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Research Article

Sexual Dysfunction in Tunisian Behcet's Patients: Influencing Factors

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ABSTRACT

Objectives: To evaluate the sexual activity of Tunisian patients with Behçet disease (BD) and to identify its influencing factors.

Methodology: Monocentric, Cross-sectional and descriptive study over a six-month-period gathering Behçet's patients. Data was collected from the medical records and completed in a face-to-face meeting during which each patient responded to questionnaires related to sexual activity (The Female Sexual Function Index: FSFI or The5-item version of the International Index of Erectile Function: IIEF-5 depending on gender), disease activity (Behçet Disease Current Activity Form: BDCAF) and quality of life (*Short Form* Health Survey: SF-36 and Behçet's Disease Work Instability Scale: BD-QoL). Disease severity was defined by the Kraus severity score.

Results: Thirty five patients were included: 23 men and 12 women. The mean age was 45±13.6 years. Response rate to all questionnaires was 100%. The mean FSFI score was 18, 95±11, 73 [2, 4-33,8]. The average IIEF 5 score was 20 ±5, 5 [5–25]. FSFI was impaired in 50% of women. IIEF5 was impaired in 52% of men. The sexual life of our female patients was independent of all the studied parameters. Male sexuality was positively influenced by active oral ulcers and negatively by age, marriage, and a late disease onset. There was a positive correlation between IIEF 5 and the SF-36 (r= 0.58, p= 0.004). Neither the activity nor the severity of the disease affected the sexuality of our patients. Damages didn't impact on our patients' sexuality.

Conclusion: The important rate of sexual dysfunction in both genders in spite of the absence of correlation with all factors in women suggest the role of lack of experience and compatibility issues with the partner.

INTRODUCTION

Beyond the common organic, psychologic, sociodemographic and medicinal factors, auto-inflammatory and auto-immune diseases have been recognized as risk factors associated with sexual dysfunction (SD) [1]. In this context, men's sexuality was mostly studied in ankylosing spondylodilitis and systemic scleroderma [2-11], so was women's sexuality in Rheumatoid Arthritis (RA) [12-17]. However, sexuality in Behcet's disease (BD) remain under evaluated since it was assessed in only few studies [18-22].

BD is a rare disease with a higher prevalence in Central and East Asia as well as in the Mediterranean region, including Tunisia owing its ancient name of "The Old Silk road disease". It is a chronic systemic inflammatory vasculitis commonly presented by

relapsing episodes of oral and/or genital ulcers that constitute the hallmark manifestations of BD. It can also affect other organs namely cardiovascular, ocular, nervous, gastro-intestinal, articular and cutaneous systems. Vascular manifestations in BD can affect all vessels of any type and any caliber causing endothelial inflammation that can subsequently increase the risk of SD.

The aim of our research was to evaluate the sexual activity of Tunisian patients with BD and to identify its influencing factors.

MATERIALS AND METHODS

Monocentric, Cross-sectional and descriptive study over a six-month-period (July 2016-December 2016) gathering BD patients who were hospitalized in the internal medicine department of Mongi Slim University Hospital and / or followed at outpatient consultations. We included in this study patients of eighteen years of age or above and those who fulfilled the International Criteria for Bethet's Disease (ICBD) [23].Were not included in the study patients with evolutive neoplasia and/or endocrinal condition other than diabetes mellitus, patients with benign prostatic adenoma and patients with psychiatric conditions and/or under antidepressant or anti-psychotic treatment over the preceding year. We also excluded men sexually inactive over the last six months (n=1) and single women sexually inactive over the last four weeks (n=4). The respective time periods of six months and four weeks are required by the sexual scores used for each gender [24].

This study was approved by the ethics committee of the Mongi Slim University Hospital. All the participants signed an informed consent form prior to participating in the study.

