CORRELATION BETWEEN CHRONIC LOW BACK PAIN AND FEMALE SEXUAL FUNCTION

CORRELAÇÃO ENTRE A LOMBALGIA CRÔNICA E A FUNÇÃO SEXUAL FEMININA

CORRELACIÓN ENTRE LA LUMBALGIA CRÓNICA Y LA FUNCIÓN SEXUAL FEMENINA

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ABSTRACT

Objective: To correlate chronic low back pain with female sexual function. Methods: This is a cross-sectional study. Thirty-two women aged between 18 and 44 years old, with body mass index (BMI) between 18.5 kg/m^2 and 29.9 kg/m^2, with a medical diagnosis of chronic low back pain and sexually active in the last six months were selected. The patients underwent a physical therapy evaluation and responded to two questionnaires: the Roland-Morris Disability Questionnaire and the Female Sexual Quotient (QS-F). Pearson's correlation test was used to assess the impact of chronic low back pain on sexual activity. Results: The mean age was 30.31 years old (±.7.10) and the mean BMI was 24.54 Kg/m^2 (±3.06). The mean Roland-Morris Disability Questionnaire score was 5.2 (±3.28), indicating that the patients did not have significant disability. The mean QS-F score was 60.37 (±14.48), classified as "unfavorable to normal". The correlation test showed a low correlation between chronic low back pain and female sexual function (r = 0.027). Conclusion: There was a low correlation between chronic low back pain and female sexual function in the study population, but the moderate correlation between the "comfort" domain and the Roland-Morris Disability Questionnaire score was significant. ***Level of evidence*** II***; Cross-sectional clinical study.***

Keywords: Low Back Pain; Physical Therapy Modalities; Sexuality; Women's Health.

RESUMO

Objetivo: Correlacionar a lombalgia crônica com a função sexual feminina. Métodos: Trata-se de um estudo transversal. Foram selecionadas 32 mulheres com faixa etária entre 18 e 44 anos, com Índice de Massa Corporal (IMC) entre 18,5 kg/m^2 e 29,9 kg/m^2, diagnóstico médico de lombalgia crônica e sexualmente ativas nos últimos seis meses. As pacientes foram submetidas a uma única avaliação fisioterapêutica e responderam a dois instrumentos: Questionário de Incapacidade Roland-Morris e Quociente Sexual – versão feminina (QS-F). Para a avaliação do impacto da lombalgia crônica na função sexual foi utilizada a correlação de Pearson. Resultados: A média de idade foi de 30,31 anos (± 7,10) e a do IMC foi de 24,54 Kg/m^2 (± 3,06). A média da pontuação do Questionário de Incapacidade Roland-Morris foi de 5,2 (± 3,28), representando que as pacientes não tinham incapacidade significante. A pontuação do QS-F foi de 60,37 (± 14,48), classificada como "desfavorável a regular" quanto à função sexual feminina. O teste de correlação demonstrou que houve baixa correlação entre a lombalgia crônica e a função sexual feminina (r = 0,027). Conclusões: Houve baixa correlação entre a lombalgia crônica e a função sexual feminina na população estudada, porém a correlação moderada entre o domínio "conforto" e o escore do Questionário de Incapacidade Roland-Morris foi significativa. ***Nível de evidência*** *II****; Estudo clínico descritivo transversal.***

Descritores: *Lombalgia; Modalidades de Fisioterapia; Sexualidade; Saúde da Mulher.*

RESUMEN

Objetivo: Correlacionar la lumbalgia crónica con la función sexual femenina. Métodos: Se trata de un estudio transversal. Se seleccionaron 32 mujeres con edades entre 18 y 44 años, con Índice de Masa Corporal (IMC) entre 18,5 kg/m^2 y 29,9 kg/m^2, diagnóstico médico de lumbalgia crónica y sexualmente activas en los últimos seis meses. Las pacientes fueron sometidas a una única evaluación fisioterapéutica y respondieron a dos instrumentos: Cuestionario de Discapacidad Roland-Morris y por el Cociente Sexual - versión femenina (QS-F). Para la evaluación del impacto de la lumbalgia crónica en la función sexual se utilizó la correlación de Pearson. Resultados: El promedio de edad fue de 30,31 años (± 7,10) y la del IMC fue de 24,54 kg/m^2 (± 3,06). El promedio de la puntuación del Cuestionario de Discapacidad Roland-Morris fue de 5,2 (± 3,28), representando que las pacientes no tenían incapacidad significativa. La puntuación del QS-F fue de 60,37 (± 14,48), clasificada como "desfavorable a regular" en cuanto a la función sexual femenina. El test de correlación demostró que hubo baja correlación entre la lumbalgia crónica y la función sexual femenina (r = 0,027). Conclusiones: Hubo baja correlación entre la lumbalgia crónica y la función sexual femenina en la población estudiada, sin embargo la correlación moderada entre el dominio "comodidad" y el score del Cuestionario de Discapacidad Roland-Morris fue significativa. ***Nivel de evidencia*** *II****; Estudio clínico transversal.***

