

# The epidemiology of Behçet's disease in Brazil: a study in Goiânia and its metropolitan area

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## Abstract

### Objective

The goal of this study is to evaluate the epidemiology of Behçet's disease (BD) in the city of Goiania and its metropolitan area.

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### Methods

This epidemiological study had a cross-sectional design. Patients who had a diagnosis of BD living in the metropolitan area of Goiânia and with at least one medical appointment in 2022 were included. All rheumatologists working in public and private practice were invited to participate.

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### Results

A total of 73 BD patients were included. The mean age at symptom onset was  $32.1 \pm 12.8$  years and the median age at diagnosis was 33.0 years [interquartile range (IQR): 26.0-45.0]. The median time between symptom onset and BD diagnosis was 3.0 years (IQR: 2.0-9.0). Only three (4.1%) patients were diagnosed before the age of 18. The female-to-male ratio was 3.3:1.0, and most patients came from private practices (64.4%). The racial/ethnic composition was reported as follows: White (57.5%), Mestizo (35.9%), Black (4.1%) and Indigenous (2.7%). In 2022, the prevalence of BD was 4.52 cases/100,000 in Goiânia and 3.27 cases/100,000 in the greater Goiânia area. Over the past 10 years, the estimated incidence of BD has ranged from 0.14 to 0.45 cases/100,000/year in Goiânia, and from 0.14 to 0.38 cases/100,000/year in the greater Goiânia area.

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### Conclusion

The prevalence of BD in Goiânia and in its metropolitan area is higher than that previously reported in Brazil. At diagnosis, BD patients were predominantly adults and the disease mostly affected females, as well as Whites and Mestizos.

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### Key words

Behçet's syndrome, systemic vasculitis, epidemiology, prevalence, Latin America, Brazil, incidence

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## Introduction

Behçet's disease (BD) is a systemic inflammatory disorder classified as a variable vessel vasculitis. It is characterised by recurrent mucocutaneous, articular, ocular, neurological, vascular, and gastrointestinal manifestations (1). The onset of BD manifestations typically appears in the second or third decade of life, and the male-to-female ratio varies widely by country (2). The male gender has been associated with more severe manifestations of BD (3), but in some countries, female patients have been reported to exhibit severe forms of BD symptoms (4, 5).

A high prevalence of BD has been reported in Mediterranean and Asian countries along the ancient Silk Route (6, 7). The highest prevalence of BD was found in northern Jordan (660 cases/100,000) and in Istanbul (420 cases/100,000) (8, 9), while a very low prevalence of BD was reported in some European countries such as Scotland and Poland, as well as in Hawaii, with fewer than 1 case/100,000 (5, 10–12). A systematic review and meta-analysis of 45 studies estimated the global pooled prevalence of BD to be 10.3 cases/100,000 [95% confidence interval (95% CI): 6.1–17.7] (13). However, BD prevalence varies by country and ethnicity (6, 14). The pooled prevalence of BD according to the geographic area is 119.8 cases/100,000 (95%CI: 59.8–239.9) in Turkey, 31.8 cases/100,000 (95%CI: 12.9–78.4) in the Middle East, 4.5 cases/100,000 (95%CI: 2.2–9.4) in Asia and 3.8 cases/100,000 (95% CI: 2.2–6.8) in North America and Caribbean Islands. In Europe, a gradient in the pooled prevalence of BD is observed from north to south, ranging from 2.1 to 5.3 cases/100,000 (95% CI: 1.1–4.0 and 3.4–8.2, respectively) (13). In Europe, BD is more prevalent among immigrants than among the native populations in countries such as Germany and the Netherlands (15, 16).

Only a few studies have examined the epidemiology of BD in Brazil. One previous study examined individuals with recurrent aphthous ulceration who were undergoing follow-up at a stomatology service in a district of 385,109 inhabitants. The estimated prevalence

of BD was 0.259/100,000 (95%CI: 0.2–0.4/100,000) (17). Additionally, a hospital-based survey and a study comparing two vasculitis reference centres in Brazil and Peru found that BD is the most prevalent vasculitis in the country (18, 19). The controversy surrounding the low prevalence of BD reported in an epidemiological study, coupled with evidence that BD is the most prevalent systemic vasculitis at reference centres in Brazil, suggests that the former study may have underestimated the prevalence of BD (17–19). Therefore, this study aims to evaluate the epidemiology of BD in the city of Goiânia and its metropolitan region, focusing on demographic data, prevalence, and the pooled incidence of the disease over the past ten years.