In addition to information gathered from the medical files, every patient answered four questionnaires related to sexual activity, disease activity and quality of life during a face to face meeting. These questionnaires were used in their translated version published in Tunisian dialect or written Arabic.

Sexual activity was assessed using a different score for each gender: The Female Sexual Function Index (FSFI) and The5-item version of the International Index of Erectile Function (IIEF-5). The FSFI is the most widely used tool to assess female sexual activity (24,25). It has 19 questions covering 6 different fields: desire (Q1, Q2), arousal (Q3- Q6), lubrication (Q7-Q10), orgasm (Q11-Q13), satisfaction (Q14-Q16) and pain (Q17-Q19). Thresholds of SD and of dysfunctions in the fields of the FSFI were defined as follows: FSFI≤22.7, desire≤3.6, arousal ≤3.9, lubrication ≤3.6,orgasm ≤ 3.6, satisfaction ≤3.6, and pain≤ 4.4 [18,26]. This questionnaire was used in its translated version in written Arabic [27].

The IIEF5, used in its Arabic version, is a shortened form of the 15-item version of the International Index of Erectile Function (IIEF-15) [28-30]. Four questions assess the erectile function and one question assesses the satisfaction during the sexual intercourse. Threshold above which patient is considered having an ED is considered at 21 [28,29].

Kraus severity score was used to assess disease severity, and that by weighing the different clinical manifestations of the disease [31,32].

Disease activity was assessed using the Behçet Disease Current Activity Form (BDCAF) in its 2006 version translated in Tunisian dialect [33,34]. The disease was active for patients with BDCAF >1.

Quality of life was assessed by two questionnaires. The *Short Form [36]* Health Survey (SF-36) is a generic questionnaire which was used in a translated Tunisian dialect version [35]. The other one is specific to BD: The Behçet's Disease Work Instability Scale (BD-QoL). We used the Arabic version after obtaining an official license from the University of Leeds [36].

As possible related factors to sexuality in BD, we studied sociodemographic characteristics, habits, associated chronic diseases, cumulative systemic manifestations, disease onset age, disease duration, number of hospitalizations, disease activity and severity, active clinical features, patient and clinician perceptions of disease activity, damages, treatment received at the time of the meeting and quality of life.

The data was analyzed using SPSS software version 19.0. We calculated absolute frequencies and relative frequencies (percentages) for qualitative variables. We calculated means, medians and standard deviations and determined the extreme values for the quantitative variables. Comparisons of 2 averages on independent series were made using the non-parametric Mann and Whitney's test. Comparisons of percentages on independent series were made by the Pearson's chi-square test, and in case of significance in the chi-square test and invalidity of this test and

comparison of 2 percentages, by the bilateral Fisher's exact test. The links between two quantitative variables were studied by Spearman's Rank Correlation Coefficient. In all statistical tests, the significance threshold was set at 0.05.

RESULTS

Thirty five patients were included: 23 men and 12 women (Figure 1). The mean age at the meeting was 45±13.6 years. Response rate to all questionnaires was 100%.

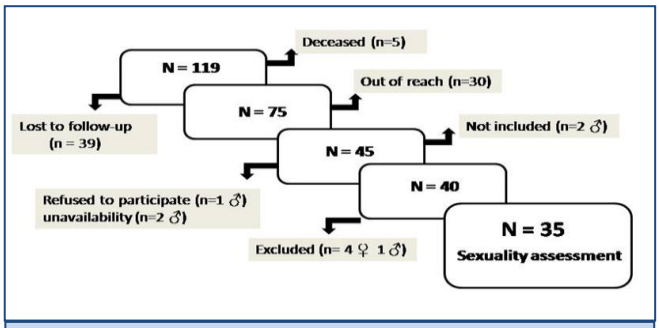

Figure 1: Flow diagram for patients' recruitment.

