Sexuality in spondyloarthritis – the impact of the disease

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ABSTRACT

Introduction: The impact of rheumatic diseases on patients' sexual life has been gathering the attention of the scientific community over the last decade. The existing studies are scarce, especially related to spondyloarthritis, and particularly to psoriatic arthritis. Several factors associated with the disease may condition sexual function: pain, stiffness, decreased range of motion, joint swelling and extraarticular features such as fatigue, enthesopathy and cutaneous lesions in psoriatic arthritis.
Objectives: To assess sexual satisfaction and limitations in sexual activity in a cohort of patients with spondyloarthritis.
Methods: An anonymous questionnaire was performed, consisting in two parts. One part consisted in a questionnaire filled by the doctor with data on the disease; the other part was filled by the patient, with demographic data, multiple choice questions and questions to be answered through a visual analogic scale, including items approached in some validated indexes of sexual function and satisfaction assessment. Statistical treatment was performed using SPPS system, version 17.0.
Results: 76 patients with the diagnosis of spondyloarthritis were enrolled; 31 had psoriatic arthritis, 30 had ankylosing spondylitis, 9 had undifferentiated spondyloarthritis and 6 had inflammatory bowel disease spondyloarthritis. In a visual analogic scale, the perception of conditioning in the conjugal relationship was 33.68±31.56 mm; limitation on sexual activity was 32.72±31.06 mm; limitation imposed by pain, joint swelling, fatigue, stiffness, decreased range of motion, decreased libido and cutaneous lesions ranged from 29.17±28.51 mm (swelling) to 46.94±32.31 mm (fatigue); there was no significant difference between sexes, diagnose and type of involvement. A strong correlation was identified between some analysed factors and ASQoL and HAQ values, but only moderate between them and disease function and activity indexes. Most of patients did not talk about their sexual limitations with their partners or with health professionals.
Conclusion: This work highlights the impact of spondyloarthritis on patients' sexual function. The type of disease and joint involvement didn't imply statistically significant differences on the analyzed parameters in this cohort. This work also emphasizes the unawareness of health professionals towards this subject, whose approach is equally difficult to the patients, and might deserve greater attention.

Keywords: Sexual function; Spondyloarthritis.

INTRODUCTION

Spondyloarthritis (Spa) comprise a heterogeneous group of diseases, linked by some common features: involvement of axial skeleton, a pattern of assymetrical peripheral arthritis, the presence of enthesitis and dactylitis and some typical extraarticular manifestations, as well as a common genetic background.

Since spondyloarthritis present mainly on early adulthood, they might have a great impact on the individuals' quality of life, on several dimensions: working, recreational, familiar, psychological, sexual and reproductive.

Few studies have approached the impact of rheumatic diseases on patients' sexual function.

Sexual function is a broad concept that includes physical, sociological, cultural and psychological aspects; all of them may have a direct or indirect impact on sexual activity, influencing the individual conceptions, the libido, the sexual performance itself. Araujo *et al*[1] recently reviewed the impact of several rheumatic diseases in sexuality, including rheumatoid arthritis,

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spondylarhtritis, systemic eritematous lupus, systemic sclerosis, Sjögren syndrome, vasculitis and inflammatory myopathies. Conclusions are as heterogeneous as are the analyzed diseases in its presentation and physiopathology. However, some transversal conclusions arise: on the one hand, rheumatic diseases may contribute, in several ways, to sexual dysfunction, which is rarely addressed by health professionals; on the other hand, the knowledge of the real extent of the problem requires a more systematic approach, with the use of validated tools, in order to promote solid evaluation and intervention strategies. Another recent study from Ferreira *et al*[2] evaluated the prevalence of sexual dysfunction among women with rheumatic diseases, as assessed by the Female Sexual Function Index (FSFI)[3]. They found a low prevalence of sexual dysfunction (18.4%), but about a quarter of patients reported no sexual activity in the former 4 weeks.

So far, rheumatoid arthritis (RA) has been the most extensively approached rheumatic disease in the perspective of sexuality. Several studies demonstrated the negative impact of the disease in patients' sexual lives[4-6]. In 2003, Hill *et al*[4] described that 56% of a cohort of patients with RA were limited on sexual, mainly due to fatigue and pain. Abdel Nasser et al5 found a high prevalence of sexual disability and insatisfaction in a cohort of 52 women with RA, with significant relation with Health Assessment Questionnaire (HAQ) value, presence of hip disease, pain and depression. A later case-control study from van Berlo *et al*[6] concluded that even though sexual satisfaction was equivalent between patients with RA and controls, patients were less sexually active and that up to half the patients had trouble with their joints during sexual activity. A recent case control study from Yilmaz H *et al*[7] showed a significant higher prevalence of sexual dysfunction amongst patients with rheumatoid arhtritis, compared to healthy controls. Since the problem has been recognized, a specific assessment tool has been suggested[8] and some concerns have been raised towards the health professionals approach to the subject[9].

