Scientific Research Publishing

Open Journal of Rheumatology and Autoimmune Diseases, 2025, 15(4), 148-158
https://www.scirp.org/journal/ojra
ISSN Online: 2164-005X
ISSN Print: 2163-9914

Evaluation of the Quality of Life of Patients with Connective Tissue Disease in Abidjan

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How to cite this paper: Konan, N.M., Ouattara, T.R., Abbe, F., Koffi, G.S., Lobah, Y.G., Bamba, A., Djami, K., Sanogo, I., Djoman, R., Assy, L.C., Acko, U.V. and Binan, Y. (2025) Paper Title. *Open Journal of Rheumatology and Autoimmune Diseases*, **15**, 148-158.
https://doi.org/10.4236/ojra.2025.154018

Received: August 29, 2025
Accepted: October 19, 2025
Published: October 22, 2025

Abstract

Introduction: Connective tissue diseases are non-specific autoimmune diseases of chronic organs responsible for a significant impact on the general condition. Very few studies have been devoted to the impact of connective tissue diseases on the quality of life of patients in sub-Saharan Africa. Our study aimed to evaluate the impact of connective tissue diseases on the quality of life of patients followed in the internal medicine department of the Treichville University Hospital. Patients and methods: This was a cross-sectional study, conducted over a three-month period (October to December 2022), concerning patients with connective tissue disease who came for consultation during that period. Data collection was carried out using a survey form containing sociodemographic, clinical, and therapeutic data, accompanied by the SF-36 questionnaire. Results: Forty-three (43) patients were included, predominantly female (95%) with a mean age of 41.16 years. They were married (40%), unemployed (47%), and uninsured (81%). The predominant pathologies were Systemic Lupus Erythematosus (SLE) (48.47%), Systemic Sclerosis (SSc) (30.23%), primary Sjögren's syndrome (11.3%), 6.98% for rheumatoid arthritis (RA) and 3,02% for dermatomyositis. The duration of the disease was 6 years. There was a decrease in all quality of life parameters, more pronounced in the physical role and emotional role dimensions. Age, professional status, disease duration, and respiratory impairment influenced the quality of life of our patients. Primary Sjögren's syndrome was the pathology with the lowest scores. Conclusion: Our study allowed us to show that connective tissue diseases mainly affect women and have a negative impact on the quality of life of patients.

Keywords

Quality of Life, Connective Tissue, Internal Medicine, Primary Sjögren's Syndrome, Systemic Lupus Erythematosus

1. Introduction

Systemic diseases, or connective tissue diseases, constitute a heterogeneous, multifactorial, and inflammatory group which most often develop in bursts, interspersed with periods of remission, and can affect several organs or systems simultaneously resulting from a pathological process of unknown origin.

Although rare in the general population, with an estimated prevalence of between 5% and 10% [1], these pathologies represent a real public health problem. Indeed, they are among the chronic diseases that represent the third cause of morbidity after cardiovascular and cancerous diseases. Their diagnosis is often complex, requiring costly specialized examinations, and their prolonged development leads to significant physical, psychological, and social consequences that affect the quality of life of patients.

Their pathophysiology involves a complex interaction between genetic factors, environmental factors, and stochastic factors modulating innate and adaptive immune responses [2].

Preserving the quality of life of patients with chronic diseases is now becoming a major issue in the health field, and yet little work has been devoted to the study of quality of life during systemic diseases in the African context and even less in sub-Saharan Africa. The available studies mainly concern systemic lupus (SLE) and systemic sclerosis (SSc) [3] [4]. The aim of this study is to contribute to a better patient care on physical and social level, so we proposed to evaluate the impact of systemic diseases, specifically connective tissue diseases, on the quality of life of patients followed at the Treichville University Hospital using the SF-36 (Medical Outcomes Study Short Form), which remains the most widely used reference tool in this type of study [5].

2. Materials and Methods

This was a cross-sectional study conducted over a period of three months (October 4, 2022, to December 31, 2022). The study population consisted of patients followed in the internal medicine department in Treichville for the diagnosis of connective tissue disease. Included in the study were any patients regularly followed in the internal medicine department of the Treichville University Hospital whose diagnosis of connective tissue disease had been established on the basis of defined clinical, paraclinical, and/or histological criteria. These were the respective ACR/EULAR criteria for lupus, Sjögren's syndrome [6], rheumatoid arthritis [7], Sharp's syndrome being defined by the KASUKAWA criteria [8], dermatomyositis, and these were the TROYANOV criteria [9]. These patients gave their oral consent and com-

pleted the SF 36 questionnaire form.

