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RESEARCH PAPER

# A socio-demographic study of systemic autoimmune diseases in cocody-abidjan university hospital center

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## Abstract

Systemic autoimmune diseases (SAD) result from a dysfunction of the immune system causing a break in self-tolerance. This study aims to describe the socio-demographic profile autoimmune diseases encountered in the rheumatology department of the Cocody University Hospital in the District of Abidjan. This is a retrospective study on clinical records of patients followed in the rheumatology department of the UHC of Cocody. The results show that evolution is marked by a predominance of women (94.55%) compared to men (5.45%). The majority of patients (75%) presented members of the age group [20-60] years. The patients came from diverse social strata, namely: 21.10 % were official, 17.43 % were housewives, 16.51 % were traders and students, 12.84 % had a liberal function and 3.67 % artisan. The results also showed that 8.18% of patients had a family history of rheumatism. Personal and obstetrical history was present in all the patients collected. Systemic autoimmune diseases have a socio-demographic impact.

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## Introduction

Autoimmune diseases result from a dysfunction of the immune system leading to a breakdown in self-tolerance. They can be defined by the activation of the patient's immune system against its antigens (Ag) (Bonnotte *et al.*, 2004). This usually results in the production of autoantibodies that cause organ damage.

Autoimmune diseases are multifactorial in origin. Indeed, predisposition to these diseases is most often based on genetic and environmental factors (Abid *et al.,* 2006).

Autoimmune diseases are divided into two types depending on the location of the target antigen: "organ-specific" autoimmune diseases (the target antigen is located in a single organ) and "systemic" autoimmune diseases (the target antigen is dispersed in different tissues of the body. (Nilsson *et al.*, 2006).

Systemic autoimmune diseases (SAD) are increasingly being described in Africa and their prevalence is increasing (Ka *et al.,* 1998; Louzir *et al.,* 2003; Kane *et al.,* 2016). The main reasons are attributed to improvement in diagnostic tools and better knowledge of these diseases, despite a still insufficient number of specialists (Mijiyawa *et al.,* 1999; Ouédraogo *et al.,* 2014; Zomalhèto *et al.*, 2015).

This work aims to describe the socio-demographic profile of these systemic autoimmune diseases encountered in the Rheumatology Department of the Cocody University Hospital in the District of Abidjan.

## Material and methods

*Site and type of study*

This is a monocentric and descriptive retrospective study, conducted at the rheumatology department of the Cocody Abidjan University Hospital Center, from August 9 to November 9, 2019.

*Criteria for inclusion*

Included in the study were the records of 110 patients hospitalized in the rheumatology department of Cocody University Hospital Center for systemic autoimmune diseases over a five (05) year period, from 2014 to 2018.

*Exclusion criterion*

All incomplete records as well as non-exploitable clinical records were excluded.

*Technical equipment*

The technical equipment used in this work consisted of 110 patient files and a survey sheet. The survey form (questionnaires) relating to socio-demographic characteristics contained the following information: age, gender, profession, marital status, geographic origin, personal and family history.

*Data entry and analysis*

Descriptive analysis of the previously collected data was conducted using EPI INFO version 7.2 and SPSS (Soft Package Social Science) version 25.0. The graphical representations were made using Excel 2016 software.

*Ethical aspects*

The collection and use of patients' socio-demographic and clinical data was carried out in compliance with the rules of medical ethics regarding patient anonymity and confidentiality.

## Results

*Distribution of patients by gender*

On 110 records, 104 patients or 94.55 % were female and 6 or 5.45 % were male. This represents a sex ratio of females/males of 17.33 (Fig. 1).
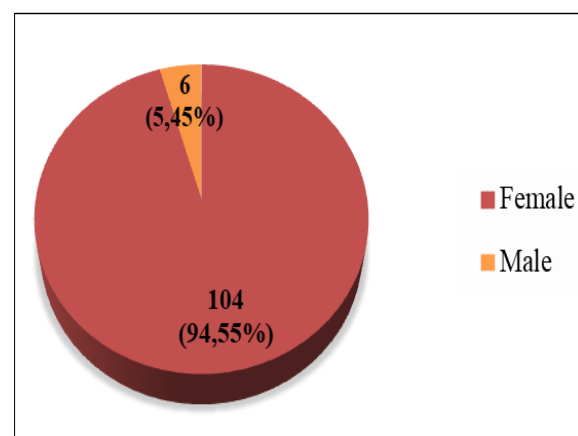


