

Systemic Autoimmune Diseases in Northern Benin from 2021 to 2024

ALASSANI Adébayo^{1*}, DJIBRIL Abdou-Badiou¹, DJALOGUE Lihanimpo² and KONE Salifou³

¹Faculty of Medicine, University of Parakou, Benin.

²Faculty of Medicine, University of Kara, Togo.

³Faculty of Medicine, Alassane OUATTARA University, Ivory Coast.

*Correspondence:

ALASSANI Adébayo, Associate Professor of Internal Medicine, Faculty of Medicine, University of Parakou, Benin, PO Box 123; Tel. +2290166667244.

Received: 23 May 2025; Accepted: 25 June 2025; Published: 05 July 2025

Citation: ALASSANI Adébayo, DJIBRIL Abdou-Badiou, DJALOGUE Lihanimpo, et al. Systemic Autoimmune Diseases in Northern Benin from 2021 to 2024. Trends Int Med. 2025; 5(1): 1-4.

Keywords

Systemic autoimmune disease, Northern Benin, Rheumatoid arthritis, Hypertension, Diabetes, HIV.

Introduction

Systemic autoimmune diseases (SAIDs) are characterized by the production of autoantibodies directed against the body's own cells due to the interplay of genetic and, primarily, environmental factors [1-3]. These diseases were long considered nonexistent in sub-Saharan Africa despite a global prevalence ranging between 5 and 10% [4,5]. Nowadays, their frequency is increasing due to improved knowledge among healthcare workers. However, this knowledge remains limited, as only 0.5% of practitioners have an acceptable level of understanding of these diseases, particularly systemic lupus, according to Azon-Kouanou et al. [6]. The problem posed by SAIDs is their severity, exacerbated by late diagnosis. For early diagnosis and management of these diseases, it is essential to know the most common ones and their manifestations. In sub-Saharan Africa, studies agree that rheumatoid arthritis and systemic lupus are the most frequent. There is also clinical polymorphism, and the main signs should be known to healthcare personnel. In Benin, according to Wanvoègbè et al. [7], systemic lupus followed by scleroderma were the most frequent SAIDs in the internal medicine department of the Hubert Koutoucou Maga National Hospital in Cotonou. To our knowledge, no study on these diseases has been conducted in the northern part of Benin. This study was initiated to address this gap. Its aim is to inventory the various SAIDs encountered in this region as well as their main manifestations.

Methodology

This was a cross-sectional and descriptive study with prospective data collection. Data collection spanned four years, from January

2021 to December 2024. The population consisted of subjects with SAIDs, aged at least 18 years, of both sexes, followed in hospitals in the four departments of northern Benin (Borgou, Alibori, Donga, and Atacora), and who gave their consent to participate in the study. Subjects unable to answer questions or those lacking the means to perform paraclinical assessments were not included in the study. The sampling was exhaustive. A WhatsApp group including all doctors from the four departments of northern Benin was initially created. The doctors were responsible for reporting all patients received with suspected SAIDs to the group. After discussion with the doctors, patients were sent to Parakou, where investigations were conducted to rule out non-systemic autoimmune causes. The variables studied related to the general characteristics of the patients, the manifestations prompting consultation, and the type of SAID presented by the subjects. The diagnosis of SAIDs was based on the ACR/EULAR 2010 classification criteria for rheumatoid arthritis, ACR/EULAR 2019 for systemic lupus, ACR/EULAR 2016 for Sjögren's syndrome, and ACR/EULAR 2013 for scleroderma. The collected data were processed and analyzed using SPSS version 25 software. Ethically, in addition to patient consent, anonymity and confidentiality of the data were respected.

Results

General Characteristics of Subjects with SAIDs

Of the 101 patients suspected of having SAIDs, 21 were excluded as they had infectious diseases, degenerative conditions, or cancer; 13 were unable to complete paraclinical examinations. In total, the study population consisted of 67 patients with SAIDs. (See Figure 1). The mean age of the patients was 41.27 ± 12.17 years, with extremes of 21 to 57 years. A female predominance (79.10%) was observed. The consultation delay was three months or more in 80.60% of cases. Hypertension, diabetes, and HIV infection were observed in 38.80%, 8.95%, and 4.47% of patients, respectively.