Patients whose diagnosis of connective tissue disease was not confirmed, and those who refused to participate in the survey, were not included in the study.

Data collection was carried out using a survey form comprising a double-part questionnaire; a part intended for the patient, namely the quality of life score, which was completed by the patient himself. A clear and detailed explanation was provided to patients with a limited level of understanding in order to facilitate their choice of response. The different quality of life items and their respective percentages were subsequently calculated and evaluated using the OrthoPowerTools SF-36 software.

The second part included the patient's personal data, some of which had been collected from the patients' medical records contained in the department's autoimmune disease register.

Input and analysis:

Word entry and processing were carried out using WORD 2016 software.

The tables and graphs were created using EXCEL 2016.

Statistical analysis was performed using SPSS software.

The univariate analysis was carried out using the method of comparing means (ANOVA or Wilcoxon test) in order to search for a significant link between the different dependent variables. Each of the eight SF-36 items was used separately as dependent variables. The variables sociodemographic and clinical data were independent variables. The physical composite score was also a dependent variable. It was calculated using the sum of all items related to physical well-being (bodily pain, general health, physical functioning, emotional limitation). The mental composite score also dependent variable was calculated with the sum of its different items (mental health, vitality, emotional limitation, social functioning). The significance threshold was $P = 0.05$.

Then, dependent variables with significant P-value were subjected to multivariate analysis and logistic regression method was conducted in order to determine the factors associated with the alteration of the quality of life.

3. Results

Sociodemographic Characteristics

A total of 43 patients came for consultation during this period. The female gender was predominant (95%) with an average age of 40.16 years. Regarding marital status, more than half were single (51%), with 39.53% married (Table 1).

Regarding professional activity, more than half of our sample had a job, 47% had no professional activity, and 2% were retired. However, there was a good level of education, with 46% of people high-school graduated. 30% of patients had a secondary education level, while only 15% had no schooling (Figure 1). Medical coverage was low; only 19% had health insurance.

Clinical features:

The average duration of disease progression was approximately six years, with extremes ranging from six months to 20 years. Systemic lupus erythematosus was

the most common connective tissue disease (48.47%), followed by systemic scleroderma (30%), and Sjögren's syndrome (11.3%) (Figure 2).

Regarding clinical symptoms, joint involvement was the most predominant (90.79%), followed by hematological (88.37%) and cutaneous (74.42%) involvement (Figure 3).

Regarding the quality of life items: there was an overall decrease in all the quality of life parameters with scores below 60% in almost all areas; the deterioration in the quality of life was much more marked in the areas of physical limitation (17 ± 27) and emotional limitation (19 ± 34), then the area of vitality (40.67%) (Figure 4).

Table 1. Sociodemographic characteristics of patients in the series.

Socio-demographic characteristics	Effective or average	percentage
Sex		
Female	41	95%
Male	2	5%
Marital status		
Married	17	39.53%
Divorce	1	2.33%
Single	22	51.16%
Widow	3	6.98%
Professional activity		
Employee	22	51.16%
Retirement	1	2.33%
Unemployed	20	46.51%
Health insurance		
Yes	8	19%
No	35	81%

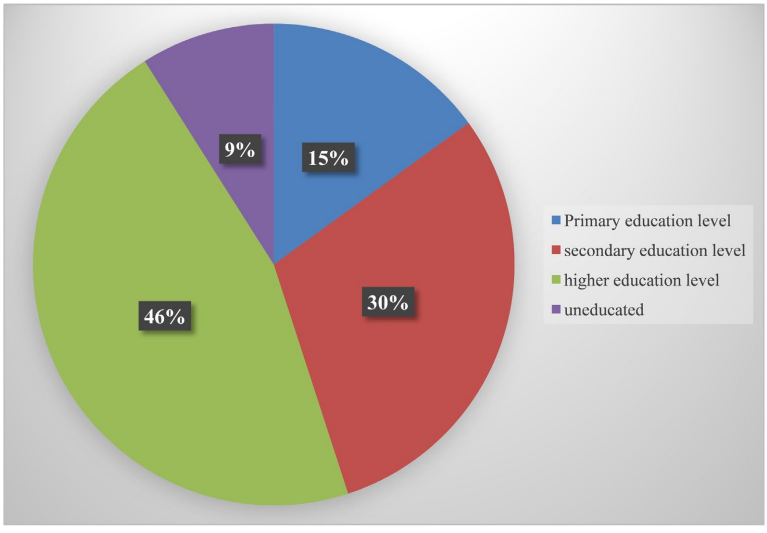

Figure 1. Distribution according to the level of education of the patients in our series.