**Fig. 1.** Gender distribution.

*Distribution of patients by age group*

The mean age of patients at diagnosis was 40.35 ± 14.5 with extremes ranging from 7 to 77 years. The results showed 9 patients included in age group [0-20], 44 patients included in age group [20-40], 46 patients included in age group [40-60] and 10 patients included in age group [60-80].
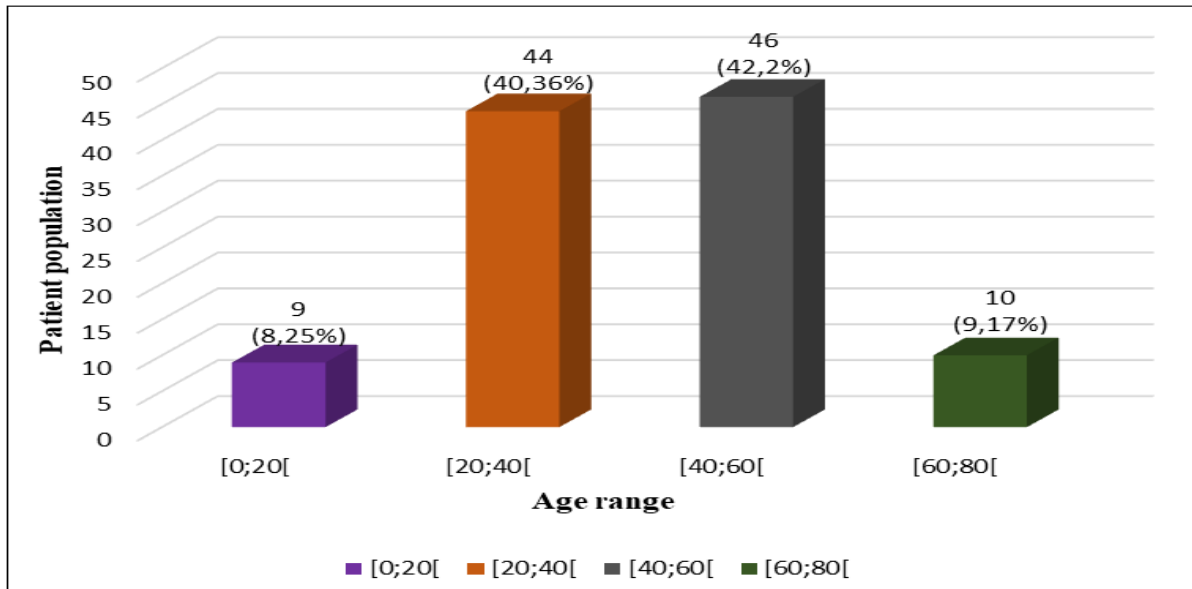


