Sexual Dysfunctions and Lower Urinary Tract Symptoms in Females with Rheumatoid Arthritis

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ABSTRACT

Introduction: Rheumatoid Arthritis (RA) has profound impact on quality of life. This study aimed to evaluate sexual dysfunctions and urinary symptoms in female RA patients and their association with various disease and patient factors.

Material and Methods: In this prospective case control study, 73 females with RA were compared to 50 controls using Female Sexual Function Index (FSFI), Core Lower Urinary Tract Symptoms Score (CLSS), Core Lower Urinary Tract Symptoms -Quality of Life Score (CLSS-Q), Hospital Anxiety and Depression Scale (HADS) and a global question for overall relationship with their partners. Clinical Disease Activity Index (CDAI) was also assessed in RA group. Chi-square test/fisher exact test, unpaired t-test and univariate and multivariate binary logistic regression analyses were used to analyze the data.

Results: Sexual dysfunction, anxiety, depression, altered overall relationship with partner and bothersome LUTS were significantly ($P < 0.05$) higher in the RA group as compared to controls. RA group had significantly ($P < 0.05$) lower mean full scale - FSFI score and higher mean CLSS score. Sexual dysfunction in RA was associated with higher age, higher CLSS and higher urinary bother score (CLSS-Q) ($P = 0.039$, 0.027 and 0.039 respectively). Bothersome LUTS were associated with higher CDAI, higher CLSS, lower desire and poor arousal ($P = 0.035$, <0.0001, 0.017 and 0.001 respectively).

Conclusions: In females with RA, sexual dysfunction and bothersome LUTs are substantial problems. Their assessment may be warranted in RA patients, especially those with higher age and higher disease activity.

Keywords: rheumatoid arthritis, sexual dysfunction, lower urinary tract symptoms, quality of life, arthritis.

INTRODUCTION

RA is a chronic, systemic, inflammatory disease of unknown etiology that can affect almost every domain of life, including sexual and urinary functions. While the physical problems of RA are the main issues of treatment for patients and physicians, the sexual dysfunctions and urinary symptoms associated with RA are often overlooked. They have widespread social implications, causing discomfort, shame and loss of confidence, which negatively affect their quality of life. RA is reported to adversely affect sexual function in female patients[1,2] and impact on urinary symptoms is not well studied. Responsible patient related, disease related and other factors have not been well described in literature. The potential reasons for under diagnosis of sexual dysfunctions and urinary symptoms in RA may be: (i) patients fail to report the complaints because of shame or frustration and/or, (ii) this subject is rarely called into question by treating physicians.[3] The apparent lack of interest of the doctor in relation to these issues could be explained[4] by many factors like constraints in consultation time due to over burden, uneasiness during discussion (both by the physician and the patient), and uncertainties about physicians role and relative competence on the issues.

The sexual response cycle in women consists of the following phases[5]: desire, excitation, orgasm and resolution. Sexual dysfunction is an inability to complete the sexual act because of the reduction in sexual drive, arousal or orgasm causing marked distress and interpersonal difficulties.

In women with RA, reasons for disturbances in sexual functioning are multifactorial; include aspects related to the disease itself as well as the treatment. Possible factors which can influence the sexual function include pain, stiffness, decreased mobility of joints and muscle strength, fatigue, perception of a negative body image, anxiety and depression. Drugs used in the treatment of RA may also lead to sexual dysfunction. There are reports of sexual dysfunction related to use of methotrexate including decreased libido. Corticosteroids may influence sexual function by change in body image, depression and psychosis. Medications used to treat comorbid conditions such as fibromyalgia can also influence sexual function in RA patients like tricyclic antidepressants and serotonin reuptake inhibitors may affect libido and orgasm.

The aim of this study was to evaluate sexual dysfunctions and urinary symptoms in females with RA as compared to healthy age and sex matched controls. Further, the association of sexual dysfunctions and urinary symptoms to patient and disease related factors (age, disease duration, disease activity and psychological status) was assessed in RA patients.