The impact of ankylosing spondylitis (AS) on sexual function has recently gathered the investigators' attention. Two cross sectional studies, from Cakar E *et al*[10] and Healey EL *et al*[11], reported an important percentage of AS patients mentioning that the disease negatively affected their sexual lives. A recent case control study from Demir SE *et al*[12] revealed a significantly higher rate of low sexual function in females with AS compared to a healthy control group, according to the FSFI. Another study, from Ozkorumak E *et al*[13], demonstrated that Glombok-Rust Sexual Satisfaction Scale (GRSSS)[14] score was significantly higher in male patients with AS compared to a healthy control group. However, it is still uncertain if AS correlates with higher prevalence of erectile dysfunction in male patients[15,16].

In contrast, the impact of psoriatic arthritis as well as inflammatory bowel disease spondyloarthritis in sexuality has been a neglected concern, and, to the date, no studies on the subject have been specifically conducted.

OBJECTIVES

The authors intended to assess sexual function and satisfaction in patients with spondyloarthritis; to analyze and compare the impact that different factors related to the disease might have on sexual relationships; to examine patients' attitude towards their limitations; and finally, to search for eventual relations between disease duration and activity and function indexes and the impact on sexuality.

METHODS

A cross-sectional study was run. Patients with spondyloarthritis were recruited from an outpatient Rheumatology clinic. Two anonymous patient-matched questionnaires were answered: one answered by the doctor and another one answered by the patient.

The questionnaire filled by the doctor included information on the disease: diagnosis, type of joint and extraarticular involvement, disease activity indexes (Bath Ankylosing Spondylitis Disease Activity Index in axial spondyloarthritis and/or Disease Activity Score – 28 joints in peripheral disease), function indexes (Bath Ankylosing Spondylitis Function Index in axial disease and Health Assessment Questionnaire in peripheral arthritis) and Bath Ankylosing Spondylitis Metrology Index measurements. Relevant comorbidities were also identified.

The questionnaire filled by the patient included demographic data such as sex, age, height and weight, civil status, education and current professional status. Age of first symptoms was also addressed here. Since the existing indexes to determine sexual satisfaction don't consider the peculiarities associated to rheumatic diseases in particular, none of them was applied.

Questions relating to conjugal relationship in general and sexual function in particular were answered in one of three ways: a visual analogic scale, multiple choice and yes/no options. Some of these questions were adapted from validated sexual function indexes, such as the Female Sexual Function Index (FSFI).

A descriptive analysis of the variables was conducted. Statistical analysis was performed using SPSS version 17.0. Mann-Whitney and Kruskall-Wallis test was used to compare continuous variables among groups; Spearman's correlation was used to identify potential associations among continuous variables.

RESULTS

All outpatients with spondyloarthritis visiting our Rheumatology clinic in a 3-month period were addressed; amongst them, 76 answered the questionnaire; 40 were male, 35 were female and 1 unknown. Mean age was 46.08±12.08 years; mean body mass index was 25.94±3.48 kg/m^2. Concerning civil status, 74% of patients were married and 10% were cohabiting; the remaining 16% were single, widowed or other. Most of patients were currently professionally active (72%); 11% were unemployed and 16% were retired (7% as consequence of the disease).

The most frequent diagnosis was psoriatic arthritis (31 patients: 21 males ad 10 females), followed by ankylosing spondylitis (30 patients: 16 males and 14 females), undifferentiated Spa (9 patients: 2 males, 6 females, 1 unknown) and inflammatory bowel disease associated Spa (6 patients: 1 male and 5 females). According to the type of articular involvement, 44% of the patients presented an exclusively axial disease, 26% had exclusive peripheral joint disease and 30% present with both axial and peripheral involvement. Mean disease duration was 12.17±10.32 years.

As significant comorbidities potentially affecting sexual performance, 5 patients had diabetes mellitus and 8 had anxiety or depression disorders.

Amongst patient with peripheral disease, 17 were taking metothrexate (and 3 of these were also under low dose glucocorticoids), 15 were taking sulphassalazine, 5 were taking both and 3 were under anti-TNF. Patients with axial disease were medicated with NSAIDs (38) or anti-TNF[11].

In patients with axial disease, mean BASDAI was 3.12±2.41, mean BASFI was 2.72±2.42 and mean ASQoL was 4.39±4.62. In patients with peripheral disease, mean HAQ was 0.60±0.55 and mean DAS28 was 2.24±0.95. Overall pain visual analogic scale was 2.71±2.13.