Patients residing outside Parakou represented 59.70% of the study population. (See Table 1).

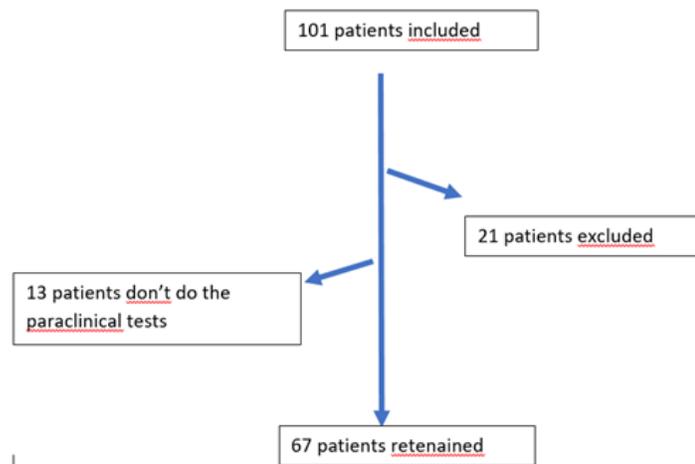


Figure 1: Flow Diagram.

Table 1: General Characteristics of Subjects with Systemic Autoimmune Diseases in Northern Benin from 2021 to 2024 (n=67).

	n	%
Age		
< 30 years	12	17.9
≥ 30 years	55	82.1
Sex		
Female	53	79.1
Male	14	20.9
Education level		
None	31	46.3
Primary	27	40.3
Secondary	12	17.9
Higher	7	10.4
Consultation delay		
< 1 month	13	19.4
≥ 1 month	54	80.6
Comorbidities		
Hypertension	26	38.8
Diabetes	6	8.95
HIV	3	4.47
Lifestyle		
Smoking	2	2.98
Alcoholism	36	53.7
Inactive physical activity	29	43.3
Socio-economic mevel		
Low	41	61.2
Middle	18	26.9
High	8	11.9
Place of residence		
Parakou	27	40.3
Out Parakou	40	59.7

Clinical Manifestations Prompting Consultation in Subjects with SAIDs

The clinical manifestations prompting patients to consult were

dominated by polyarthralgia (53.73%) and skin lesions (17.92%). (See Table 2).

Table 2: Clinical Manifestations Prompting Consultation in Subjects with Systemic Autoimmune Diseases in Northern Benin from 2021 to 2024 (n=67).

	n	%
Prolonged fever	2	2.98
Asthenia	5	7.46
Anorexia	1	1.99
Weight loss	5	7.46
Polyarthralgia	36	53.73
Myalgia	1	1.99
Sicca syndrome	1	1.99
Alopecia	1	1.99
Skin lesions	12	17.92
Raynaud syndrome	3	4.49

SAIDs Observed in Northern Benin

The SAIDs identified in this population were dominated by rheumatoid arthritis (61.20%) and systemic lupus (28.36%). The other two systemic autoimmune diseases were scleroderma (5.96%) and Sjögren's syndrome (4.48%). SAIDs such as primary myopathies, Sharp syndrome, and vasculitides were not found in our cohort. (See Figure 2).

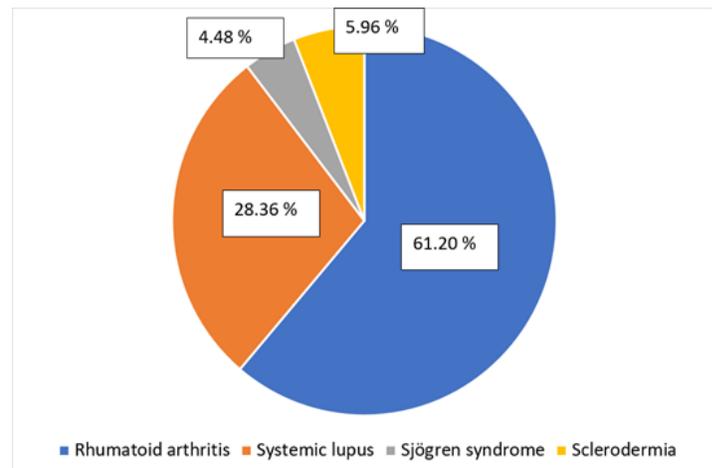


Figure 2: Overview of Systemic Autoimmune Diseases Identified in Northern Benin from 2021 to 2024 (n=67).