MATERIAL AND METHODS

This prospective case control study was conducted between March 2014 and December 2015, at the rheumatology department of a tertiary care teaching institution. A total of 123 female subjects were recruited based on inclusion/exclusion criteria. Institutional ethics committee approval for the study and written informed consent of participants were taken prior to start the study. Of these, 73 were confirmed cases of RA (age range: 21–50 years) who fulfilled the American College of Rheumatology/European League Against Rheumatism (ACR/ EULAR) 2010 criteria[6] for RA and 50 were healthy

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controls matched for age and sociocultural status. Inclusion criteria included: married and/or sexually active females who volunteered for participation in the study after explanation of the purpose of the study. Exclusion criteria were uncontrolled other major medical illnesses like diabetes, any neurological involvement and psychological disorders and known drug or alcohol dependence. Age, disease duration, any addiction and other comorbidities were recorded. Patients were subjected to full history taking and a thorough clinical examination. All of the patients were receiving medical treatment for RA (either hydroxychloroquine, sulfasalazine, methotrexate, alone or combinations of them). All participants self-filled the following questionnaires: (i) Female Sexual Function Index[7] (FSFI); (ii) Core Lower Urinary Tract Symptoms Score[8] (CLSS); (iii) Hospital Anxiety and Depression Scale[9] (HADS) questionnaires for psychological health; (iv) Clinical Disease Activity Index (CDAI)[10] were assessed in RA patients to assess the disease activity; and (v) A single question questionnaire regarding deterioration of overall relations with partner, that is, 'Do you feel that your overall relationship with your partner has deteriorated because of your health-related reasons? – Yes/No '.

The FSFI is a self-administered 19-item questionnaire of six domains for the assessment of female sexual function. FSFI measures: (1) desire (two questions related to frequency and level) (2) arousal (four questions related to frequency, level, confidence and satisfaction), (3) lubrication (four questions related to frequency, difficulty, frequency of maintaining and difficulty in maintaining), (4) orgasm (three questions related to frequency, difficulty and satisfaction), (5) global satisfaction (three questions with amount of closeness with partner, with a sexual relationship, with overall sex life) and, (6) pain (three questions related to frequency during vaginal penetration, frequency following vaginal penetration, level during or following vaginal penetration). The items 1 to 16 had five likert -type answers from "never" (score 1) to "very much" (score 5) and the items 17 to 19 were leveled from "very much" (score 1) to "never" (score 5). Adding the score of individual items that comprise the domain and multiplying the sum by domain factor obtained individual domain score. Factors were 0.6 for desire, 0.3 for arousal and lubrication, and 0.4 for orgasm, pain, and satisfaction. The overall FSFI score was 2-36. Sexual dysfunction was considered if a total score of FSFI was less than 26.55.

The CLSS questionnaire is used to assess lower urinary tract symptoms (LUTS). It is a simple and comprehensive tool for assessment of female LUTS and comprises ten questions related to day time frequency, nocturia, urgency, incontinence, straining, and urethral pain with maximum score of 31 and one question related to quality of life with maximum score of six. Cut off for bothersome urinary symptoms on CLSS is QoL score >3.

The Hospital Anxiety and Depression Scale (HADS), is a self-assessment scale, to detect states of depression and anxiety. It has total of 14 items, with responses being scored on a scale of 0–3 (3 indicates higher symptom frequencies). Scores for each subscale (anxiety and depression) range from 0 to 21, with scores categorized as follows: normal 0–7, mild 8–10, moderate 11–14, and severe 15–21. In present study, we took a score of >10 to define a case of definite anxiety or depression.

Association of sexual dysfunction and lower urinary tract symptoms with patient's age, comorbidities, duration of RA, disease activity, anxiety and depression were evaluated in RA group.

STATISTICAL ANALYSIS

The results are presented in mean±SD and percentages. Chi-square test/fisher exact test was used for comparison between the dichotomous/categorical variables. The continuous variables were compared by unpaired t-test. The univariate and multivariate binary logistic regression analysis was used to find the association of the factors between various groups. The P value < 0.05 was considered significant. All of the analyses were carried out by using SPSS 16.0 version (SPSS Inc., Chicago, IL, USA).