Regarding questions related to sexual activity, they were not applicable to 6 patients (7.9%), who probably had no sexual activity.

When questioned about sexual desire, 44 patients stated that they had felt it few times, hardly ever or never at all in the prior week.

Table I shows medium visual analogic scores (100 mm scale) for the questions asked on sexual life. Patients were also asked which factors specifically conditioned their sexual life; the results are shown in Table II.

None of these parameters was significantly different among different education levels and presence/absence of comorbidities. None of the therapies influenced significantly influenced the values obtained.

Regarding gender, females pointed a significantly greater impact of fatigue and decreased range of motion in sexual activity.

Different diseases did not account for significant differences in the analyzed parameters, except in the cases of the importance given to sexual capacity (significantly lower in patients with and inflammatory bowel disease associated Spa).

No correlation was found between disease activity indexes and the potential factors affecting sexual activity. However, a moderate or strong correlation was found between activity, function and quality of life indexes and the notion of the interference of the disease in the conjugal and sexual relationships, as shown in Table III.

Hip involvement, as a potential factor of major discomfort and impairment in sexual activity, was also considered. Only 4 patients had hip involvement (2 with As, 1 with PsA and 1 with inflammatory bowel disease associated Spa). They didn't have a either a significantly higher limitation on sexual activity (p= 0.404) and joint stiffness and decreased range of motion did not have a greater impact on sexual activity (p= 0.404 and p= 0.792, respectively).

Among the 76 patients, 40 stated that they didn't discuss with their partner the effect of the disease in sexual relationship; however, only 7 lacked understanding from the partner towards that subject; 11 patients believed that their medication interfered with their sexual life.

When asked if the topic of sexual life had ever been approached by any health professional, 66 patients answered they hadn't; 58 patients said they had never tal-

TABLE I. VAS FOR QUESTIONS ON SEXUAL LIFE

	Medium VAS (global)	Medium VAS (males)	Medium VAS (females)	p	Medium VAS (PsA)	Medium VAS (AS)	Medium VAS (UnSpa)	Medium VAS (IBD-Spa)	p
In the last 4 weeks, what was your level of satisfaction with your sexual life, in general?	52.28±30.99	57.62±29.89	48.03±30.99	0.290	57.83±31.48	53.50±30.93	32.38±29.87	50.80±29.96	0.232
How much do you think your disease conditions your conjugal relationship?	27.74±24.88	27.34±25.83	39.88±36.26	0.251	30.79±28.52	36.07±33.64	42.00±37.02	24.20±27.08	0.798
How much do you think your disease limits, in any way, your sexual relationship?	30.17±17.39	28.89±27.65	36.00±34.49	0.356	33.04±30.79	30.93±30.96	39.22±37.28	34.33±31.00	0.938
How important is your sexual capacity for you?	81.65±20.56	79.86±24.50	69.59±26.89	0.498	81.12±26.02	75.21±20.47	45.11±17.81	90.67±8.94	0.000

TABLE II. POTENTIAL FACTORS AFFECTING SEXUAL RELATIONSHIP

	VAS score	Medium VAS (males)	Medium VAS (females)	p	Medium VAS (PsA)	Medium VAS (AS)	Medium VAS (IBD-Spa)	Medium VAS (UnSpa)	p
Fatigue	48.30±31.14	39.14±29.89	54.85±33.60	0.049	43.00±26.92	37.96±30.58	52.83±36.58	44.00±25.50	0.209
Joint and muscle pain	41.96±25.60	36.06±30.15	46.29±26.32	0.167	37.13±32.68	18.29±20.57	33.50±31.08	43.25±29.78	0.682
Joint stiffness	39.13±27.97	36.09±29.09	50.59±31.41	0.339	.17346.80±32.88	42.97±33.16	73.33±24.02	44.67±30.40	0.824
Decreased libido	37.70±33.51	30.49±29.39	53.03±35.05	0.075	39.00.4924±29.07	44.82±32.90	43.67±24.53	51.56±35.03	0.074
Decreased range of joint motion	36.52±28.26	34.49±27.35	54.91±31.76	0.045	40.25±29.89	42.71±30.39	62.83±32.37	54.11±35.15	0.279
Swollen joints	31.17±21.20	30.81±35.36	42.89±38.66	0.107	39.92±35.92	33.14±31.57	66.00±27.81	58.89±32.88	0.076
Psoriatic skin lesions (in psoriatic arthritis)	29.83±33.33	23.09±27.08	35.62±28.98	0.766	36.50±36.40				

