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Sexual dysfunction in fibromyalgia patients

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ABSTRACT

Objective. *To investigate the prevalence of sexual dysfunction in female patients with fibromyalgia (FM), the impact of FM on sexual activity and the factors associated with sexual dysfunction in these patients.*

Methods. *Thirty-one consecutive women with FM were enrolled; two groups of 20 aged-matched healthy women and 26 patients with rheumatoid arthritis (RA) were used as controls. Demographic features were recorded in all patients. A cross-sectional analysis of pain (100-mm VAS scale), anxiety and depression (as determined by the STAI and Beck Depression Inventory scales, respectively) was performed. Sexual function was assessed by the Changes in Sexual Functioning Questionnaire (CSFQ).*

Results. *FM and RA patients showed a significantly higher rate of sexual dysfunction compared to healthy controls. Sexual dysfunction was more frequent among FM patients (97%) than in RA patients (84%) but without statistical differences. A univariate analysis showed that age (p=0.0002), marital (p=0.036) and work status (p=0.048), pain intensity (p=0.007), level of anxiety (p=0.002), level of depression (p=0.0005), were significantly associated with sexual dysfunction in FM. However, only the intensity of depression was associated with the sexual dysfunction in patients with FM in the multivariate analysis (p=0.012).*

Conclusions. *Sexual function was very frequently and severely affected in patients with FM and this impairment appeared to be particularly associated with the degree of depression. The recognition of this dysfunction and its inclusion for the multidisciplanary management of FM may contribute to improve quality of life of these patients.*

Introduction

Fibromyalgia (FM) is a common chronic disorder affecting predominantly women and characterized by widespread pain and fatigue that may cause severe disability and impairment of quality of life. Sexual life is recognized as an important dimension of quality of life and it may be affected by different physical and psychosocial problems. (1-4). Sexual dysfunction has been studied in different chronic conditions but, although sexuality is considered an important domain of quality of life, sexual dysfunction in patients with FM has received relatively little attention and has rarely been addressed in the medical literature. We have investigated the prevalence of sexual dysfunction in female subjects with FM and the impact of this disease on the sexual activity as well as the main factors associated with sexual dysfunction.

Materials and methods

A cross-sectional analysis of pain, anxiety, depression and sexual dysfunction was performed in 31 consecutive women with FM, according to the 1990 criteria of the American College of Rheumatology (ACR) (5), who were attending a rheumatology unit in a primary setting. Twenty aged-matched women consulting their general practitioners for minor illness (*e.g.*, flu symptoms or gastroenteritis) and who were otherwise healthy were invited to participate as a control group. We also included a second control group made up of female patients with rheumatoid arthritis (RA) according to the ACR criteria (6). As RA is an inflammatory joint disease associated with chronic pain and affecting physical function and quality of life, we included female RA patients without significant disability (functional class I-II) as an additional comparative group in order to evaluate possible differences in the sexual dysfunction profile between these two very different conditions and as a reference to balance results between FM patients and the general population. Study entry was sequential in all groups. Women with gynecologic, hormonal, neurologic or any other condition known to affect sexual function were excluded. The study had ethics approval and signed consent was obtained from all participants.

Demographic features, including age, marital status and educational level were recorded in all patients. Current level of pain was evaluated using a 100-mm VAS scale. Anxiety and depression were determined using the self-reported and validated State-Trait

Anxiety Inventory (7) (STAI) and Beck Depression Inventory (8) (BDI) scales, respectively. For the analysis of depression we used a cut-off of 19 as the score defining the presence of moderate to severe depression on the BDI. The Changes in Sexual Functioning Questionnaire (9) (CSFQ) was used to assess sexual dysfunction. The CSFQ is a validated, self-reported measure of sexual dysfunction comprising 30 items in 5 domains (desire/frequency, desire/interest, pleasure, excitation and orgasm). The scores of the 5 domains and the global CSFQ score were calculated. We defined sexual dysfunction on standard bases (CSFQ global score ≤40). Patients were asked if they were taking psychiatric medication chronically (>6 weeks) and the type of psychotropic drugs were recorded.

Statistical analysis

Group comparisons were performed using Chi-squared test. However, if cell of table had few expected cases (>5), Fisher's exact test was used. All continuous variables were compared between groups by *t*-Student test. Finally, a multivariate analysis was performed to determine which variables were associated to sexual dysfunction in FM patients. A *p*-value <0.05 was considered statistically significant.