Descriptores: *Dolor de la Región Lumbar; Modalidades de Fisioterapia; Sexualidad; Salud de la Mujer.*

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INTRODUCTION

Low back pain is one of the most common adult musculoskeletal disorders, impacting up to 65% of people per year.[1-4] It is a highly prevalent condition, affecting approximately 11.9% of the world population.[5-6] It is estimated that around 84% of people will develop low back pain at some point during their lives. The etiology of low back pain is multifactorial, associated with sociodemographic factors (age, sex and education level), health, life style (tobacco use and physical inactivity), occupation (physical effort and repetitive movements), and other factors related to metabolic conditions (obesity and other chronic diseases).[1-4,7-13] As a result, about 90 to 95% of cases of low back pain become chronic due to the complexity of the diagnosis.[3,7,9-12,14] Lumbar pain compromises the individual's quality of life, including sexual function,[7,8,10,11] and is directly related to work absenteeism and difficulties with the activities of daily life, as it causes disabilities and reduced functionality, greatly impacting public health because of the costs involved.[1-6,9,10,12,13,15]

Another prominent factor in human life is sexuality, considered intrinsic to the quality of life and whose functioning is inherent to the well-being of the individual and the longevity of affective relationships.[9,11,16] The sexual act is dependent on the interaction of body systems, including the integrity and function of the lumbar and pelvic region.[7]

The relationship between chronic low back pain, the quality of life, and sexual function is equally important to both sexes,[9-17] although women have greater interference from low back pain than men.[18] The presence of musculoskeletal disorders contributes to limitations on the sexual act due to pain, immobility, and decreased muscle strength, thus promoting an attenuation of sexual stimulation and difficulty in positioning for the act.[11] Specifically, low back pain negatively impacts sexual activity due to discomfort during sexual relations that leads to a decrease in the frequency of sexual intercourse and alters feelings in the relationship with the partner, leading to a lack of desire or sexual activity.[17,19,20]

The health professionals' approach to the investigation of the correlation between chronic low back pain and sexual function is very relevant,[16] due to the repercussions of lumbar pain as a factor in the development of sexual dysfunctions.[3,7,9,11] Considering that low back pain can be disabling, the individual may limit their sexual activity accordingly. Therefore, the present study aims to correlate chronic low back pain with female sexual function.

METHODS

Type of study

This is a cross-sectional descriptive study.

Ethical considerations

The study began following approval by the Universidade Paulista (UNIP) Research Ethics Committee as protocol number 44866515.2.0000.5512. The patients agreed with and signed the Informed Consent Form.

Case series

Thirty-two self-declared heterosexual women between the ages of 18 and 44 years, with body mass index (BMI) between 18.5 kg/m^2 and 29.9 kg/m^2, classified as normal weight and overweight, with a medical diagnosis of chronic low back pain and who were sexually active in the last six months, were selected.

The exclusion criteria were pregnancy, puerperium less than six months, previous spinal surgery, lumbar region infiltration, presence of bone and joint deformities, chondrosarcomas, sleep apnea, uncontrolled hypertension, endocrinological, rheumatological, neurological, vestibular and pelvic diseases, previous sexual dysfunctions, chemical substance use, cognitive disorders, and history of sexual abuse.

Study location

The study was conducted at the Physiotherapy Clinic of the Universidade Paulista (UNIP), in Jundiaí, São Paulo.

Outcomes

The patients who were interested in participating in the study were initially evaluated according to the inclusion and exclusion criteria. Those eligible for the study underwent a single assessment. They were evaluated according to the items of a physical therapy assessment form proposed by the authors of this study and consisting of identification, anamnesis, physical examination, and two questionnaires – the Roland Morris Disability Questionnaire[21-23] to evaluate disability from low back pain and the Female Sexual Quotient (QS-F)[24] to measure female sexual function.