TABLE III. CORRELATIONS BETWEEN ACTIVITY, FUNCTION AND QUALITY OF LIFE INDEXES AND CONDITIONING OF CONJUGAL AND SEXUAL RELATIONSHIPS. CORRELATIONS WERE CONSIDERED STRONG WHEN >0.6 AND SIGNIFICANT WHEN P>0,05, AND WERE SIGNED WITH *

	In the last 4 weeks, what was your level of satisfaction with your sexual life, in general?	How much do you think your disease conditions your conjugal relationship?	How much do you think your disease limits, in any way, your sexual relationship?
BASDAI (n=46)	ρ = -0.312, p = 0.042	ρ = 0.519, p = 0.000	ρ = 0.612, p = 0.000*
BASFI(n=46)	ρ = -0.281, p= 0.064	ρ = 0.500, p = 0.000	ρ = 0.558, p =0.000
ASQoL (n=26)	ρ = -0.358, p = 0.149	ρ = 0.544 , p = 0.004	ρ = 0.513, p = 0.007
HAQ (n=14)	ρ = -0.246, p = 0.493	ρ = 0.778 , p = 0.005*	ρ = 0.724, p = 0.012*
DAS28 (n=23)	ρ = -0.025, p = 0.926	ρ = 0.163, p = 0.517	ρ = 0.103, p = 0.683
Pain VAS (n= 19)	ρ = 0.367, p = 0.367	ρ = 0.379, p = 0.133	ρ = 0.420, p = 0.193

ked about eventual problems in sexual relationship with anyone, and only 10 had questioned a doctor.

DISCUSSION

Although many advances have been reached in the last years in the area of spondyloarthritis, the peculiar aspect of sexuality in these patients has barely been approached.

In fact, the studies are scarce, which might be due to several factors. First of all, both health professionals and patients feel quite embarrassed to talk about such a personal issue, and sexuality remains a neglected topic on outpatient visits. Besides that, the lack of specific tools to evaluate the limitations imposed on sexual activity by the disease makes it difficult to evaluate the extent of the problem. Actually, the existing indexes to assess sexual function include many topics which may contribute to a dysfunction in sexual life, but none of them comprises the specific factors that may limit sexual activity in spondyloarthritis patients.

However, the growing concern about quality of life in chronic diseases, such as rheumatic diseases, has underlined the need of looking at the patient in its whole dimension. As presented in our study, patients attribute great importance to their sexual capacity, underlining how important it is for their well being.

In our study, fatigue was the most limiting factor in sexual relationships, closely followed by joint and muscle pain. This result is closely related to the observation from Hill *et al*[4], where more than a half of patients mentioned fatigue as a limiting factor in sexual activity.

However, comparisons between studies are difficult: since an objective measurement of the impact of rheumatic diseases on sexuality is not possible, studies tend to be more descriptive and to adopt different ways to evaluate the different parameters.

One of the limitations of this study was the fact that levels of anxiety and depression weren't assessed. In fact, they have been repeatedly reported as one of the most important factors contributing to poor sexual ability, as shown by several studies where Beck Anxiety Inventory (BAI) and Beck Depression Inventory (BDI) levels correlated with poor levels of sexual function[10,12,13,17].

Other important limitations were the small number of individuals, the heterogeneity of the cohort (with different diseases and involvements) and the lack of a control group. The short sample of patients might explain why no strong correlations were found between disease activity and function indexes and sexual function. In fact, studies on sexuality in AS patients demonstrated that higher levels of BASDAI and BASFI correlated with larger impact on sexual relationships[10,11,16]. However, quality of life indexes were significantly impaired in patients who revealed greater limitations in conjugal and sexual relationships, as demonstrated in the study from Abdel-Nasser et al[5], demonstrating that the sexual impact of the disease might have a subtle and non recognized negative influence on individuals' well being.

The use of standardized sexual function indexes both in patients and in a control group of healthy subjects would enable a true perception of how Spa patients' sex lives are more affected than in general population.

CONCLUSION

Multiple factors contribute to limitations in Spa patients sex lives – while psychological factors might also play a role, specific factors related to the disease may influence sexual relationship in different ways and these limitations indeed condition patients' quality of life.

Our study included patients with psoriatic arthritis, a population that clearly has been excluded from studies evaluating sexual function in rheumatic diseases. Even though no significant differences were identified in these patients compared to patients with other Spa, and given the multiplicity of features of the disease that may interfere with sexual relationships, the authors believe that this should deserve more extensive studies.

This study also highlights the unawareness of health professionals towards an issue that might be difficult to approach, but must not be ignored, since it may become a major source of discomfort to the patients.

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