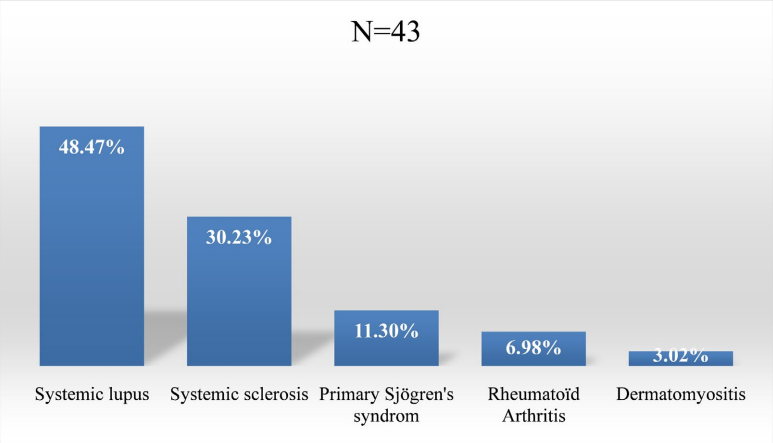

Figure 2. Main connective tissue diseases found in the series.

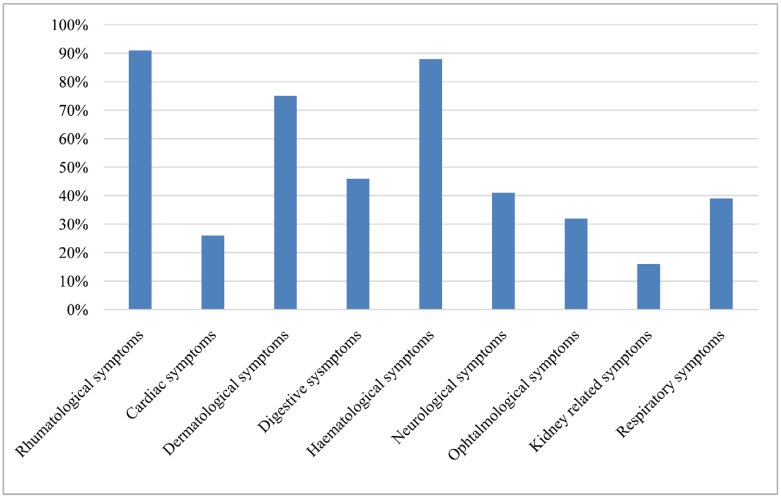

Figure 3. Main clinical manifestations found in the series.

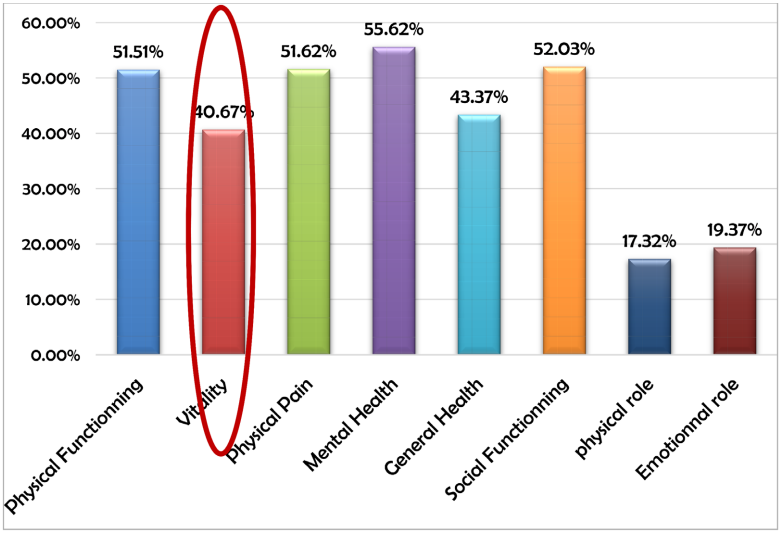

Figure 4. Average quality of life scores of patients in the series according to the SF36 scores.