## Methods

### Study design

The study had a cross-sectional design and included all patients diagnosed with BD who lived in the greater Goiânia area and had at least one medical appointment with a rheumatologist in public or private practice in 2022. The year 2022 was chosen because the Brazilian Institute of Geography and Statistics (IBGE) conducted a national population census that year, making population data available (20). The study protocol was presented to all local 40 members of the Brazilian Society of Rheumatology from the greater Goiânia area who had clinical practice, and were invited to participate. The study included the two main tertiary public hospitals (*i.e.* Hospital Geral de Goiânia and Hospital das Clínicas of the Universidade Federal de Goiás) and private clinics. The study team received reports from twelve rheumatologists regarding their BD patients under regular follow-up.

Author JR actively contacted all rheumatologists, collected data and resolved potential duplicate inclusions (*e.g.* when the same patient was assessed by two different rheumatologists in 2022). The study was conducted in accordance with the Helsinki Declaration and its updates. The protocol was approved by the Institutional Review Board (IRB) of the participating institutions (CAAE:

Competing interests: none declared.

62902822.5.0000.5505). All participating rheumatologists signed a data use agreement. This study complies with the STROBE (STrengthening the Reporting of OBservational studies in Epidemiology) statement.

### Patients

To be eligible for inclusion, patients needed to fulfil one of the following diagnostic criteria for BD: the 1990 International Study Group (ISG) criteria for BD (21), the International Criteria for BD (ICBD) (22) or the Paediatric BD Criteria (PEDBD) (23). The latter was intended for patients diagnosed with BD before the age of 18. Additionally, eligible patients needed to have permanent residence in the city of Goiânia or its metropolitan area. All patients who had at least one medical appointment with a rheumatologist in private practice or in the public health system in 2022 were included in the analysis. The attending physician classified the race of the study participants as White, Black, Mestizo, Asian, and Indigenous.

### Data collection

The attending physicians collected the following data: city of residence, health system affiliation, diagnostic criteria met by the patient, current age, age at symptom onset, age at BD diagnosis, gender, and race.

### Statistical analysis

The prevalence of BD in 2022 was calculated as the number of cases per 10<sup>5</sup> inhabitants and the 95% CI was calculated using the Wilson score method. The 10-year incidence rate was estimated using retrospective longitudinal data from cases diagnosed yearly between 2012 and 2022. The incidence rate was calculated by dividing the number of cases by the number of person-years, and the result was presented for each year. The demographic data on Goiânia and its metropolitan area population were obtained from the IBGE (20). A Poisson regression model with robust variance was also performed to evaluate BD incidence in Goiânia between 2012 and 2022. The offset term was set to the log of the population size.

**Table I.** Demographic features and disease duration of patients with Behçet's disease.

| Variables                                           | Results (n=73)   |
|-----------------------------------------------------|------------------|
| Age at study, years                                 | 44.4 ± SD 12.5   |
| Age at BD diagnosis, years                          | 33.0 (26.0-45.0) |
| Age at the onset of symptoms, years                 | 32.1 ± SD 12.8   |
| Interval between disease onset and diagnosis, years | 3.0 (2.0-9.0)    |
| BD diagnosis before the age of 18, n (%)            | 3 (4.1)          |
| Onset of BD symptoms before the age of 18, n (%)    | 5 (6.8)          |
| F:M ratio                                           | 3.3:1.0          |
| Race                                                |                  |
| Whites, n (%)                                       | 42 (57.5)        |
| Mestizos, n (%)                                     | 26 (35.6)        |
| Blacks, n (%)                                       | 3 (4.1)          |
| Indigenous, n (%)                                   | 2 (2.7)          |

BD: Behçet's disease; F: females; M: males; n: number of patients; SD: standard deviation.

**Table II.** The prevalence of Behçet's disease in Goiânia and its metropolitan area.

| Cities               | Population in 2022 | Prevalence of BD   |
|----------------------|--------------------|--------------------|
| Goiânia              | 1,437,366          | 4.52 cases/100,000 |
| Aparecida de Goiânia | 527,796            | 0.57 cases/100,000 |
| Senador Canedo       | 155,635            | 1.29 cases/100,000 |
| Hidrolândia          | 27,742             | 3.60 cases/100,000 |
| Nerópolis            | 31,932             | 3.13 cases/100,000 |
| Inhumas              | 52,204             | 1.92 cases/100,000 |
| Greater Goiânia*     | 2,232,675          | 3.27 cases/100,000 |
| Greater Goiânia**    | 2,600,986          | 2.80 cases/100,000 |

BD: Behçet's disease.