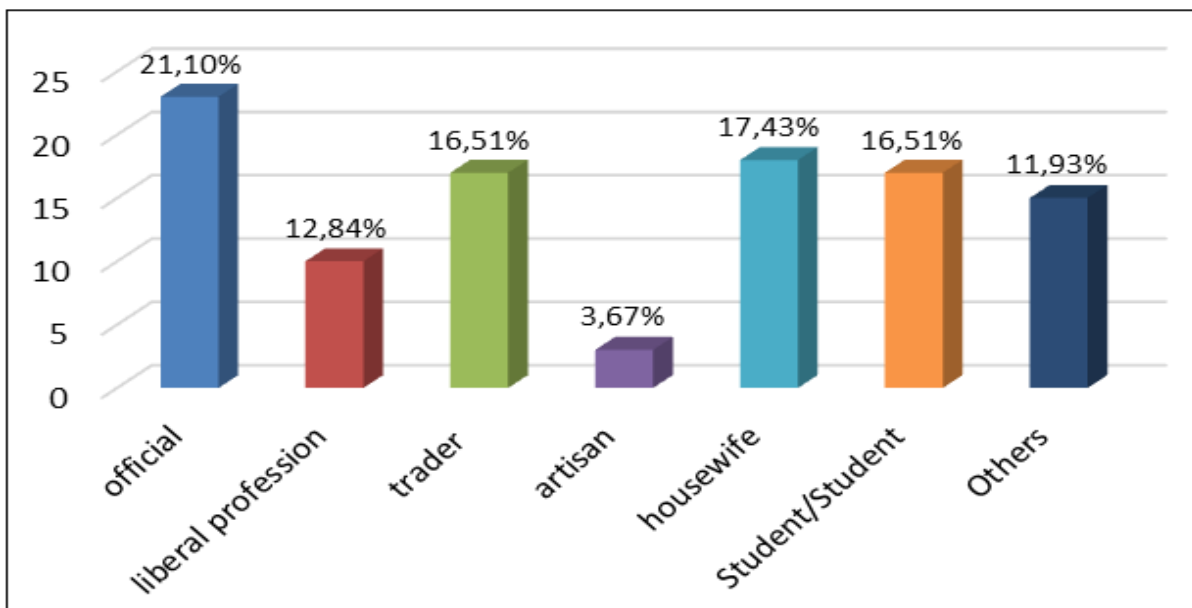**Fig. 2.** Distribution of patients by age group.



**Fig. 3.** Distribution by occupation.

The results also showed that 75 % of the patients are in the age range [20-60] (Fig. 2).

*Distribution by occupation*

On 110 patients, 21.10 % were official, 17.43 % were housewives, 16.51 % were traders and students, 12.84 % had a liberal function, and 3.67 % artisan (Fig. 3).

*The antecedents*

Inflammatory rheumatism was present in 8.18 % (n=9) of patients (Fig. 4). Hypertension was present in 11 patients with 10% of cases, 6 cases or 5.45 % presented diabetes, 1 case or 0.91 % presented sickle cell disease and 7 or 6.36 % presented ulcers (Fig. 5). Descriptive analysis showed that 11.82 % (n=13) of

patients had induced abortions during the reproductive period, 9.09 % (n=10) had miscarriages, and 0.91 % (n=1) had a history of prematurity (Fig. 6).