RESULTS

Sexual dysfunction (FSFI score <26.55), bothersome urinary symptoms on CLSS (QoL score >3), anxiety (>10 score) and depression (>10 score) were present in significantly (P <0.05) higher number of RA patients (Table-1).

Mean sexual desire, arousal, lubrication, orgasm, satisfaction domain score as well as full FSFI scale scores were significantly (P <0.05) lower in RA patients. Mean HADS anxiety, HADS depression, CLSS and CLSS-Q scores were significantly (P <0.05) higher in RA patients.

On both, univariate and multivariate binary logistic regression analysis, sexual dysfunction was found to be associated with higher age (P=0.039), higher CLSS (P=0.027) and higher CLSS-QoL (P=0.039). Bothersome urinary symptoms were found to be associated with higher CDAI (P=0.035), higher CLSS (P<0.0001), less desire (P=0.017) and less arousal (P=0.001). Anxiety was found to be associated with higher age (P=0.031), higher CDAI (P=0.014), higher CLSS (P=0.017) and poor arousal (P=0.018). Depression was found to be associated with higher age (P= 0.003), higher CDAI (P=0.004), higher CLSS (P=0.031), poor arousal (P=0.007), lower orgasm (P=0.044) and poor satisfaction (P=0.011).

DISCUSSION

Only a few studies with limited numbers of patients have been done to address the specific issue of sexual dysfunction in RA patients. The percentage of RA patients who experienced sexual problems ranged from 31% to 76% in various studies.[11-13] Our study is also among few studies to address the urinary symptoms in women with RA. This is also the first study to highlight these QoL issues in Indian women with RA. Using FSFI, our study demonstrates that sexual problems are significantly more prevalent in female RA patients as compared to normal subjects, similar to other studies.[1,2,11-15] A higher (80.8%) prevalence of sexual dysfunction in RA patients in our study population is similar to that reported by other latest studies[14] in literature. Of the six domains of FSFI (i.e. desire, arousal, lubrication, orgasm, overall satisfaction and pain), desire, arousal, lubrication orgasm and overall satisfaction were found to be significantly lower in the RA group as compared to controls in our study, which is similar to that reported by Coskun B et al.[15] Tristano AG[16] reported problems of orgasm, arousal, and satisfaction in women with RA.

The sexual dysfunction is more common in women of higher age and those with lower urinary tract symptoms[17] and our study

Parameter	RA group(n=73)	Control group(n=50)	*P* value
Age(mean ±SD)	39.4±7.3	38.4±7.4	0.476[1]
Co-morbidities(no. of cases)	19(26%)	11(22%)	0.766[2]
Smoking (no. of cases)	0(0%)	1 (2%)	0.406[2]
Duration of RA in years(mean ±SD)	6.13±4.72	-	-
Altered overall relationship with partner (no. of cases)	21(28.7%)	2(4%)	0.0009*,[2]
RA Disease Activity Score: CDAI(mean± SD)	 13.39±13.8	 -	 -
Lower Urinary Tract Symptom (LUTS) scores: CLSS(mean ±SD) CLSS-Q(mean ±SD)	 5.5±3.9 2.2±1.3	 3.4±2.6 0.6±0.9	 0.0009*,[1] <0.0001*,[1]
Bothersome LUTS (CLSS-Q >3) (no. of cases)	18(24.6%)	0(0%)	<0.0001*,[2]
Urinary problems duration in years (mean ±SD)	1.36±1.28	1.26± 0.89	0.21[1]
Female Sexual Function Index scores: Desire (mean ±SD) Arousal(mean ±SD) Lubrication(mean ±SD) Orgasm(mean ±SD) Satisfaction(mean ±SD) Pain(mean ±SD) Full scale score(mean ±SD)	 2.16±1.15 2.29±1.37 3.78±1.16 3.32±1.27 4.32±1.61 5.02±1.52 20.86±5.66	 2.64±0.82 3.84±1.58 4.74±0.83 4.62±1.64 5.52±0.97 5.28±0.96 26.64±6.34	 0.014*,[1] <0.0001*,[1] <0.0001*,[1] <0.0001*,[1] <0.0001*,[1] 0.298[1] <0.0001*,[1]
Sexual Dysfunction (FSFI<26.55) (no. of cases)	 59(80.8%)	 20(40%)	 <0.0001*,[2]
Sexual problems duration in years(mean ±SD)	2.03±1.6	1.2±0.6	0.236 [1]
Anxiety and Depression Scale scores: HADS-A score(mean ±SD) HADS-D score(mean ±SD)	 10.48±4.21 10.82±4.31	 4±3.72 5.6±4.32	 <0.0001*,[1] <0.0001*,[1]
HADS-A Definite (no. of cases)	31(42.4%)	3(6%)	<0.0001*,[2]
HADS-D Definite (no. of cases)	41(56.1%)	5(10%)	<0.0001*,[2]