The prevalence estimate included only cities where patients with Behçet's disease lived (\*) and all 21 cities in the Goiânia metropolitan region (\*\*).

Categorical data are presented as absolute number (%), and continuous variables as mean (± SD) or median (IQR), according to normality distribution assessed by the Shapiro-Wilk test. Categorical variables were compared using the Chi-square test or Fisher's exact test when appropriate. Numerical data were compared using the unpaired Student t test or Mann-Whitney U-test, according to the normality distribution. All tests were two-tailed, and a *p*-value <0.05 was considered statistically significant. We performed descriptive and comparative analyses using IBM SPSS for Windows version 21.0. We used R software (v. 4.0, MacOS, Apple Inc., Cupertino, CA) for the Poisson regression analyses.

## Results

### Demographic features

A total of 74 patients with BD were eligible for the study. After removing the duplicates and anonymising the data, 73 patients with BD were finally included in the analysis. The mean age of the patients was 44.4±12.5 years, and the

median interval between the onset of BD symptoms and the diagnosis of the disease was 3.0 years (IQR: 2.0–9.0). Table I summarises the demographic data of BD patients. The onset of the disease and diagnosis of BD occurred in the fourth decade of life. However, the onset of BD symptoms and BD diagnosis occurred before the age of 18 years in only 6.8% and 4.1% of cases, respectively. BD predominantly affects females, with a female-to-male ratio of 3.3:1.0. Most BD patients were reported to be White or Mestizo, while a minority of BD patients were reported to be Blacks or Indigenous. No patients of Asian descent were included in the study.

### Prevalence of Behçet's disease in Goiânia and its metropolitan area

According to the 2022 IBGE census (20), Goiânia's population was 1,437,366, while the population of the greater Goiânia metropolitan area was 2,600,986. Therefore, the prevalence of BD in Goiânia and in the metropolitan area was 4.52 cases/100,000 (95% CI:

3.5–5.8) and 3.27 cases/100,000 (95% CI: 2.6–4.1), respectively, in 2022 (Table II). Up to 89.0% of the BD patients included in the study lived in Goiânia, which comprises 64.4% of the metropolitan area. Among the 21 cities in the metropolitan area of Goiânia, only seven of them reported BD cases. According to the 2022 IBGE census (20), the population of Goiânia was composed of the following proportions of Mestizos, Whites, Blacks and Indigenous people: 47.9% (689,551), 43.6% (626,744), 7.9% (114,108), and 0.1% (1,930), respectively. Thus, different prevalence rates of BD were observed among different racial groups in the city of Goiânia. The highest prevalence of BD was found in Indigenous individuals with 1.03 case/1,000, followed by Whites (6.1 cases/100,000), Mestizos (3.3 cases/100,000) and by Blacks (1.8 cases/100,000).

#### *Estimated incidence of Behçet's disease in Goiânia and its metropolitan area*

The annual incidence rate of BD ranged from 0.14 to 0.45 cases/100,000 in Goiânia (Table III) and from 0.14 to 0.38/100,000 greater Goiânia area (Table IV) between 2013 and 2022. Using Poisson regression, we estimated the pooled annual incidence rate of BD in Goiânia during this period as 1.08 cases/100,000 (95% CI: 0.98–1.20). The cumulative BD diagnosis rate increased by 8% annually between 2013 and 2022 (Fig. 1A). In the greater Goiânia area, the estimated pooled annual incidence rate of BD was 1.06 cases/100,000 (95% CI: 0.96–1.18) between 2013 and 2022. In other words, the cumulative BD diagnosis rate increased by 6% each year from 2013 to 2022 in greater Goiânia (Fig. 1B).

#### *Comparisons between the private and public health systems*

In this step, we compared patients who are followed by the public health system with those who are followed by the private health system regarding age at onset and diagnosis of BD, time between symptom onset and diagnosis, gender and race.

Upon comparing the private and public

**Table III.** The ten-year estimated incidence of BD in Goiânia.

| Years | Number of cases | Persons at risk | Incidence in cases/100,000 |
|-------|-----------------|-----------------|----------------------------|
| 2013  | 4               | 1,393,575       | 0.29                       |
| 2014  | 3               | 1,412,364       | 0.21                       |
| 2015  | 4               | 1,430,697       | 0.28                       |
| 2016  | 3               | 1,448,639       | 0.21                       |
| 2017  | 2               | 1,466,105       | 0.14                       |
| 2018  | 6               | 1,495,705       | 0.40                       |
| 2019  | 4               | 1,516,113       | 0.26                       |
| 2020  | 4               | 1,536,097       | 0.26                       |
| 2021  | 7               | 1,555,626       | 0.45                       |
| 2022  | 6               | 1,437,366       | 0.42                       |

BD: Behçet's disease.