Analysis of quality of life during connective tissue diseases

Primary Sjögren's syndrome was the connective tissue disease that most affected the quality of life of patients. The most affected domains were emotional limitation (0 ± 0), physical limitation (10 ± 14), vitality (27), and then social functioning (30 ± 14). Secondly, systemic sclerosis and rheumatoid arthritis were noted. Regarding rheumatoid arthritis, the physical and emotional limitation domains were the most affected (Table 2). The same is true for systemic lupus erythematosus and dermatomyositis, where the lowest scores were noted in the physical and emotional role dimensions.

Analysis of factors influencing quality of life during connective tissue diseases

Age below 35 years was associated with impaired quality of life in the general health (P = 0.008, OR = 1.12) and emotional role (P = 0.009, OR = 1.10) dimensions. Lack of professional activity was associated with decreased parameters of general health, emotional role, and social functioning. Chronicity of symptoms (less than five years) had a rather positive impact on quality of life in the mental health domain [P = 0.005, OR = 0.89] (Table 3).

Table 2. Items of the SF-36 score and different connective tissue diseases.

	SLE	RA	SSc	DM	SS
PF	55+/−19	63+/−13	47+/−29	47+/−6	33+/−20
BP	55+/−23	44+/−11	49+/−27	37+/−7	53+/−23
PR	14+/−26	0+/−0	23+/−33	17+/−29	10+/−14
GH	44+/−20	45+/−22	43+/−17	57+/−19	36+/−14
VT	43+/−20	42+/−14	39+/−21	45+/−31	27+/−15
SF	54+/−26	67+/−19	56+/−25	50+/−22	30+/−14
D	10+/−25	22+/−38	36+/−40	11+/−19	0+/−0
MH	56+/−20	71+/−26	54+/−18	69+/−21	46+/−16
PCS	42+/−22	38+/−12	41+/−27	40+/−15	33+/−18
MCS	41+/−23	51+/−24	46+/−26	44+/−25	26+/−11

PF: physical functioning BP: physical pain PR: role physical GH: general health VT: vitality SF: social functioning RE: emotional limitation MH: mental health PCS: physical composite score MCS: mental composite score. SLE: Systemic lupus erythematosus, RA: Rheumatoid arthritis, SSc: Systemic sclerosis, SS: Sjögren's syndrome, DM: Dermatomyositis.

Table 3. Summary of the different factors associated with an alteration in quality of life.

Associated factors	Under 35 years old	Evolution of symptoms for less than 5 years	Respiratory impairment	Absence of professional activity
PF	0.784	0.440	0.349	0.495
BP	0.228	0.771	0.272	0.263
PR	0.156	0.282	0.829	0.190
GH	0.008 (1.126)	0.810	0.055	0.008 (1.130)
VT	0.118	0.329	0.037 (1.076)	0.175
SF	0.898	0.275	0.551	0.036 (0.948)
D	0.009 (1.108)	0.063	0.386	0.013 (1.079)
MH	0.046	0.005 (0.890)	0.338	0.050

Regarding clinical factors, a statistical link was noted between respiratory involvement and impairment of quality of life in the domain of vitality (p = 0.037 OR 1.076). Hematological involvement exerted a weakly significant influence on quality of life in the domains of emotional (p = 0.048) and physical (p = 0.044). No influence of joint and dermatological involvement on quality of life was noted in this study.

4. Discussion

Quality of life is generally reduced during systemic diseases. The most affected areas in our study were emotional and physical roles, with proportions lower than 20%, while social functioning and mental health were the least impaired. This observation was made by REYNOLDS [10]. As for DYBALL [11], in his study, he found rather an alteration of the quality of life relating to vitality, general health, and physical pain.

Sjögren's syndrome is a condition that strongly impacts quality of life. This observation was also made by DYBALL [11] and BEN HASSINE [12], where the most altered parameters concerned physical and emotional limitation, vitality, and mental health. The Hamilton depression scale also found high scores compatible with depression in more than three-quarters of patients. The alteration of quality of life during Sjögren's syndrome is indeed a real problem that no treatment has succeeded in resolving.