Demographic features, habits and associated chronic diseases are summarized in table 1. The mean age of the disease onset was 32.1±12.1 years. The mean duration of the disease was 32.1±12.1 years. The average number of hospitalizations was 3. Cumulative clinical manifestations were: oral ulcers (100%), genital ulcers (89%), cutaneous manifestations (80%), articular manifestations (26%), ocular manifestations (31%), vascular manifestations (40%) and neurological manifestations (6%).Ocular damages were found in 5 men (14%of cases). The impact on sexuality of oral ulcers in both genders and genital ulcers in women was not assessed because both manifestations were present among the entire group throughout the course of disease.

BD was active in 43% of cases. Mean BDCAF was 1.57±1.19. Active clinical manifestations were assessed (Table 2). Several active clinical manifestations were not observed: evolving gastrointestinal and major vessels involvement in all groups of patients, evolving headache in all females and ocular and nervous involvement in males. Thus, the impact of all these active manifestations on sexual activity could not be assessed in the corresponding groups.

BD was severe in 17% of cases with an average severity score at 5±1.79. At time of the meeting, the prescribed treatment was: colchicine (89%), corticosteroids (23%), azathioprine (20%), infliximab (3%), acenocoumarol (11%). Two patients were taking sildenafil before the sexual intercourse (6%). Quality of life, assessed by BD-QoL and SF-36, was impaired in 9% of cases each.

The mean FSFI score was 18, 95±11, 73 [2,4-33,8]. Eleven out of the 12 female patients had at least one altered domain (92%). The mean number of altered domains per patient was 3.16.Sexual activity was altered in 6 female patients (6/12) (50%) (Table3).The lowest average score in FSFI fields was related to arousal and pain (Table 3). Dysfunction in the fields of desire and pain was observed in 75% of our female patients (Table 3).

FSFI score and its domains were independent of all the studied parameters: sociodemographic features, tobacco, association to a chronic disease, disease duration, age of disease onset, number of hospitalizations, cumulative clinical manifestations, damages, disease activity and severity, active clinical features, patient and clinician perceptions of disease activity, prescribed treatment and quality of life (Tables 1,2,4 and 5).

The average IIEF 5 score was 20 ±5,5 [5-25]. Twelve patients had an ED (12/23) (52%). The latter was mild in 31% of cases, mild to moderate in 13% of cases andmoderate and severe in 4% each.

Age at time of the meeting and marriage negatively influenced masculine sexuality (Table 1). Alcohol and tobacco consumption, association to a chronic disease, educational level, professional status, monthly income and parenthood had no influence on masculine sexuality (Table 1). A late disease onsetadversely affects the IIEF5 (p=0.04).Sexuality of our male patients was neither related to disease duration nor to number of hospitalizations.

Cumulative clinical features had no influence on the sexuality of our male patients. Ocular damageshad no impact on the IIEF5. There was no statistical relationship between BDCAF score and IIEF5 score (Tables 2 and 4). However, men with active oral ulcers had a less altered IIEF5 score (p=0.02) (Table 2). Others active clinical manifestations had no impact on our male patients' sexuality (Table2). The latter was also neither relatedto the patient nor to the clinician perceptions of disease activity (Table 2). Severity did not influence the sexual activity of men (Table4). Treatment prescribed and sildenafil had no impact on the sexual activity of our male patients.

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Table 1: Sexuality scores according to sociodemographic features, habits and associated chronic diseases.