## Discussion

The results obtained on the socio-demographic characteristics of patients with autoimmune diseases were discussed. The results obtained on the distribution of patients by gender have shown a female predominance in the case of autoimmune diseases. The results are similar to those of Chabchoub *et al.* (2006). Indeed, Chabchoub *et al.* (2006) showed as part of the study of thyroid autoimmune diseases in southern Tunisia, a female dominance, 5 women for 1 man.
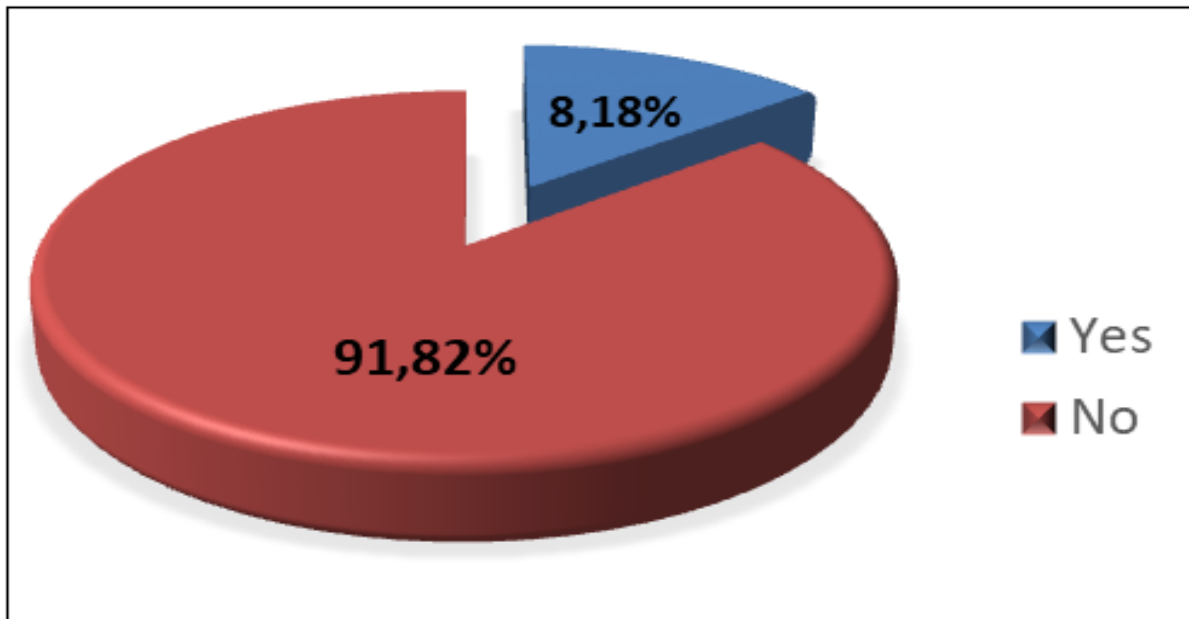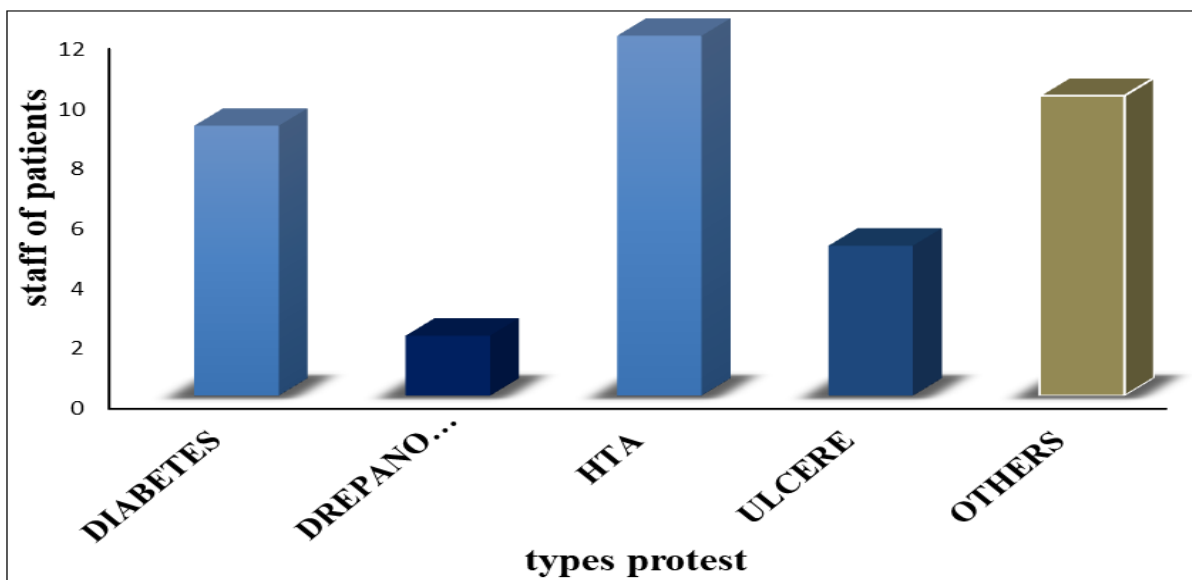


**Fig. 4.** Family history of rheumatism.



**Fig. 5.** Personal medical history.

The average age of the patients in this study was 40.35 ± 14.5 years. The results are similar to those of Ouédraogo *et al.* (2014), who showed in their study carried out in Burkina Faso on connectivities or autoimmune diseases, that the average age is 41.2 ± 11.97. Age groups [20-40] and [40-60] are the most

represented in this study. This indicates that the majority of patients belong to the age group [20-60]. The results are different from the results obtained by