**Table IV.** The ten-year estimated incidence of BD in the greater Goiânia.

| Years  | Number of cases | Persons at risk | Incidence in cases/100,000 |
|--------|-----------------|-----------------|----------------------------|
| 2013   | 4               | 2,085,327       | 0.19                       |
| 2014   | 3               | 2,118,799       | 0.14                       |
| 2015   | 4               | 1,629,709       | 0.25                       |
| 2016   | 3               | 2,183,677       | 0.14                       |
| 2017   | 4               | 1,672,564       | 0.24                       |
| 2018   | 6               | 2,276,922       | 0.26                       |
| 2019   | 4               | 2,284,235       | 0.18                       |
| 2020   | 4               | 2,350,472       | 0.17                       |
| 2021   | 9               | 2,386,036       | 0.38                       |
| 2022*  | 6               | 2,232,675       | 0.27                       |
| 2022** | 6               | 2,600,986       | 0.23                       |

BD: Behçet's disease.

The incidence estimate included only cities where patients with Behçet's disease lived (\*) and all 21 cities in the Goiânia metropolitan region (\*\*).

health systems, we found that patients under the care of the private health system experienced BD manifestations at a significantly younger age than those under the care of the public health system (26.0 years [20.0–38.0] vs. 33.5 years [28.8–46.3];  $p=0.013$ ). However, no differences were observed in terms of the frequency of males (19.1% vs. 30.8%;  $p=0.261$ ), age at BD diagnosis (33.0 years [24.0–42.0] vs. 37.5 years [30.0–49.0];  $p=0.060$ ) or time elapsed between symptom onset and diagnosis (3.5 years [2.8–9.0] vs. 2.5 years [1.0–11.8];  $p=0.431$ ). Patients in the private health system were more likely to be White (83.0% vs. 11.5%), while those in the public health system were more likely to be Mestizo (84.6% vs. 8.5%).

#### **Discussion**

In this study, we describe the prevalence of BD in Goiânia and its metropolitan area in 2022 as 4.5 cases and 3.3 cases/100,000, respectively. In Goiânia, the proportion of BD patients was higher among Indigenous individuals, at

1.03 cases/1,000. Meanwhile, White individuals had a higher prevalence of BD than Mestizos and Blacks. Patients with BD experienced disease onset in their fourth decade of life and were predominantly female. The estimated annual incidences of BD in Goiânia and its metropolitan area were 1.08 cases/100,000 and 1.06 cases/100,000, respectively, between 2013 and 2022. Patients with BD who were followed up in the private health system were younger at disease onset and were more likely to be White than those followed up in the public health system.

The prevalence of BD reported in this study is much higher than the prevalence previously reported in Brazil by Tunes *et al.* [0.259/100,000 (95% CI, 0.2–0.4/100,000)] (17). This difference may be due to the fact that this study evaluated a large population sample of over one million and focused on patients under the care of rheumatologists in the city of Goiânia and its metropolitan area. Conversely, Tunes *et al.* may have underestimated the prevalence