The Roland-Morris Disability Questionnaire was developed in 1983 and validated, translated, and adapted for Portuguese in 2001.[23] The questionnaire is a tool that quantifies the limitations resulting from low back pain and their repercussions on work and daily life activities. The self-administered questionnaire consists of 24 statements and the subject is instructed to check all of those that describe their current situation. The checked statements are summed to give a score ranging from 0 (zero), considered "without disability", to 24 points, being "severe disability", with scores above 14 points indicating physical disability.[22-23]

The goal of the QS-F is to evaluate the domains of the woman's sexual activity and it consists of 10 questions, each scored on a scale from 0 to 5, as follows: 0 = "never". 1 = "rarely", 2 = "sometimes", 3 = "approximately 50% of the time", 4 = "most of the time", and 5 = "always". In addition, the QS-F assesses all phases of the sexual response cycle, also covering other domains: desire and sexual interest (questions 1, 2, and 8), foreplay (question 3), personal arousal and attunement with the partner (questions 4 and 5), comfort (questions 6 and 7), and orgasm and satisfaction (questions 9 and 10). The sum of the responses to the ten questions is then multiplied by 2, yielding a total score between 0 and 100. The seventh question is an exception, as 5 is subtracted from the response to obtain its final score. The classifications are as follows, with the higher values indicating better performance and sexual satisfaction: 82-100 points, good to excellent; 62-80 points, normal to good; 42-60 points, unfavorable to normal; 22-40 points, poor to unfavorable; and 0-20 points: none to poor.[24]

Statistical analysis

The data were expressed as means and standard deviations for the quantitative variables and as absolute values and percentages for the categorical variables. First, the data normality hypothesis was verified using the Shapiro-Wilk test. The correlation between the QS-F domains (desire and sexual interest, foreplay, personal arousal and attunement with the partner, comfort, and orgasm and satisfaction) and the total QS-F score, as well as the correlation between the total QS-F and Roland-Morris Disability Questionnaire scores, were evaluated using Pearson's correlation coefficient. The analyses were performed using the R program (version 3.5.1), adopting a significance level of 5% ($p<0.05$).

RESULTS

A total of 57 patients expressed interest in participating in the study, all of whom were assessed according to the eligibility criteria, and 25 of whom were excluded for the following reasons: incompatibility with the evaluation schedule (n = 9), difficulty getting to the clinic (n = 5), previous spine surgery (n = 5), puerperium less than 6 months (n = 2), BMI higher than 29.9 kg/m^2 (n = 3), and homosexual (n = 1) (Figure 1). Therefore, the study was conducted with a total of 32 patients.

The demographic and clinical characteristics of the patients are described in Table 1 and the variables analyzed are expressed as percentages (%), means and standard deviations. In terms of the demographic characteristics observed, the mean age was 30.31 years (±7.10) and the mean BMI was classified as normal at 24.54 kg/m^2 (±3.06). As for marital status, 59% were single, 38% married, and 3% divorced. The mean Roland-Morris Disability Questionnaire score was 5.22 (±3.24) points, which, being less than 14 points,[21-23] indicates

that the patients were "without disability". The mean total QS-F score was 60.37 points (± 14.48), classified as "unfavorable to normal".[24]

Figure 2 shows the percentages of the score values obtained by QS-F domain. The highest percentages of the scores for each of the respective domains were: a score of 5 ("always") was present in 56% (n = 18) in the "foreplay" domain, in 45% (n = 14) in the "personal arousal and attunement with the partner" domain, and in 34% (n = 11) in the "comfort" domain; a score of 4 ("most of the time") was used by 34% (n = 11) patients in the "desire and sexual interest" domain and by 44% (n = 14) in "orgasm and satisfaction".

Table 2 shows the correlation between the QS-F domains and the total Roland-Morris Disability Questionnaire score. There was significant moderate correlation between the domains of "desire and interest" x "foreplay" ($r = 0.553$; $p < 0.001$), "desire and interest x "arousal and attunement" ($r = 0.630$; $p < 0.0001$), "desire and interest" x "orgasm and satisfaction" ($r = 0.529$; $p < 0.001$), "foreplay" x "arousal and attunement" ($r = 0.549$; $p < 0.001$), "foreplay" x "orgasm and satisfaction" ($r = 0.650$; $p < 0.0001$), "arousal and attunement" x "orgasm and satisfaction" ($r = 0.478$; $p < 0.001$), "foreplay" x "comfort" ($r = 0.369$; $p = 0.05$), "comfort" x "arousal and attunement" ($r = 0.355$; $p = 0.05$). The only QS-F domain that showed a significant correlation with the Roland-Morris Disability Questionnaire was "comfort" ($r = 0.372$; $p = 0.05$).