Parameter	%	IIEF5		FSFI		Desire		Arousal		Lubrication		Orgasm		Satisfaction		Pain	
		A (n)	NA (n)	A (n)	NA (n)	A (n)	NA (n)	A (n)	NA (n)	A (n)	NA (n)	A (n)	NA (n)	A (n)	NA (n)	A (n)	NA (n)
Age																	
≤45years	49	1	8	2	6	5	3	4	4	2	6	3	5	2	6	6	2
>45 years	51	11	3	4	0	4	0	4	0	4	0	3	1	3	1	3	1
P		**0.003**		NS													
Tobacco																	
Yes	34	7	5	1	0	1	0	0	1	0	1	1	0	0	1	1	0
No	66	4	7	5	6	8	3	8	3	6	5	5	6	5	6	8	3
P		NS															
Alcohol																	
Yes	14	2	10														
No	86	10	8														
P		NS															
Associated chronicdiseases*																	
Yes	29	6	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
No	71	6	9	5	5	8	2	7	3	5	5	5	5	4	6	8	2
P		NS															
Marital Status																	
M	83	12	7	4	6	7	3	7	3	5	5	4	6	4	6	7	3
NM	17	0	4	2	0	2	0	1	1	1	1	2	0	1	1	2	0
P		**0.04**		NS													
Education level																	
I	46	8	3	2	3	3	2	3	2	3	2	2	3	2	3	5	0
II	54	4	8	4	3	6	1	5	2	3	4	4	3	3	4	4	3
P		NS															
EmploymentStatus																	
Yes	54	5	9	4	1	5	0	4	1	3	2	4	1	3	2	3	2
No/retired	46	7	2	2	5	4	3	4	3	3	4	2	5	2	5	6	1
P		NS															
Monthlyincome																	
<SMIG	37	4	2	2	5	4	3	4	3	3	4	2	5	2	5	6	1
≥SMIG	63	8	9	4	1	5	0	4	1	3	2	4	1	3	2	3	2
P		NS															
Parenthood																	
Yes	77	11	7	4	5	7	2	7	2	4	5	4	5	4	5	6	3
No	23	1	4	2	1	2	1	1	2	2	1	2	1	1	2	3	0
P		NS															
Menopause																	
Yes	33			4	0	4	0	4	0	4	0	3	1	3	1	3	1
No	67			2	6	5	3	4	4	2	6	3	5	2	6	6	2
p				NS													

IIEF5: The 5-item version of the International Index of Erectile Function; FSFI: Female Sexual Function Index; A: altered; NA: not altered; n: number of patients; NS: non-significant; M: married; NM: Non married (Single/divorced/widowed); I: Illiterate/primary school; II: Secondary school/higher education; SMIG: Interprofessional guaranteed minimum wage

*Associated chronic diseases: at least one associated chronic disease: arterial hypertension; diabetes mellitus; and hypercholesterolemia.

Table 2: Sexuality scores according to disease activity

Diseaseactivity	%	IIEF5		FSFI		Desire		Arousal		Lubrication		Orgasm		Satisfaction		Pain	
		A (n)	NA (n)	A (n)	NA (n)	A (n)	NA (%)	A (n)	NA (n)	A (n)	NA (n)	A (n)	NA (n)	A (n)	NA (n)	A (n)	NA (n)
Disease (BDCAF)																	
Active	43	3	5	3	4	6	1	5	2	2	5	3	4	2	5	5	2
Non active	57	9	6	3	2	3	2	3	2	4	1	3	2	3	2	4	1
P		NS															
Active headache																	
Yes	3	1	0														
No	97	11	11														
P		NS															
Active oral ulcers																	
Yes	57	3	8	4	5	7	2	6	3	4	5	4	5	3	6	7	2
No	43	9	3	2	1	2	1	2	1	2	1	2	1	2	1	2	1
P		**0.02**		NS													
Active genitalulcers																	
Yes	6	0	1	1	0	1	0	0	1	0	1	1	0	0	1	1	0
No	94	12	10	5	6	8	3	8	3	6	5	5	6	5	6	8	3
P		NS															
Active skin manifestations																	
Yes	34	8	10	4	6	7	3	6	4	4	6	4	6	3	7	7	3
No	66	4	1	2	0	2	0	2	0	2	0	2	0	2	0	2	0
P		NS															
Active joint Involvement																	
Yes	43	2	2	3	2	3	2	2	3	3	4	3	2	2	3	5	0
No	57	10	9	3	4	6	1	6	1	6	6	3	4	3	4	4	3
P		NS															
Active ocular Involvement																	
Yes	3	6	4	1	0	1	0	1	0	1	0	0	1	0	1	0	1
No	97	6	7	5	6	8	3	7	4	5	6	6	5	5	6	9	2
P		NS															
Active neurological involvement																	
Yes	3	1	0	1	0	1	0	1	0	1	0	0	1	0	1	0	1
No	97	11	11	5	6	8	3	7	4	5	6	6	5	5	6	9	2
P		NS															