Results

No significant differences were found regarding the demographic features of the three groups, marital status or education level (Table I). Patients with both fibromyalgia and RA had a significantly lower employment rate compared with healthy controls. Patients with fibromyalgia showed an employment rate not statistically significant lower than that of female patients with RA (16% *vs*. 36%).

In this study, the FM and RA groups showed a significantly higher percentage of sexual dysfunction compared to healthy controls. Nearly all patients with FM (30/31, 97%) had sexual dysfunction, a percentage slightly higher than RA patients (84%), but without statistical differences (Table II). Overall, these results were applicable to all domains of CSFQ, with FM and RA patients having significantly lower scores compared to controls. The CSFQ scores in all domains were worse in FM than in RA patients, although without statistical differences (Table II).

Patients with FM showed a significantly higher pain score compared to both RA (79.4 *vs*. 44.4 p=0.0001), and control groups (79.4 *vs*. 35, p=0.0001). The percentage of patients with moderate to severe depression among patients with FM was very high (77.4%) and significantly higher than in RA (29%, p<0.0002) and controls (8%, p< 0.0001). Moreover, the intensity of anxiety and depression, as measured by STAI and BDI scores respectively, were also significantly higher in FM patients compared to RA patients and controls (Table II). Most FM patients (83%) were on treatment with psychotropic drugs, compared to 32% and 8% of RA patients and healthy controls, respectively (p<0.0005 *vs*. FM patients). The percentage of patients with FM taking anxiolytics was 22.6%, 25.8% were on antidepressants and 38.7% were taking both. All patients on psychotropic drugs were receiving them on a chronic basis (>6 weeks) and tricyclic antidepressants or selective serotonin receptor inhibitors taken were within standard doses.

In the univariate analysis the following factors were found to be significantly associated with sexual dysfunction in FM patients: age (p=0.0002, r=-0.4), pain intensity (p=0.007, r=-0.5), anxiety level (p=0.002, r=-0.5), level of depression (p=0.0005, r=-0.6) and marital (p=0.036) and work status (p=0.048). Interestingly, psychotropic drug usage was not significantly associated with sexual dysfunction in the univariate analysis. In the multivariate analysis, only the intensity of depression as measured by the BDI score was independently and inversely associated (p=0.012) with the sexual dysfunction in patients with FM.

Table I. Demographic characteristics of the fibromyalgia (FM), rheumatoid arthritis (RA) and control groups.

	FM (n=31)	RA (n=26)	Control group (n=20)
Age (mean ±SD)	49.6 ± 7.5 yrs	50.6 ± 10.1 yrs	45.9 ± 8.5 yrs
Marital status			
single	0 (0%)	1 (4%)	2 (10%)
married	27 (87%)	20 (70%)	14 (70%)
separated/widowed	4 (13%)	4 (16%)	4 (20%)
Level of education			
none	13 (42%)	13 (52%)	9 (45%)
elementary	13 (29%)	10 (40%)	8 (40%)
higher education	9 (29%)	2 (8%)	3 (15%)
Work status			
employed	5 (16%)*	9 (36%)*	15 (75%)
unemployed	10 (32%)	6 (20%)	5 (25%)
temporary disability	8 (26%)	9 (36%)	0 (0%)
invalidity	8 (26%)	2 (8%)	0 (0%)

*p<0.0001 FM *vs*. control, p<0.0001 RA *vs*. control

Discussion

Our study clearly showed that female patients with FM had a severe impairment of the sexual function compared to age matched healthy controls. The values observed in these patients were otherwise similar to those observed in patients with a recognized organic disease such as RA. This impairment of sexual activity in patients with FM appeared to affect all domains, which is agreement with previous published data (10, 11).

Patients with FM certainly experience widespread pain, which is known to be a factor associated with sexual dysfunction (1), but they also suffer different health problems that may influence sexual function, such as altered sexual response cycle (2), sleep disorders, fatigue and low physical activity level (12) or low self-esteem and psychiatric comorbidity. Most patients with FM have a certain degree of anxiety or/and depression (13-15) and both conditions are known to be related to a reduced

Table II. Pain VAS, STAI, BDI and CSFQ scores and subscores of CSFQ in the fibromyalgia (FM), rheumatoid arthritis (RA) and control groups.