Pearson's correlation test revealed low correlation between chronic low back pain, as evaluated by the Roland-Morris Disability Questionnaire, and sexual function, assessed by means of the QS-F, with $r = 0.027$, as shown in Figure 3.

DISCUSSION

The objective of this study was to correlate low back pain with sexual function in 32 women with a mean age of 30.31 (±7.10) years by means of two questionnaires, the Roland-Morris Disability Questionnaire and the QS-F. Correlating them statistically using Pearson's correlation test resulted in an $r = 0.027$, considered to show low correlation.

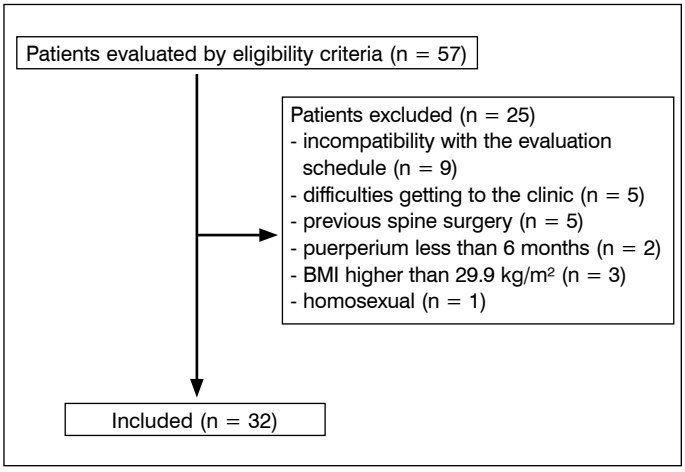

Figure 1. Study flowchart.

Table 1. Demographic and clinical patient characteristics.

Characteristics	Patients (n = 32)
Age (years)	30.31 ±7.10
BMI (kg/m²)	24.54 ±3.06
Marital status	
Single	59% (n = 19)
Married	38% (n = 12)
Divorced	3% (n = 1)
Roland-Morris Disability Questionnaire	5.22 ±3.24
Female Sexual Quotient	60.37 ±14.48

Key: BMI: Body Mass Index, ±: standard deviation.

Although all the patients selected for the study had been medically diagnosed with chronic low back pain, the mean Roland-Morris Disability Questionnaire score was 5.22 (±3.24) points, classifying them as "without disability". Even so, the mean QS-F score was 60.37 points, characterizing sexual satisfaction as "unfavorable to normal".[24] When the QS-F questions were analyzed separately, a high rate of questions with percentages corresponding to positive responses was observed, which were more prevalent than negative responses. Therefore, even though the Roland-Morris Disability Questionnaire scores were not sufficient to characterize disability, the patients included in this study showed impairment in the QS-F.

The final QS-F score is worrisome with regard to sexuality, as it involves several factors that trigger various sexual dysfunctions. The data show that there was a moderate correlation among the QS-F domains, but only the "comfort" domain presented a correlation between low back pain and female sexual function. It is known that 71.1% of women patients with low back pain report sexual disorders as compared to 36.8% of healthy women.[9] Bahouq et al.[7] found that 81% of patients with chronic low back pain had sexual disturbances, although this was a prevalence study and no correlations were made between the variables.

Chronic low back pain is commonly assessed by quantifying pain using the Visual Analog Scale (VAS) and functionality measurement tools, such as the Oswestry Disability Index (ODI) and the Roland-Morris Disability Questionnaire.[4-21] In this study, the latter, a tool translated to and validated in Portuguese and presenting high level of internal consistency, was chosen in order to assess and treat the degree of disability in individuals with low back pain.[23] However, it showed that the sample selected for this study did not reflect significant disability, certainly influencing the correlation with the QS-F score calculated.