IIEF5: The 5-item version of the International Index of Erectile Function; FSFI: Female Sexual Function Index; A: Altered; NA: not altered; n: number of patients; BDCAF: Behçet Disease Current Activity Form; NS: non-significant

Table 3: Sexual female function assessment.

FSFI domain	Mean score	Standard deviation	Patients with altered domains N (%)
Desire	3.25	1.34	9 (75%)
Arousal	2.97	2.35	8 (67%)
Lubrication	3.02	2.43	6 (50%)
Orgasm	3.03	2.46	6 (50%)
Satisfaction	4	1.92	5 (42%)
Pain	2.66	2.49	9 (75%)

FSFI: Female Sexual Function Index

Table 4: Correlation between BDCAF, severity score and sexual scores.

	BDCAF		Severity score	
	R*	P	R*	P
IIEF5	0.24	NS	-0.26	NS
FSFI	0.13	NS	0.16	NS
Desire	-0.05	NS	0.28	NS
Arousal	0.09	NS	0.08	NS
Lubrication	0.22	NS	-0.12	NS
Orgasm	0.1	NS	0.2	NS
Satisfaction	0.28	NS	0.16	NS
Pain	0.16	NS	0	NS

BDCAF: Behçet Disease Current Activity Form; IIEF5: The 5-item version of the International Index of Erectile Function; FSFI: Female Sexual Function Index; NS: non-significant; *R: Spearman's Rho

Table 5: Correlation between FSFI, its subscales and quality of life scores.

		FSFI	Desire	Arousal	Lubrication	Orgasm	Satisfaction	Pain
SF-36	R*	-0.08	-0.18	-0.17	-0.11	-0.1	-0.3	0.13
	P	NS						
Physical functioning	R*	-0.23	-0.52	-0.15	0.12	-0.1	-0.12	-0.9
	P	NS						
Role physical	R*	-0.17	-0.08	-0.19	-0.13	-0.14	-0.11	-0.14
	P	NS						
Bodily pain	R*	-0.01	-0.14	0.13	0.17	0.03	0.06	-0.15
	P	NS						
General health	R*	-0.06	-0.07	-0.04	-0.2	-0.02	-0.19	0.05
	P	NS						
Vitality	R*	-0.13	-0.22	-0.25	-0.24	0.01	-0.05	0.11
	P	NS						
Social functioning	R*	0.12	-0.16	-0.06	0.18	0.16	0.29	0.16
	P	NS						
Role emotional	R*	-0.05	0.19	-0.02	-0.17	-0.01	-0.06	-0.12
	P	NS						
Mental health	R*	-0.03	-0.18	-0.17	-0.26	0.2	0.05	0.38
	P	NS						
BD-QoL	R*	0.31	0.58	0.17	0.037	0.15	0.24	-0.09
	P	NS						

SF-36: The Short Form (36) Health Survey; FSFI: Female Sexual Function Index; BD-QoL: The Behçet's Disease Work Instability Scale; NS: non-significant; *R: Spearman's Rho

Table 6: Correlation between IIEF5 and quality of life scores.