Discussion

This study on SAIDs in northern Benin is the first to address this issue. The prospective nature of the study across the four departments and involving multiple doctors allowed for the identification of most patients. The study found that affected subjects were often young adult women. Patients typically consulted late. Furthermore, the study highlights that the most frequent reasons for consultation among these patients were polyarthralgia and skin lesions. Four SAIDs were identified, dominated by rheumatoid arthritis and systemic lupus. The results of this study confirm those reported by several authors. The female predominance was reported by Kouakou et al. [8] in Côte d'Ivoire and Fianyo et al. [9]

in Togo, with proportions of 92.40% and 91.7%, respectively. This confirms the female predominance of these diseases. Regarding the age of affected subjects, studies by Hounsounou et al. [10] in Côte d'Ivoire and Kakpovi et al. [11] in Togo reported mean ages of 38.72 ± 14.33 years and 42.79 ± 15.18 years, respectively. Delayed recourse to care was reported by Yapa et al. [12] in Côte d'Ivoire, with an average consultation delay of 26.2 months. In studies by Lamini et al. [13] in Congo and Konan et al. [14] in Côte d'Ivoire, osteoarticular manifestations were the main reasons for consultation. This is explained by the fact that most SAIDs have a joint tropism. The main diseases found in this cohort are most often revealed by joint involvement. The predominance of rheumatoid arthritis was reported by Kane et al. [15] in Senegal (77.69%) and Kouakou et al. [8] in Côte d'Ivoire (59.8%). Among older subjects, the proportion of rheumatoid arthritis reaches 95.45%, according to Cheick et al. [16] in Senegal. This confirms that rheumatoid arthritis is the most common SAID in our countries. In studies conducted in pure internal medicine departments, a predominance of systemic lupus is observed [17,18]. Cases of rheumatoid arthritis are seen and treated in rheumatology, reducing the number of patients with this disease consulting in internal medicine. This study has certain limitations, as a significant number of patients were unable to complete paraclinical assessments. This may have prevented the identification of other SAIDs or altered the proportion of one or another of the identified diseases. Advocacy with politico-administrative authorities to make paraclinical assessments accessible would allow for the screening of more patients with SAIDs. The number of suspected patients may also be underestimated, as many patients do not consult; some diseases, such as rheumatoid arthritis, are considered bewitchment. Population awareness, organization of free mobile consultations, and home visits in collaboration with community relays could be solutions to screen most subjects with SAIDs. Through these actions, the issue of late screening of SAIDs could be addressed.

Conclusion

The systemic autoimmune diseases encountered in northern Benin are dominated by rheumatoid arthritis and systemic lupus. They most often affect young adult women who consult late. Population awareness, organization of mobile consultations in medically underserved regions, and the provision of paraclinical tests by politico-administrative authorities could promote early screening and management.