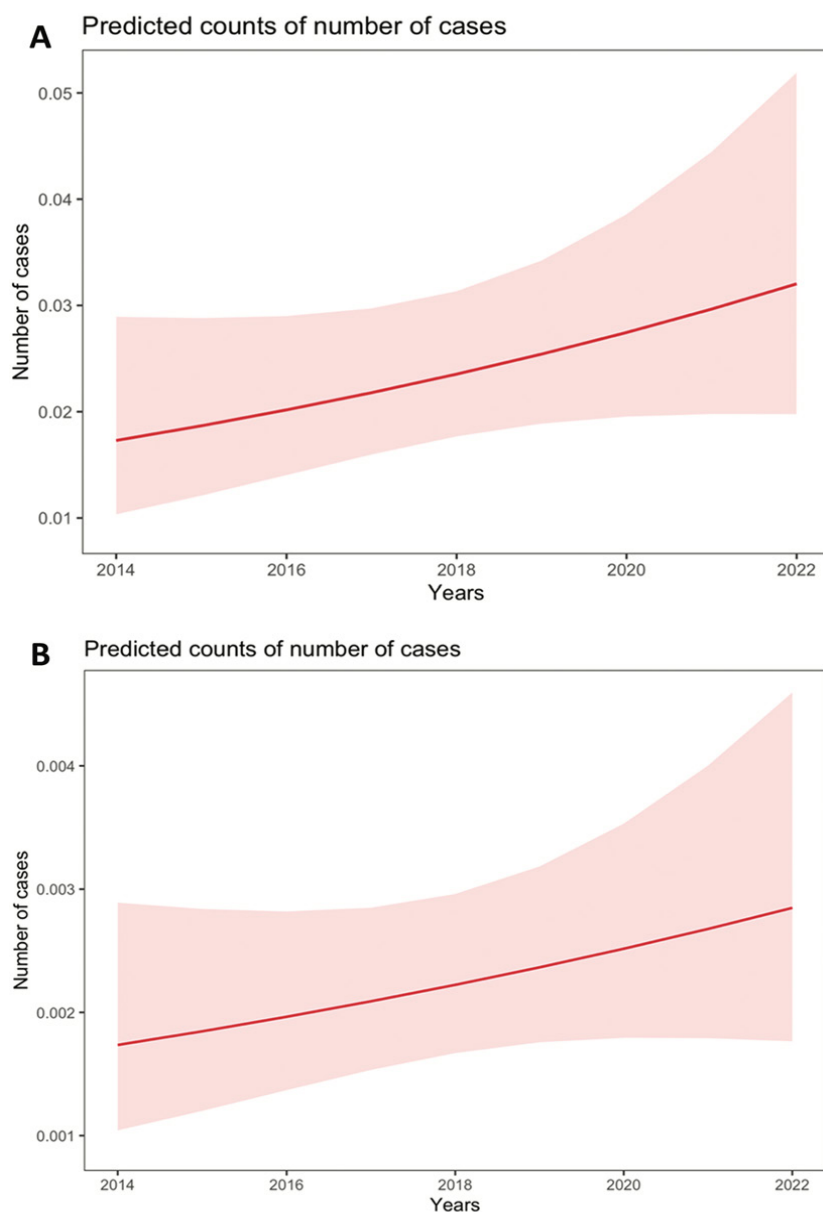


**Fig. 1.** Number of BD cases per year in Goiânia and its metropolitan area. The graph depicts the number and 95% confidence interval of the number of BD cases in Goiânia (A) and greater Goiânia (B).

of BD because they assessed patients living in a district of Salvador, Bahia, who were under follow-up in a stomatology unit due to aphthous ulceration (17). Since Brazil is a diverse country, the epidemiology of BD may vary widely across its different regions. Additionally, the BD prevalence reported in this study is higher than the prevalence of BD reported in Colombia, another South American country (1.1 cases/100,000) (24).

The prevalence of BD in Goiânia is similar to that reported in Olmsted County, Minnesota over the past 45 years (*i.e.*

5.2 cases/100,000) (25). However, this figure is lower than the global pooled prevalence of BD (10.3 cases/100,000) (13) and the prevalence of BD reported by Asian countries such as Jordan (660 cases/100,000), Turkey (420 cases/100,000), Iran (100 cases/100,000), South Korea (35.0 cases/100,000), Saudi Arabia (20.0 cases/100,000), Japan (13.5 cases/100,000) and China (10 cases/100,000) (8, 9, 14, 26-29).

Although our results showed a higher BD prevalence in White individuals compared to other racial groups, BD prevalence is not higher in European

countries than in Asian countries (11, 13, 15, 16). Another study with a similar methodology to ours was conducted in the Paris metropolitan area. The study included a background population of 1,094,412 people aged 15 years or older. The overall BD prevalence was 7.1 cases/100,000. However, the prevalence of BD was lower among individuals of European ancestry (2.4 cases/100,000) than among individuals of North African (34.6 cases/100,000) or Asian (17.5 cases/100,000) ancestry (30).

To the best of our knowledge, this is the first study to examine the epidemiology of BD in indigenous populations. It is possible that BD is an extremely rare disorder in indigenous populations in the Americas. In a multiethnic cohort of 114 BD patients at the University of Michigan, only one Native Alaskan individual met the ISG criteria for BD (31). A previous study evaluated uveitis in 1,881 individuals from indigenous populations in Central Australia. Although anterior and posterior uveitis were found in 0.21% and 0.59% of individuals, respectively, no cases of BD were observed (32). However, our findings should be interpreted with caution, as they may be subject to bias due to the small number of Indigenous individuals included in the study.

In this study, individuals of African descent had the lowest prevalence of BD among the racial/ethnic groups studied. Some population groups are thought to be at negligible risk of developing BD. In fact, BD appears to be more prevalent in North African countries with an Arabian genetic background, such as Tunisia and Morocco, than in West African countries (33, 34). While individuals of African descent and Indigenous populations may be at lower risk of developing BD, the predominance of BD in White individuals in the private practice may indicate a possible underreporting of the disease in non-White populations under the care of the public health system.