An evaluation of outcomes related to sexual function in the female population has already been conducted using the following tools: Female Sexual Function Index (FSFI) and The Sexual Quality Of Life - Female (SQOL-F).[9,25] In the present study, the QS-F, developed for the Brazilian population and validated in Portuguese, was used to evaluate the sexual function of women and assist in diagnosing female sexual disease. It is an easy-to-use tool with accessible language that takes several domains of the woman's sexual function into account.[24] Bonelli et al.,[26] conducted a study with the objective of evaluating the sexual function of women during pregnancy using the QS-F, which reported satisfactory sexual performance, corroborating the findings of the present study.

The results obtained in this study point to lower impact from chronic low back pain on female sexual function, not corroborating the findings in the literature. Nikoobakht et al.,[9] conducted a study with patients of both sexes with chronic low back pain and confirmed a high prevalence of sexual dysfunctions as compared to healthy individuals. Bahouq et al.,[7] also verified interference in the sexuality of patients of both sexes with chronic low back pain. However, these studies addressed larger samples and used other forms of assessment for patients with chronic low back pain. It was not possible to make comparisons with other studies because to date no study has had a design similar to this one, using the same evaluation tools or conducting statistical analysis using correlation tests like those performed here. The use of such tests is deemed important to confirm the relationship of the impact among the chosen tools. It is worth mentioning that this is the first study to verify the correlation between low back pain and female sexual function in Brazilian women. The literature on this subject is still scarce, highlighting this topic and positioning this study as an important starting point for further research.

This study also revealed some impairment of sexual function in women with chronic low back pain but no functional disability, since the QS-F score was classified as "unfavorable to normal". Therefore, even though functional activities were little influenced, these women presented low sexual function levels. Thus, the physical therapist can intervene preventatively through an educational approach based on exercising the muscles involved the physiopathology of the lumbar and pelvic regions, including perineal awareness and strengthening