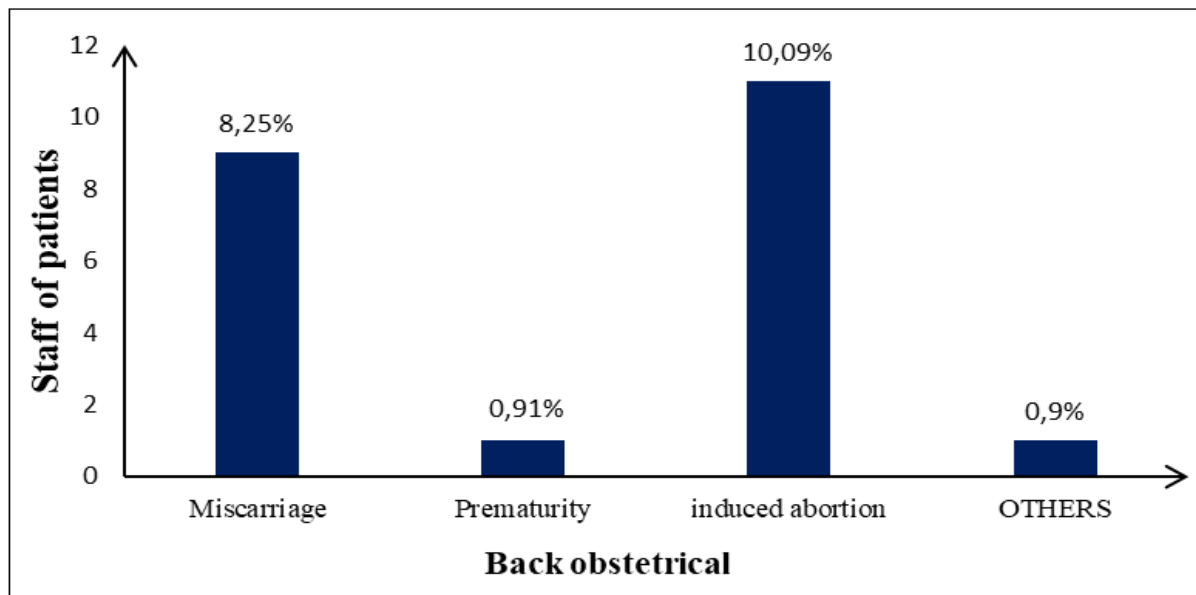Konan *et al.* (2019), who showed representativeness at 48.9% of the age group [31-46].



**Fig. 6.** Obstetrical history.

This difference could be explained by the number of patients with autoimmune diseases. Indeed, in the study of Konan *et al.*, (2019) 45 patients presented autoimmunes diseases, whereas this study took into account 110 patients with autoimmunes diseases.

On the distribution by profession, the results showed that the profession with the highest representativeness is official, with 21.10%. Housewives professions, traders and students, liberal function and artisan have a respective percentage 17.43 %, 16.51 %, 12.84 % et 3.67 %. The family history of rheumatism was 8.18%. The results obtained are different from the results obtained by Kane *et al.* (2016) in the study of systemic diseases in internal medicine in Dakar – Sénégal obtained 10.06% on the history of family rheumatism. This difference could be explained by the retrospective multicenter study carried out by Kane *et al.,* (2016) on the other hand, this study was conducted only at the cocody university hospital, a single-center study.

## Conclusion

The study showed that autoimmune diseases are increasingly prevalent in Côte d'Ivoire. Their

evolution is marked by a female predominance with a sex ratio (F/M) of 17.33. This study showed that 75 % of the patients are in the age range [20-60]**.** The patients came from diverse social strata: 21.10 % were official, 17.43 % were housewives, 16.51 % were traders and students, 12.84 % had a liberal function, and 3.67 % artisan. Family, personal and obstetrical histories was present in all patients collected. However, other studies with a large number of patients and also multicenter sampling are necessary in order to be able to really estimate the incidence and prevalence of systemic autoimmunes diseases in the general population.

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