	IIEF 5	
	R*	**P**
BD-QoL	-3.62	NS
SF-36	**0.58**	**0.004**
Physical functioning	0.36	NS
Role physical	0.23	NS
bodily pain	0.39	NS
General health	**0.56**	**0.006**
Vitality	**0.57**	**0.004**
Social functioning	0.26	NS
Role emotional	0.09	NS
Mental health	**0.6**	**0.003**

IIEF5: The 5-item version of the International Index of Erectile Function; BD-QoL: The Behçet's Disease Work Instability Scale; SF-36: The Short Form (36) Health Survey; NS: non-significant; *R: Spearman's Rho

The SF-36, as well as its subscales related to general health, vitality and mental health, were positively correlated the IIEF5. In fact, the better quality of life was the better sexual activity in men (Table 6).

DISCUSSIONS

To our knowledge, this is the first study assessing both male and female sexuality during BD using two of the most commonly recognized questionnaires in autoimmune and inflammatory diseases: FSFI and IIEF5. It is worth noticing the complete adherence of our patients to the questionnaires even if sexuality is still a taboo subject in Arabic and Muslim countries. We showed that FSFI and IIEF 5 were impaired in 50% of women and 52% of men respectively. The sexual life of our female patients was independent of all the parameters studied. Male sexuality was positively influenced by active oral ulcers and negatively by age, marriage, and onset of illness at late age. There was a positive correlation between IIEF 5 and the SF-36 and its subscales (general health, vitality and mental health).

However, our results need to be confirmed by larger studies considering the small number of our sample.

Studies assessing male and female sexuality in BD showed an altered sexual activity in their patients compared to control groups [18–21]. Since international validated cutoffs defining SD were used in our study and that it is delicate to create a significant control group, our results were based on scores' outcomes without forming a control group.

SD in BD remains under diagnosed and several pathway mechanisms had been suggested in this matter. It is established that organic causes of SD can be related to a vascular compromise either arterial or venous. In fact, ED related to a penile vein thrombosis [37,38], a penil artery inflammation [38] or both [38] was observed. A biological mechanism involving nitric oxyde (NO) was also discussed. In fact, a decrease of NO due to an endothelial dysfunction during active phases of the disease was observed [39]. This is thought to cause SD in female patients according to Koçak M et al., since NO has been observed on clitoral tissue [18,40]. This same reasoning could be extrapolated to men, since NO is an essential mediator of erection [41]. Disorders in the central nervous system [37] or even more rarely in the neurovegetative system [42] can also be involved as organic causes of SD in BD. A psychological mechanism had also been described in both genders [18-20]. On the other hand, a hindrance caused by the clinical manifestations of the disease can alter the sexual activity of patients with BD [20]. This is the hypothesis that our study focused on.

The FSFI was the most used score in the literature to assess female sexual activity not only in BD but also in other chronic, inflammatory and autoimmune diseases [12,13,15,18,21,43-47]. The domains of the FSFI with the lowest average scores were related to arousal and pain. Three quarters of our female patients had dysfunctions in desire and pain. In Turkish studies, arousal was the most altered domain in terms of average score and dysfunctions [18,21]. Our average scores and SD frequency using the FSFI and its domains were comparable to Turkish female patients with BD. Pain was the only domain more altered in our patients [18,21].

The IIEF5 was the most used score in studies related to systemic scleroderma [7,10,45,48]. It was also used in male patients with ankylosing spondylitis [3] and RA [43]. We chose this questionnaire because, as opposed to the IIEF15, it had been translated and validated in written Arabic [29]. However, comparing our results to other papers assessing male sexual activity in BD was not simple since the IIEF15 was the only used score in these studies [19,20].

Unlike our female patients, sexuality of our male patients was negatively influenced by their age at the time of the meeting. These results were concordant with the literature since Koçak M et al., didn't find in their research any relation between sexuality and the age of their female patients [18]. As for Yildiz L et al., a negative correlation between age of their male patients and IIEF15 was observed ($r=-0.277$, $p<0.01$) [19]. On the other hand, this factor was not studied in the two other researches assessing sexuality in BD [20,21].