The age at disease onset and diagnosis of BD observed in the greater Goiânia area is similar to previous reports from Brazil and within the expected range of BD onset reported in the literature (2, 14, 35-38). The frequency of paediatric-onset BD was rather low in this

study, but close to the lower limit of the expected range of 4–26% (39). The female predominance observed in this study is somewhat higher than the 1.1–2.2:1 F:M ratio previously reported by studies performed in the states of São Paulo and Bahia (35–38). This difference underscores the heterogeneity of the Brazilian population. In fact, gender distribution in BD is heterogeneous worldwide. A review article assessing this issue found male predominance in 19 out of 33 countries, while similar gender distribution was observed in six, and female predominance in seven (4). This study has its strengths and limitations. Notably, it involved a network of rheumatologists working in both the private and public health systems, and it uses a large background population. The study analyses data from the 2022 official population census and includes information about ethnicity. A major limitation of this study is the risk of underreporting cases of BD in smaller cities within the Goiânia metropolitan area. These cities may have limited access to tertiary care outpatient clinics or hospitals, and general practitioners' lack of awareness about the disease may result in missed BD diagnoses. The small number of patients from specific groups such as children, Indigenous and black individuals may have hindered the interpretation of the stratified prevalence of BD. However, Black individuals and Indigenous people comprise only 7.9% and 0.1% of Goiânia's population, respectively (20). We acknowledge the risk of selection bias in this study, which may be due to patients with mild disease not seeking medical advice or having limited access to the healthcare system, as well as to very severe patients with blindness or neurological involvement who are unable to attend hospitals. In addition, the use of the ICBBD criteria for patient inclusion is another potential source of bias, since these criteria have low specificity for diagnosing BD in non-endemic areas (40).

In conclusion, in this epidemiological study found that the prevalence of BD in Goiânia and its metropolitan area was higher than that previously reported in Brazil, but lower than the global

pooled prevalence of BD. Behçet's disease affected White individuals and females more than other groups, whereas Indigenous individuals had the highest prevalence and blacks the lowest. Childhood- and adolescent-onset BD were infrequent in this study.