*Significant at $P < 0.05$. [1]Unpaired t-test. [2]Chi-square test/ fisher exact test. RA, Rheumatoid Arthritis; CDAI, Clinical Disease Activity Index; CLSS, Core Lower Urinary Tract Symptoms Score; CLSS-Q, Core Lower Urinary Tract Symptoms -Quality of Life Score; HADS-A, Hospital Anxiety and Depression Scale –Anxiety; HADS-D, Hospital Anxiety and Depression Scale –Depression.

Table-1: Rheumatoid Arthritis vs. Control group – demography and outcomes:

noted these associations in RA patients. Lower FSFI score in RA patients of higher age was also reported by Yimlaz H et al.[18] Similar to our findings, Costa TF et al[14] found no association of sexual dysfunction with RA disease activity although Yimlaz H et al[18] reported an association of sexual dysfunction with higher disease activity. Association between depression and sexual dysfunction in RA has been noted by others[15,18-19] as well.

There have been some conflicting reports about prevalence and severity of LUTs in RA patients. While some[20] reported no significant differences between the RA and control groups, others[21] report a higher prevalence and severity of LUTs in RA patients, similar to our findings. Our study is probably the first one to evaluate the prevalence of lower urinary tract symptoms using CLSS questionnaire in RA females without secondary Sjogren's Syndrome. For female LUTs assessment, the CLSS questionnaire, has been reported as a better questionnaire[8] than AUASI questionnaire[22] used by many previous studies. We also found that higher urinary bother score was associated with higher disease activity in RA patients in contrast to report by Aras H et al.[21]

Association of anxiety and depression with higher age, higher disease activity, higher urinary symptom score and various domains of sexual dysfunction in our study depict a complex interrelationship among various psychological and quality of life issues in RA patients. The RA patients with higher age and disease activity may need evaluation of sexual as well urinary quality of life. The studies[23,24] have emphasized the role of multidisciplinary approach and rheumatologist for better quality of life in patients with chronic autoimmune arthritis. In our opinion, rheumatologist as the primary physician of these patients might play a central role by appropriately highlighting and addressing their sexual as well as urinary issues through a multidisciplinary team approach.

Our study has some limitations: the relatively younger population (mean age – 39 years in RA group) in our study is likely to report higher subjective sexual dissatisfaction because of high sexual expectations in this age group. Some objective tests for LUTs like voiding diary, uroflowmetry or urodynamics could have further elaborated about them. Further, our study was based at a tertiary care centre where patients with more severe RA may be overrepresented leading to poorer scores on the FSFI, CLSS and HADS. Hence our results may not be generalizable to all patients with RA in the community. In spite of these limitations, this modest size case control study on Asian RA females indicates that sexual dysfunction and urinary symptoms are substantial problems and areas of concern in RA patients.

CONCLUSIONS

In female patients with RA, sexual dysfunction is a substantial problem involving sexual desire, arousal, lubrication, orgasm and overall sexual satisfaction. Compared to healthy controls, female RA patients also report a higher prevalence of bothersome LUTS. Sexual dysfunction in female RA patients

was associated with higher age and higher urinary symptoms/ bother. Urinary bother in RA females was associated with higher disease activity, less sexual desire and poor sexual arousal. This may warrant a multidisciplinary treatment approach for RA patients inclusive of rheumatologic, rehabilitative and psychiatric interventions for better management, especially in those at risk. Inclusion of sexual function and LUTs assessment in patient evaluation and follow up protocols in RA may lead to better health-related QOL.

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