A late onset of the disease adversely influences sexuality in male patients. As far as we know, this factor had not yet been studied, and therefore further studies are needed to support

this hypothesis. Even if it is considered to be a risk factor of ED, the absence of impact of tobacco in sexuality had been confirmed by other studies in the literature on BD and systemic scleroderma [1,10,19]. This was not the case of male patients with inflammatory bowel disease [49]. Alcohol consumption had no impact on our male patients, unlike those with systemic scleroderma. But it is important to mention that in the latter study, a large alcohol consumption was noted [10]. Therefore SD in these patients can result from an organic cause since a large alcohol consumption can lead to atherosclerosis whereas a moderate consumption has a protective effect [50].

Similar to other studies on the same subject [18-21], our study did not find a relationship between associated chronic diseases and SD. Data on other systemic disease was more disparate; Diabetes mellitus, arterial hypertension and coronary artery disease had, on one hand, a negative impact on sexuality of patients with RA and females with systemic lupus erythematosus [46,51], but on the other hand no impact on males with systemic scleroderma [10].

According to literature, the social determinants influencing sexuality of patients with BD were the educational level and the monthly income [19–21]. In addition to these factors, we also studied the impact of marriage, professional status, parenthood and menopause.

Marriage altered the sexual life of our male patients. Yet, a large cohort reported a positive impact of marriage on male and female sexuality in the American population [52]. Further studies on men with chronic disease, BD especially, are therefore needed to investigate these contradictory results. The absence of statistical link between marriage and female sexuality in our patients was comforted by two other cohorts assessing sexuality of 195 female Taïwanese patients with RA and 46 female Dutch patients with Sjögren syndrome [15,44]. Nevertheless, a Malaysian study of 51 female patients with RA reported a negative impact of the marriage duration on the FSFI and its different domains except from desire [13].

Same as data reported by Yildiz M et al., [19] educational level had no impact on our patients' sexuality. It even seems to be a protective factor against SD in BD [20,21]. We didn't observe any statistical bond between professional status and our patients' sexuality. Further studies on this matter are needed to investigate this hypothesis. Elsewhere, conclusions were controversial. Unemployment had a negative impact on sexuality in a sample of Turkish population [26 and in female Taiwanese patients with RA [15]. At the same time, professional occupation had no impact on sexuality of female Dutch patients with Sjögren syndrome [44] and Egyptian patients with RA [43]. The financial level of our patients had also no impact on their sexuality, even though Yetkin DO et al., had reported a positive correlation between this factor and FSFI with all its domains except for arousal in female patients with BD [21]. Unlike other studies, we did not observe a correlation between menopause and SD [15,26,47,52]. Moreover, no statistical bond was found between parenthood and our patients' sexuality. Thus, among socio-demographic characteristics, habits and associated illnesses, only age and marriage influenced negatively male sexuality in our patients. Within the limits of the studied relationships in the literature, our results were broadly consistent with series relating to sexuality in BD. Sexuality was independent of all these parameters in our female patients. Elsewhere, elevated educational and financial levels positively impact on female sexuality.

Similar to some studies, disease duration had no impact on our patients' sexuality [18]. However, other studies observed a negative impact of this factor on the IIEF 15 and its different domains [19,20]. This seems reasonable since the same study had found a negative correlation between sexuality and age at the time of the interview [19]. Furthermore, the number of hospitalizations, which to our knowledge had not yet been approached in the literature, had no impact on our patients' sexuality. Cumulative clinical manifestations had also no impact on our patients' sexual activity, aside from the ones we could not assess: oral ulcers and gastrointestinal involvement in all patients, genital ulcers in female. The imputability of this factor in the SD of patients with chronic diseases is yet to be confirmed. There is actually a striking lack of conclusions in the literature. Genital ulcers can alter the sexual activity of patients with BD either by its pain and discomfort, or by a generated low self-esteem and a negative image. However, these effects had not been confirmed in the literature [18-21] neither had the ocular involvement nor the deep vein thrombosis [19,20]. Articular involvement, more severe in RA, may hamper the sexual intercourse [53]. In this context, Egyptian authors reported the negative impact of the number