Rheumatoid arthritis, as well as systemic sclerosis, which are known sources of major functional disability, are also responsible for an alteration in the quality of life relating to the physical role domains. In a study published by JRIRI in 2020 [13], rheumatoid arthritis was characterized by an alteration in the quality of life relating to the physical role, emotional role, and physical pain components. Unlike Sjögren's syndrome, the use of biotherapies has revolutionized the prognosis of patients with rheumatoid arthritis with an improvement in quality of life parameters.

Regarding lupus, several studies have shown that the quality of life of patients with systemic lupus erythematosus is reduced [14], particularly in the areas of emotional role, physical role, and physical pain. A study evaluating 63 Brazilian patients confirmed that the emotional role is a very important parameter that can even predict the prognosis of patients with systemic lupus erythematosus [15].

A study conducted at the Yalgado Ouédraogo University Hospital in Ouagadougou, Burkina Faso, also showed that systemic lupus would alter the quality of life in the different dimensions of LUPUSQOL. [16]

Regarding systemic scleroderma, there was an alteration in the quality of life, more marked in the areas of physical role, emotional role, as well as vitality. The observation is more marked in the diffuse forms of systemic scleroderma [17] [18], associated with a greater alteration in the quality of life relating to the physical domains. This reflects the significant functional impact of this condition.

Regarding the factors associated with the alteration of quality of life, in our study, it was noted that young age (less than 35 years), chronicity of symptoms (more than

five years), and lack of professional activity were likely to lead to an alteration of certain parameters of quality of life during connective tissue diseases. These parameters mainly concerned the mental health and emotional role components. This fact underlines an important element, which is the psychological care of patients during these chronic conditions.

Chronic illnesses occurring at younger age have many consequences: absenteeism which can cause impaired school results. Tekaya [19], in his study on lupus and quality of life, identified an age at the beginning of diagnosis of less than 35 years as a factor in the alteration of quality of life in the physical and mental domains. Amna Ben Hadj Ali [18], in his study of 235 cases of systemic diseases, had identified, in addition to age, the existence of comorbidities as well as a low level of education as factors associated with a poor quality of life.

His analysis is relevant, as the existence of comorbidities is a potential prognostic factor. Cardiovascular factors (hypertension, dyslipidemia, diabetes, lack of systemic exercise) also appeared to negatively affect QoL. [20] It has also been shown that depression, when coexisting with systemic diseases, can worsen their quality of life, which can compromise the medical treatment and health care [21]. The absence of a statistical study carried out in our series about comorbidities constitutes one of the weaknesses of our study. Regarding the low level of education, it is clear that this could have a remarkable impact on the quality of life of these patients, who are much more adept at manual work or in the informal sector, requiring more physical strength and vitality. In our study, almost half of the patients had a higher level, and more than half have a salaried professional activity. The absence of professional activity was associated with an alteration of the quality of life in the dimensions of general health and physical role. This observation was not made by Ben Hadj [18] in his study, but he noted that systemic diseases are frequent causes of absenteeism (31%) and are associated with a decrease in productivity. The most severe of these is systemic scleroderma; this same remark had been made by Sierakowska [22] [23]. Therefore, the existence of symptoms such as asthenia and recurrent pain can cause a reluctance of the latter to practice a professional activity.

Regarding clinical manifestations, no significant link was found between the different clinical manifestations and the alteration of the quality of life. The joint manifestations gave almost significant results. This may be because our evaluation was carried out in patients already under immunosuppressive treatment, therefore having a reduction of joint symptoms. Regarding respiratory manifestations, their influence on the vitality of the patients was noted. In the study of Ben Hadj [18], they constituted the conditions associated with a severe impairment of the quality of life, especially observed in inflammatory myopathies.

5. Conclusion

Connective tissue diseases cause considerable emotional upheaval for affected patients. The most severe of these is Sjögren's syndrome. In addition, the onset (young population), the real lack of information on the pathology, the chronicity of symp-

toms, and the impact of clinical manifestations further contribute to altering the quality of life of patients. The most altered areas are the physical, emotional role, and vitality dimensions of patients. This could lead to considerable socio-professional repercussions. It is therefore necessary to orient the paradigms of care towards a global therapeutic approach centered on the patient, which includes both treatment and psychological, social, and professional support. In the African context, where access to care and medical coverage remains limited, such multidisciplinary approaches are essential to reduce the functional and emotional burden of connective tissue diseases.

Larger studies over longer periods are needed to confirm these observations and assess the impact of targeted interventions on improving the quality of life in patients with connective tissue diseases.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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