inflammatory autoimmune diseases, including Sjögren's syndrome (SS) (Bachiller-Corral et al., 2021; Brito-Zerón et al., 2020). The new viral infection caused by SARS-CoV-2 seems to lead to the onset or exacerbation of autoimmune diseases in genetically predisposed patients (Caso et al., 2020).

Sjögren's syndrome (SS), a chronic autoimmune disorder of the exocrine glands, is multisystemic and heterogeneous in its clinical presentation, course, and outcome. Ocular and oral dryness resulting from the inflammatory impairment of exocrine glands is the common feature of the disease (Fox, 2005). Systemic therapy includes steroidal and non-steroidal anti-inflammatory agents, disease-modifying agents, and cytotoxic agents to address the extra-glandular manifestations involving skin, lung, heart, kidneys, and nervous system, as well hematological and lymphoproliferative disorders. Diagnosis is not always straightforward and should include an elevated level of clinical suspicion (Fox, 2005). Besides, several classification criteria have been proposed since 2002, which may include different subsets of patients under the same disease umbrella.

Patients with rheumatic and systemic autoimmune diseases can develop severe forms of COVID-19, considering their underlying abnormal immune response and the use of immunosuppressive drugs. However, the body of scientific evidence supporting this potential risk is small, especially for individual diseases (Brito-Zerón et al., 2020). On the other hand, there are reports of patients developing autoimmune diseases after COVID disease (Liu et al., 2021).

Herein we report the SS's incidence, before and during the pandemic, from January 2017 to December 2020, in the five Brazilian macroregions. The data were extracted from the public database of the Ministry of Health of Brazil (DATASUS, <http://tabnet.datasus.gov.br/cgi/tabcgi.exe?sia/cnv/qauf.def>).

Over the triennium 2017–2019, the average number of newly diagnosed SS cases was 1,267, while in 2020, the number increased to 1,909 registered individuals, an increment of about 50.7% during the period compared. The increment was consistent across all five Brazilian macroregions, ranged from +27.3% in the South to +105.6% in the Midwest region. The general increase in Brazil was +642 (+50.7%) cases, comparing the period before and during the COVID-19 pandemic (Table 1). Although we have observed an increase along all months in 2020, more cases of SS were reported during the months following the first Brazilian wave of COVID cases.

Autoantibodies as a hallmark of autoimmune diseases can also be detected in COVID-19 patients. Moreover, some patients have been reported to develop autoimmune diseases, such as Guillain-Barre syndrome or systemic lupus erythematosus, after COVID-19 infection. It is speculated that SARS-CoV-2 can disturb self-tolerance and trigger autoimmune responses through cross-reactivity with host cells (Liu et al., 2021). In fact, coronaviruses are the largest single-stranded viruses observed in nature, and their complex transcriptome may increase the odds of interacting with the immune system (Naviq et al., 2020). Moreover, circulating autoantibodies in COVID-19 patients (Tang et al., 2021) may trigger SS and other autoimmune diseases.

Recently, we have shown an increase in the occurrence of systemic lupus erythematosus in Brazil during the pandemic (Martelli et al., 2021). Xerostomia was reported to be associated with COVID-19, being even common than olfactory symptoms and providing additional difficulties to a proper diagnose of SS (Fantozzi et al., 2020). This scenario was previously observed in other viral epidemic diseases such as Chikungunya fever, which affects autoimmune diseases' clinical presentation and even contribute to their onset (Tanay, 2017). During the outbreak, the patients with SS have reported a significant worsening in the symptoms, with articular manifestations, hyposalivation and salivary gland swelling being the most frequent complaints (Carubbi et al., 2020). Ultimately, SARS-CoV-2-related autoimmune disease onset and worsening of symptoms in undiagnosed patients may have collaborated to the increasing numbers of SS.

Macroregions of Brazil	State	2017–2019 (Average number)	2020 (n)	Difference (n) (%)
North	Acre	36	48	12 (+33,3)
	Amapá			
	Amazonas			
	Pará			
	Rondônia			
	Roraima			
	Tocantins			
Northeast	Alagoas	128	215	87 (+68,0)
	Bahia			
	Ceará			
	Maranhão			
	Paraíba			
	Pernambuco			
	Piauí			
	Rio Grande do Norte Sergipe			
Southeast	Espírito Santo	655	1006	351 (+53,6)
	Minas Gerais			
	Rio de Janeiro			
	São Paulo			
South	Paraná	359	457	98 (+27,3)
	Rio Grande do Sul			
	Santa Catarina			
Midwest	Distrito Federal ^a	89	183	94 (+105,6)
	Goiás			
	Mato Grosso			
	Mato Grosso do Sul			
Total		1,267	1,909	642 (50,7)

^aThe Federal District encompasses the capital of Brazil, Brasília.

Patients with SS experience salivary dysfunction, which may significantly affect oral health. Poor oral health has also been shown to influence overall patient quality of life adversely (Stewart et al., 2008). Thus, our findings have shown an increase in the number of new cases of SS in Brazil during the pandemic period. These results underscore the need for specific close monitoring of comorbidities of patients with primary SS during the pandemic.

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CONFLICTS OF INTEREST

None to declare.



AUTHOR CONTRIBUTIONS

Hercilio Martelli-Junior: Conceptualization; Writing-review & editing. **Luiz Alcino Gueiros:** Writing-original draft; Writing-review & editing. **Edson Gomes Lucena:** Writing-original draft; Writing-review & editing. **Ricardo D. Coletta:** Conceptualization; Writing-original draft; Writing-review & editing.

PEER REVIEW

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TABLE 1 Sjögren's syndrome diagnosis reported by the Brazilian public health system in all geographic regions, from 2017 to 2020.

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