References

1. Shankar DB, Juveria A, Reddy A, et al. Study of incidence and prevalence of auto immune diseases in a tertiary care hospital. *IJSAR*. 2022; 9: 1-8.
2. Faye FA, Bammo M, Dia GA, et al. Epidemiological Profile of Autoimmune Diseases in Thiès, Senegal: About a Descriptive Observational Study over 11 Years in 2 Internal Medicine Departments and a Dermatology Department. *Open Journal of Internal Medicine*. 2023; 13: 162-172.
3. Azon Kouanou A, Aboué NC, Missiho MS, et al. Knowledge of General Practitioners in Cotonou about Systemic Lupus Erythematosus. *Open Journal of Internal Medicine*. 2020; 10: 311-320.
4. Agbodandé KA, Wanvoègbè FA, Dossa MF, et al. Panorama, Reasons for Seeking Care and Evolution of Systemic Autoimmune Diseases in Benin Hospitals in 2021. *Open Journal of Internal Medicine*. 2023; 13: 76-84.
5. Diallo MS, Traoré D, Diouf A, et al. Profile of Autoantibodies and Clinical Symptoms in Guinean Patients with Connective Tissue Diseases. *Open Journal of Immunology*. 2024; 14: 1-10.
6. Azon Kouanou A, Agbodandé A, Dansou E, et al. Therapeutic Itinerary of Patients Followed for Connectivitis in the Internal Medicine Department of the CNHU-HKM of Cotonou (Benin). *Open Journal of Internal Medicine*. 2021; 11: 73-80.
7. Wanvoègbè FA, Agbodandé A, Alassani A, et al. Systemic Inflammatory Diseases in Internal Medicine at the CNHU-HKM of Cotonou: Frequency, Clinical, And Immunological Aspects. *Trends Int Med*. 2022; 2: 1-4.
8. Kouakou ES, Sougué C, Yao KJ, et al. Epidemiological and Clinical Aspects of Hospitalized Patients with Chronic Rheumatic Disease at Cocody University Hospital in Abidjan. *Open Journal of Rheumatology and Autoimmune Diseases*. 2023; 13: 65-70.
9. Fianyo E, Tiendrebeogo WJ, Koffi Tessio VT, et al. Evaluation of Therapeutic Adherence in Patients Suffering from Chronic Inflammatory Rheumatism in the Rheumatology Wards of Lomé (Togo). *Open Journal of Rheumatology and Autoimmune Diseases*. 2023; 13: 88-97.
10. Hounsounou M, Gbane M, Djaba KJM, et al. Maladies auto-immunes systémiques en milieu hospitalier à Abidjan: étude multicentrique à propos de 227 cas. *RAFMI*. 2022; 9: 14-21.
11. Kakpovi K, Oniankitan S, Tagbor KC, et al. Chronic Inflammatory Rheumatic Diseases in Rheumatological Practice in Lomé (Togo). *Open Journal of Rheumatology and Autoimmune Diseases*. 2022; 12: 9-20.
12. Yapa GSK, Koné S, Touré KH, et al. Maladies auto-immunes systémiques dans les Services de Médecine Interne et de Dermatologie du Centre Hospitalier Universitaire de Bouaké: profil de 50 patients. *RAFMI*. 2022; 9: 26-29.
13. Lamini NN, Ntsiba H. Les maladies auto immunes et de système au service de rhumatologie du Centre Hospitalier Universitaire de Brazzaville. *Health Sci Dis*. 2020; 21: 138-142.
14. Konan M, Binan Y, Acko UV, et al. Caractéristiques des maladies auto-immunes: analyse d'une série de 45 patients. *Rev int sci méd Abj-RISM*. 2019; 21: 306-311.
15. Kane BS, Niassé M, Ndiaye AA, et al. Systemic Diseases in Dakar (Senegal): Spectrum, Epidemiological Aspect and Diagnostic Time Limit. *Open Journal of Internal Medicine*. 2018; 8: 196-206.
16. Cheikh NA, Faye A, Dia AD, et al. Connective Tissue Diseases on the Elderly Population in Dakar Hospital Setting. *Open Journal of Internal Medicine*. 2022; 12: 103-111.

-
17. Soukho AK, Kéïta K, Sy D, et al. Panorama of Autoimmune and Autoinflammatory Diseases in Internal Medicine at the University Hospital Center (UHC) of the Point G. *Open Journal of Internal Medicine*. 2021; 11: 91-108.
18. Mercy E, Otike Odibi B, Altraide D. Profile of Autoimmune Connective Tissue Disorders in the University of Port Harcourt Teaching Hospital, Port Harcourt, Nigeria. *The Nigerian Health Journal*. 2015; 15: 39-47.