of painful joints on sexuality of patients with RA [43]. Sexuality of male patients with ankylosing spondylitis was significantly altered par the morning stiffness [4,5]. As for BD, results are contradictory. Our study found no significant influence of articular involvement, so was the study of Yildiz M et al., [19]. Hiz O et al., however, observed a significant decrease of IIEF15 in patients with a history of arthritis [20]. Sexuality alteration due to functional troubles can also be seen with neurologic involvement. This aspect had not assessed in BD [18-21]. Damages, observed in our male patients, were only ocular and had no impact on their sexual activity. Drugs prescribed for BD had no impact on our patients' sexuality. Few studies were actually interested in the matter. Yildiz M et al., did not observe an impact of corticosteroids on the IIEF15 and its domains [19]. Hiz O et al., did not also find a statistical difference in terms of SD between patients with BD put on clochicine vs those on azathioprine+colchicine vs those on azathioprine+corticosteroids [20]. Elsewhere, conclusions were rare and contradictory [51,54,55].

It is worth mentioning that the absence of impact of sildenafil on the sexuality of our patients can be biased by the low number of patients under this drug (n=2).

Disease activity had no influence on our patients' sexuality. There was in fact no correlation between the BDCAF and sexual scores of our patients. Moreover, active manifestations did not interfere with sexual activity, apart from oral ulcers that were positively correlated with the IIEF5. We do not have a rational explanation for this matter. As far as we know, there are no studies correlating BDCAF with sexuality scores. However, some authors assessed the influence of active manifestations on their male patients' sexuality and could not confirm a possible bond between active oral and genital ulcers and the IIEF15 (19,20). For other inflammatory diseases, data was more interesting. In RA, apart from the Malaysian study [13], conclusions were in favor of a negative impact of disease activity on sexuality [12,15,43,51]. Similar results were also found in patients with spondylarthropathies [3,4,54] and systemic lupus erythematosus [55]. On the other hand, a study led on 43 women with Sjögren's syndrome did not find a correlation between the European League Against Rheumatism Sjögren's Syndrome Disease Activity Index (ESSDAI) and SD [44]. No significant correlation was noted between the sexual scores of our patients and the severity score. To our knowledge, this the first study correlating sexuality with disease severity in BD. Our results should be supported by further future studies. We also found a statistical bond between quality of life and sexuality of our male patients. In fact, the SF-36 and its domains related to general health, vitality and mental health were positively correlated with the IIEF5. This has been confirmed by Yildiz M al., [19]. We think that this latter study is the only one assessing this correlation in BD. Some authors noted the negative impact of the deterioration in quality of life on male sexuality in fibromyalgia [56]. Although we didn't note any correlation between quality of life and female sexuality, conclusions in the literature related to other systemic diseases were controversial. Sanchez K et al., noted a significant decrease in the mental component of the SF-36, as well as in the role physical, general health and mental health in women with systemic scleroderma and SD [45]. Van Nimwegen JF et al., had also found a negative correlation between the FSFI and the mental component of SF-36 in women with Sjögren's syndrome [44]. However, such results could not be found in patients with RA [13,14].

CONCLUSION

Throughout this study, SD was reported in nearly half of our patients with BD in both genders. Sexuality of our female patients was not related to all studied factors. Sexual activity in men was negatively influenced by age, marriage, late onset of the disease and a bad quality of life assessed by the SF-36 in both of its components. The important rate of SD in both genders in spite of the absence of correlation with all factors in women suggest the role of lack of experience and compatibility issues with the partner. Thus, sexual education remains an important pillar in ensuring a healthy sexual life. Besides, the imputability of organic infraclinical manifestations, especially endothelial, cannot be excluded since they were not studied in this research.

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