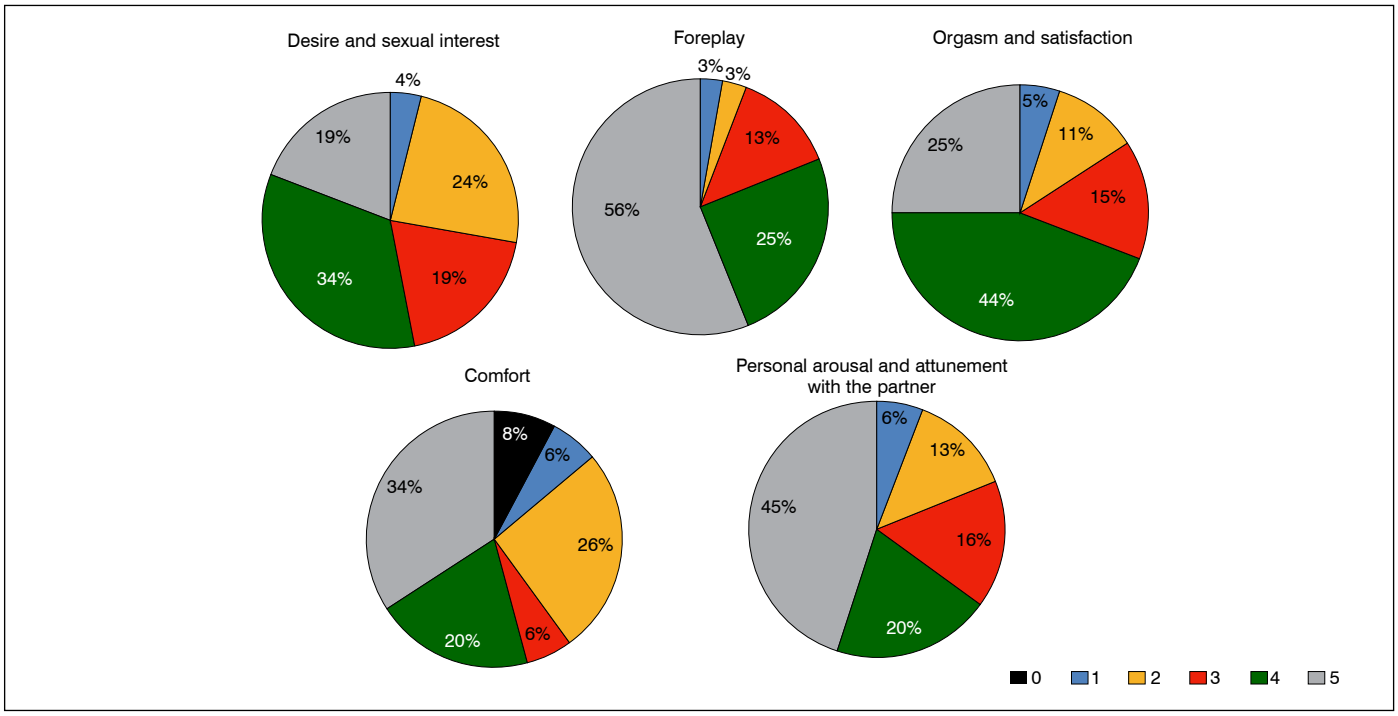

Figure 2. Female Sexual Quotient Domains: desire and sexual interest, foreplay, personal arousal and attunement with the partner, comfort, orgasm and satisfaction.

Table 2. Matrix of the correlation between the QS-F domains and the total Roland-Morris Disability Questionnaire score.

QS-F	Desire and interest	Foreplay	Arousal and attunement	Comfort	Orgasm and satisfaction	Roland-Morris Disability Questionnaire
Desire and interest	1.000	--	--	--	--	--
Foreplay	0.553**	1.000	--	--	--	--
Arousal and attunement	0.630***	0.549**	1.000	--	--	--
Comfort	0.315	0.369*	0.205	1.000	--	--
Orgasm and satisfaction	0.529**	0.650***	0.478**	0.355*	1.000	--
Roland-Morris Disability Questionnaire	0.090	0.038	0.172	0.372*	-0.066	1.000

Key: * p<0.05; ** p<0.001; *** p<0.0001.

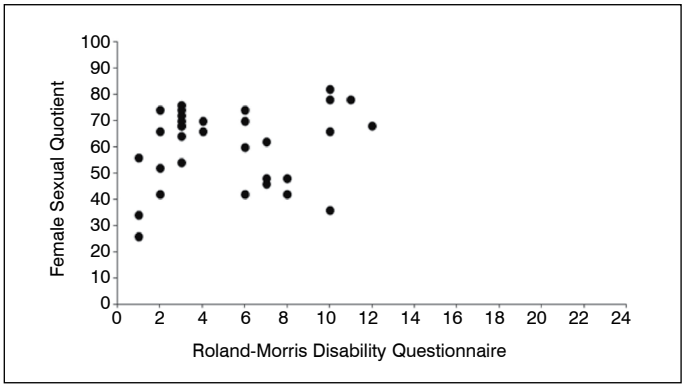

Figure 3. Diagram of the dispersion between the Female Sexual Quotient and the Roland-Morris Disability Questionnaire.

of the pelvic floor musculature, increasing pelvic vascularization, vulvar and vaginal sensitivity, and promoting sexual satisfaction.[25]

During the study interview period, the need for a physiological approach to the positioning of the individual during sex, as well as its respective adaptations, was observed. Another item that corroborates this observation is the correlation between the "comfort" domain and the Roland-Morris Disability Questionnaire, demonstrating that the position and the relaxation of muscles during sex can be compromised by low back pain. It is believed that, if the individual can find a comfortable position in terms of their pain, sexual activity can be maintained without impairing sexual function. It is suggested that the prevalence of the most used sexual intercourse positions be recommended in women with low back pain, though the literature on this subject is also scarce.[7,9,11]

In future studies, a design similar to this one is deemed necessary, but with a larger sample compared to a group of healthy individuals and using other tools to assess both low back pain and female sexual function. The sample of the present study was limited by the strict inclusion and exclusion criteria imposed to denote reliable and trusted results. An important discussion point is that the patients who participated in this study did not present functional disability according to the Roland-Morris Disability Questionnaire, which certainly influenced the final results of the QS-F and the correlation between low back pain and sexual function.

CONCLUSION

It was concluded that there was low correlation between chronic low back pain and female sexual function in the study population, but that there was a moderate significant correlation between the "comfort" domain and the Roland-Morris Disability Questionnaire score.

All authors declare no potential conflict of interest related to this article.

CONTRIBUTION OF THE AUTHORS: Each author made significant individual contributions to this manuscript. HFD: elaboration of the research project, writing, patient interviews; TSF: submission to the IRB, project concept and writing; NCJ: statistical analysis and text review; CSB: writing and text review; IFBM: writing and text review; AFPM: writing, review, statistical analysis, intellectual concept and elaboration of the research project.

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