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### References

- JENNETTE JC, FALK RJ, BACON PA *et al.*: 2012 revised International Chapel Hill Consensus Conference Nomenclature of Vasculitides. *Arthritis Rheum* 2013; 65(1): 1–11. <https://doi.org/10.1002/art.37715>
- AKKOÇ N: Update on the epidemiology, risk factors and disease outcomes of Behçet's disease. *Best Pract Res Clin Rheumatol* 2018; 32(2): 261–70. <https://doi.org/10.1016/j.berh.2018.08.010>
- YAZICI H, PAZARLI H, YURDAKUL S: Influence of age of onset and patient's sex on the prevalence and severity of manifestations of Behçet's syndrome. *Ann Rheum Dis* 1984; 43(6): 783–89. <https://doi.org/10.1136/ard.43.6.783>
- DAVATCHI F, CHAMS-DAVATCHI C, SHAMS H *et al.*: Behçet's disease: epidemiology, clinical manifestations, and diagnosis. *Expert Rev Clin Immunol* 2017; 13(1): 57–65. <https://doi.org/10.1080/1744666x.2016.1205486>
- YURDAKUL S: Epidemiology of Behçet's syndrome and regional differences in disease expression. In: YAZICI Y, HATEMI G, SEYAHİ E, YAZICI H (Eds.): Behçet's syndrome. 2nd ed., Springer Nature, 2020, 21–35.
- SAADOUN D, BODAGHI B, CACOUB P: Behçet's syndrome. *N Engl J Med* 2024; 390(7): 640–51. <https://doi.org/10.1056/nejmra2305712>
- EMMI G, BETTIOL A, HATEMI G, PRISCO D: Behçet's syndrome. *Lancet* 2024; 403(10431): 1093–108. [https://doi.org/10.1016/S0140-6736\(23\)02629-6](https://doi.org/10.1016/S0140-6736(23)02629-6)
- MADANAT WY, ALAWNEH KM, SMADI MM *et al.*: The prevalence of Behçet's disease in the north of Jordan: a hospital-based epidemiological survey. *Clin Exp Rheumatol* 2017; 35 (Suppl. 108): S51–54.
- AZIZLERLI G, KÖSE AA, SARICA R *et al.*: Prevalence of Behçet's disease in Istanbul, Turkey. *Int J Dermatol* 2003; 42(10): 803–6. <https://doi.org/10.1046/j.1365-4362.2003.01893.x>
- JANKOWSKI J, CROMBIE I, JANKOWSKI R: Behçet's syndrome in Scotland. *Postgrad Med J* 1992; 68(801): 566–70. <https://doi.org/10.1136/pgmj.68.801.566>
- KANECKI K, NITSCH-OSUCH A, GORYŃSKI P, TARKA P, KUTERA A, TYSZKO P: Behçet disease: A rare systemic vasculitis in Poland. *Pol Arch Intern Med* 2017; 127(10): 652–56. <https://doi.org/10.20452/pamw.4091>
- HIROHATA T, KURATSUNE M, NOMURA A, JIMI S: Prevalence of Behçet's syndrome in Hawaii. With particular reference to the comparison of the Japanese in Hawaii and Japan. *Hawaii Med J* 1975; 34(7): 244–46.
- MALDINI C, DRUCE K, BASU N, LAVALLEY MP, MAHR A: Exploring the variability in Behçet's disease prevalence: a meta-analytical approach. *Rheumatology* (Oxford) 2018; 57(1): 185–95. <https://doi.org/10.1093/rheumatology/kew486>
- WATTS RA, HATEMI G, BURNS JC, MOHAMMAD AJ: Global epidemiology of vasculitis. *Nat Rev Rheumatology* 2022; 18(1): 22–34. <https://doi.org/10.1038/s41584-021-00718-8>
- PAPOUTSIS NG, ABDEL-NASER MB, ALTENBURG A *et al.*: Prevalence of Adamantiades-Behçet's disease in Germany and the municipality of Berlin: results of a nationwide survey. *Clin Exp Rheumatol* 2006; 24 (Suppl. 42): S125.
- KAPPEN JH, VAN DIJK EHC, BAAK-DIJKSTRA M *et al.*: Behçet's disease, hospital-based prevalence and manifestations in the Rotterdam area. *Neth J Med* 2015; 73(10): 471–7.
- TUNES RS, ANJOS TC, MARTINS GB, BARRETO ERM, SANTIAGO MB: Prevalence of Behçet's syndrome in patients with recurrent aphthous ulcerations in Brazil. *Rheumatol Int* 2009; 29(8): 875–78. <https://doi.org/10.1007/S00296-008-0787-1>
- DE SOUZA AWS, ZARUR EB, PIMENTEL-QUIROZ VR, SANCHEZ-TORRES A, UGARTE-GIL MF, SATO EI: Different epidemiologic profiles of systemic vasculitis between Brazil and Peru - preliminary results in two referral centers from both countries. *Clin Rheumatol* 2022; 41(3): 635–39. <https://doi.org/10.1007/s10067-021-06032-8>
- BELEM JFMF, PEREIRA RMR, PEREZ MO *et al.*: Epidemiologic features of systemic vasculitides in the Southeast Region of Brazil – a hospital-based survey. *J Clin Rheumatol* 2020; 26 (7S Suppl 2): S106–10. <https://doi.org/10.1097/rhu.0000000000001041>
- <https://censo2022.ibge.gov.br/panorama/>.
- Criteria for diagnosis of Behçet's Disease. International Study Group for Behçet's disease. *Lancet* 1990; 335(8697): 1078–80.
- International Team for the Revision of the International Criteria for Behçet's Disease (ITR-ICBD): The International Criteria for Behçet's Disease (ICBD): a collaborative study of 27 countries on the sensitivity and specificity of the new criteria. *J Eur Acad Dermatol Venereol* 2014; 28(3): 338–47. <https://doi.org/10.1111/jdv.12107>
- KONÉ-PAUT I, SHAHRAM F, DARCE-BELLO M *et al.*: Consensus classification criteria for paediatric Behçet's disease from a prospective observational cohort: PEDBD. *Ann Rheum Dis* 2016; 75(6): 958–64. <https://doi.org/10.1136/annrheumdis-2015-208491>
- FERNÁNDEZ-ÁVILA DG, RINCÓN-RIANO DN, BERNAL-MACÍAS S, DÁVILA JMG, ROSSELLI D: Prevalence and demographic characteristics of Behçet's disease in Colombia: data from the national health registry 2012–2016. *Rheumatol Int* 2020; 40(1): 17–20. <https://doi.org/10.1007/S00296-019-04466-7>
- CALAMIA KT, WILSON FC, ICEN M, CROWSON CYS, GABRIEL SE, KREMERS HM:

- Epidemiology and clinical characteristics of Behçet's disease in the US: A population-based study. *Arthritis Care Res* (Hoboken) 2009; 61(5): 600-4. <https://doi.org/10.1002/art.24423>
26. MOGHIMI N, DAVATCHI F, RAHIMI E *et al.*: WHO-ILAR COPCORD study (stage 1, urban study) in Sanandaj, Iran. *Clin Rheumatol* 2015; 34(3): 535-43. <https://doi.org/10.1007/s10067-013-2430-0>
  27. KIM JN, KWAK SG, CHOE JY, KIM SK: The prevalence of Behçet's disease in Korea: data from Health Insurance Review and Assessment Service from 2011 to 2015. *Clin Exp Rheumatol* 2017; 35 (Suppl. 108): S38-42.
  28. LI R, SUN J, REN LM *et al.*: Epidemiology of eight common rheumatic diseases in China: A large-scale cross-sectional survey in Beijing. *Rheumatology* 2012; 51(4): 721-29. <https://doi.org/10.1093/rheumatology/ker370>
  29. AL-DALAAAN AN, AL BALAA SR, EL RAMAHI K *et al.*: Behçet's disease in Saudi Arabia. *J Rheumatol* 1994; 21(4): 658-61.
  30. MAHR A, BELARBI L, WECHSLER B *et al.*: Population-based prevalence study of Behçet's disease: Differences by ethnic origin and low variation by age at immigration. *Arthritis Rheum* 2008; 58(12): 3951-59. <https://doi.org/10.1002/art.24149>
  31. KILIAN NC, SAWALHA AH: Behçet's disease in the United States: A single center descriptive and comparative study. *Eur J Rheumatol* 2017; 4(4): 239-44. <https://doi.org/10.5152/eurjrheum.2017.17112>
  32. CHANG JH, LANDERS J, HENDERSON TRM, CRAIG JE: Prevalence of uveitis in indigenous populations presenting to remote clinics of central Australia: The central Australian ocular health study. *Clin Exp Ophthalmol* 2012; 40(5): 448-53. <https://doi.org/10.1111/j.1442-9071.2011.02726.x>
  33. PALIZGIR M, MAHMOUDI M, QORBANI M, DJALALINIA S, MOSTAFAEI S, SHAHRAM F: Prevalence and Clinical Investigation of the Behçet's Disease in Middle East and North Africa: a systematic review and meta-analysis. *Iran Red Crescent Med J* 2017; 19(4). <https://doi.org/10.5812/ircmj.43313>
  34. POON W, VERITY DH, LARKIN GL, GRAHAM EM, STANFORD MR: Behçet's disease in patients of west African and Afro-Caribbean origin. *Br J Ophthalmol* 2003; 87(7): 876-78. <https://doi.org/10.1136/bjo.87.7.876>
  35. OLIVEIRA ACD, BUOSI ALP, DUTRA LA, DE SOUZA AWS: Behçet's disease: Clinical features and management in a Brazilian tertiary hospital. *J Clin Rheumatol* 2011; 17(8): 416-20. <https://doi.org/10.1097/rhu.0b013e31823a46ed>
  36. NEVES FS, MUNIZ CALDAS CA, LAGE LV, GOLDENSTEIN-SCHAINBERG C, GONÇALVES CR: Faraway from the silk route: demographic and clinical features of Behçet's disease in 106 Brazilian patients. *Clin Rheumatol* 2009; 28(5): 543-46. <https://doi.org/10.1007/s10067-008-1081-z>
  37. SACHETTO Z, MAHAYRI N, FERRAZ RH, COSTALLAT LTL, BERTOLO MB: Behçet's disease in Brazilian patients: demographic and clinical features. *Rheumatol Int* 2012; 32(7): 2063-67. <https://doi.org/10.1007/s00296-011-1921-z>
  38. TUNES RS, AMORIM R, SANTIAGO MB: Clinical aspects of Behçet's syndrome in Brazil: a review of 16 cases. *Acta Reumatol Port* 2009; 34(2A): 235-40.
  39. KONÉ-PAUT I: Behçet's disease in children, an overview. *Pediatr Rheumatol Online J* 2016; 14(1): 10. <https://doi.org/10.1186/S12969-016-0070-z>
  40. BLAKE T, PICKUP L, CARRUTHERS D *et al.*: Birmingham Behçet's service: classification of disease and application of the 2014 International Criteria for Behçet's Disease (ICBD) to a UK cohort. *BMC Musculoskelet Disord* 2017; 18(1). <https://doi.org/10.1186/S12891-017-1463-y>