	FM (n=31)	RA (n=26)	Control (n=20)	FM *vs.* RA *p*	FM *vs.* C *p*
VAS Pain Scale (0-100 mm)	79.4 ± 19.4	44.4 ± 23.6	35 ± 26.5	*p*<0.0001	*p* <0.0001
STAI	44.5 ± 9.7	28.5 ± 14	23.8 ± 11.5	*p*=0.0002	*p* <0.0001
BDI	27.6 ± 11.7	13.5 ± 9.1	9.4 ± 8.6	*p*<0.0001	*p* <0.0001
CSFQ below normal (<41), %	97%	84%†	55%	ns	*p* <0.0001
- CSFQ Global score	23.3 ± 10.4	27 ± 10.5	40.7 ± 11.4	ns	*p* <0.05
- Desire – frequency (normal ≥6)	4.1 ± 1.3	4.4 ± 1.9	7.1 ± 1.2	ns	*p* <0.05
- Desire – interest (normal ≥9)	3.9 ± 1.5	4.5 ± 1.9	8.1 ± 3.4	ns	*p* <0.05
- Pleasure (normal ≥4)	2.2 ± 1.1	2.2 ± 1.1	3.6 ± 0.9	ns	*p* <0.05
- Excitation (normal ≥12)	6.3 ± 2.7	6.4 ± 3.1	10.8 ± 1.4	ns	*p* <0.05
- Orgasm (normal ≥11)	5.5 ± 3.7	6.8 ± 3.9	10.9 ± 2	ns	*p* <0.05

All results are expressed as mean ± SD.
† <0.05 *vs.* control group.
VAS: Visual Analogue Scale; STAI: State-Trait Anxiety Inventory; BDI: Beck Depression Inventory; CSFQ: Changes in Sexual Functioning Questionnaire.

sexual function (16, 17). However, the investigation of the role of depression in the sexual dysfunction of patients with FM has resulted in conflicting results. In a recent study by Aydin *et al*. (10), sexual dysfunction in FM was significantly more frequent than in healthy controls and female sexual function showed significantly negative correlation with depression and anxiety scores. On the other hand, Tikiz *et al*. (11) reported in a previous study that only widespread pain was associated with sexual dysfunction in FM and that the coexistence of major depression had no additional negative effect on sexual function.

In our study, patients with FM had a significantly higher degree of pain, anxiety and depression compared to patients with RA and healthy controls. However, only the degree of depression as measured by the BDI was independently associated with sexual dysfunction in our FM patients. Patients with FM and depression are known to develop more prominent and refractory symptoms and in the case of sexual activity it is difficult (or practically impossible) to evaluate whether is depression or FM the main factor leading to sexual dysfunction. Another factor to be taken into account is psychiatric medication, both as a reflection of depression severity and also as these medications may also affect sexual function. In this sense, although psychiatric therapy was more frequent in FM patients than in the other groups, this was not associated with sexual dysfunction. The high prevalence of depression in the group of FM and the strong influence of this factor on the sexual function of these patients may explain the lack of association between psychiatric therapy and sexual function.

The present study has some limitations. First, only female patients were included. However, almost 90% of FM patients in clinical practice are females. Second, in this study we have analyzed only some of the factors that may be implicated in the sexual dysfunction of FM. Although the factors studied in this work are among the most important and usually considered, the physiopathology of FM is very complex and many factors, involving biological and psychosocial components, have been implicated in the sexual dysfunction in FM patients (1, 4, 18-20). However, the main limitation in order to draw definitive conclusions on the role of depression in the sexual dysfunction in FM is the cross-sectional nature of the study and the high prevalence of depression (and its strong influence on sexual function) and antidepressant therapy in the FM group. In order to completely exclude a role of psychiatric medication in the sexual dysfunction of FM patients all patients receiving such drugs should be excluded or the percentage of psychiatric medication used should be similar across groups, which appears to be very difficult given the population studied and the cross-sectional nature of the study.

In conclusion, sexual function is severely and very frequently affected in patients with FM and this impairment appears to be particularly associated with the degree of depression. The recognition of this dysfunction and its inclusion in the multidisciplanary approach to the treatment of FM may help to improve the quality of life of these patients.

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