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Research Article

Sexual dysfunction in women in primary health care in Florianópolis, Brazil: a cross-sectional study

Disfunção sexual em mulheres na atenção primária de Florianópolis: um estudo transversal

Disfunción sexual en mujeres en atención primaria en Florianópolis: un estudio transversal

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Abstract

Introduction: Sexual dysfunction is more common among women, with prevalence ranging from 25 to 63% in those over 18 years of age. Through the Female Sexual Function Index (FSFI) questionnaire, in this study we aim to estimate the frequency of sexual dysfunctions in adult women from two Family Health Teams in Florianópolis, state of Santa Catarina, Brazil. **Objective:** The objective of this study is to evaluate the prevalence of female sexual dysfunction (FSD) in these populations and investigate the relationship between sociodemographic variables and the domains represented in the FSFI score. **Methods:** The FSFI questionnaire was used to assess the frequency of sexual dysfunctions, and an analysis of sociodemographic variables among the health units was performed. Adult women seen at two Family Health Teams in Florianópolis were included. **Results:** The overall prevalence of FSD was 67.8%, with a homogeneous distribution among different health units and sociodemographic variables. We observed associations between years of formal education and higher rates of FSD, especially in the domains of desire, arousal, and lubrication, and between older age and better performance in the domains of desire and arousal. **Conclusions:** The high prevalence of female sexual disorders in Florianópolis, homogeneously distributed among the sociodemographic variables studied, underscores the importance of training healthcare professionals in addressing these issues in Primary Health Care.

Keywords: Sexual dysfunction, physiological; Sexual dysfunctions, psychological; Primary health care.

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Resumo

Introdução: A disfunção sexual é mais frequente entre as mulheres, com prevalências entre 25 e 63% naquelas acima de 18 anos. Por meio do questionário Female Sexual Function Index, este estudo busca estimar a frequência de disfunções sexuais em mulheres adultas de duas Equipes de Saúde da Família em Florianópolis, Santa Catarina. **Objetivo:** O objetivo deste estudo é avaliar a prevalência de disfunção sexual feminina (DSF) nessas populações e investigar a relação entre variáveis sociodemográficas e os domínios representados no escore FSFI. **Métodos:** Utilizamos o questionário FSFI para avaliar a frequência de disfunções sexuais e realizamos uma análise das variáveis sociodemográficas entre as unidades de saúde. Foram incluídas mulheres adultas atendidas em duas Equipes de Saúde da Família em Florianópolis. **Resultados:** A prevalência geral de DSF encontrada foi de 67,8%, com uma distribuição homogênea entre as diferentes unidades de saúde e variáveis sociodemográficas. Observamos associações entre anos de estudo e maiores índices de DSF, especialmente nos domínios de desejo, excitação e lubrificação, e entre maior idade e melhor desempenho nos domínios de desejo e excitação. **Conclusões:** A alta prevalência de distúrbios sexuais femininos em Florianópolis, distribuída de maneira homogênea entre as variáveis sociodemográficas estudadas, destaca a importância da capacitação dos profissionais de saúde na abordagem dessas questões na Atenção Primária

Palavras-chave: Disfunções sexuais fisiológicas; Disfunções sexuais psicogênicas; Atenção primária à saúde.

Resumen

Introducción: La disfunción sexual es más común entre las mujeres, con prevalencias que oscilan entre el 25 y el 63% en aquellas mayores de 18 años. A través del cuestionario del Índice de Función Sexual Femenina (FSFI, por sus siglas en inglés), este estudio tiene como objetivo estimar la frecuencia de disfunciones sexuales en mujeres adultas de dos Equipos de Salud Familiar en Florianópolis, Santa Catarina. **Objetivo:** El objetivo de este estudio es evaluar la prevalencia de la disfunción sexual femenina (DSF) en estas poblaciones e investigar la relación entre variables sociodemográficas y los dominios representados en la puntuación FSFI. **Métodos:** Utilizamos el cuestionario FSFI para evaluar la frecuencia de disfunciones sexuales y realizamos un análisis de variables sociodemográficas entre las unidades de salud. Se incluyeron mujeres adultas atendidas en dos Equipos de Salud Familiar en Florianópolis. **Resultados:** La prevalencia general de DSF fue del 67.8%, con una distribución homogénea entre diferentes unidades de salud y variables sociodemográficas. Observamos asociaciones entre años de estudio y mayores índices de DSF, especialmente en los dominios de deseo, excitación y lubricación, y entre mayor edad y mejor desempeño en los dominios de deseo y excitación. **Conclusiones:** La alta prevalencia de trastornos sexuales femeninos en Florianópolis, distribuida homogéneamente entre las variables sociodemográficas estudiadas, subraya la importancia de capacitar a los profesionales de la salud en abordar estas cuestiones en la Atención Primaria.

Palabras clave: Disfunciones sexuales fisiológicas; Disfunciones sexuales psicológicas; Atención primaria de salud.

INTRODUCTION

Sexual health assessment often addresses only sexually transmitted infections (STIs), infertility, contraception, and abortion, neglecting sexual dysfunctions characterized by the report of suffering in addition to the measurement of dysfunction by specific tools.[1,2] Given the high prevalence, which in some studies reaches 63% in adult women, sexual dysfunctions are considered a public health issue.[3,4]

For rapid diagnosis and intervention, a reliable and easy-to-interpret clinical tool is needed for use by family health teams, as they constitute the main gateways to care in the current organization of the Brazilian Unified Health System. Still considering this organization, it is likely that professionals who develop bonds and longitudinal care with patients can offer spaces in which they feel safer in exposing issues related to their sexuality, a topic that still faces many social obstacles.[5]

One tool that supports this assessment is the Female Sexual Function Index (FSFI), a self-administered questionnaire proposed in 2000 in the United States of America, which assesses several domains in the field of sexuality and has a high degree of reliability and validity.[6] It is based on the circular model of female sexual response proposed by Rosemary Basson, considering the greater complexity in measuring female sexual disorders compared to male ones, which can be quantified by ejaculation and erection.

Because it is widely validated for the Portuguese language and was designed for evaluation in epidemiological studies in order to respect the multidimensional response of female sexuality, we chose this tool to define the prevalence of sexual dysfunctions in women in the city of Florianópolis (state of Santa Catarina – SC, Brazil).[6,7] It is divided into 19 questions with five different response patterns, which address the domains: desire, arousal, lubrication, satisfaction, orgasm, and pain. At the end of the questionnaire, the scores in each domain are multiplied by a factor that homogenizes the influence of each domain on the total score. According to Rosemary Basson's model, the domains present complex interactions, which could result in bias in the categorization of sexual dysfunctions if such was disregarded.[7]

METHODS

This is a cross-sectional study, carried out based on data obtained from self-administered questionnaires and applied to female patients who were seen in primary health care, after collecting the Informed Consent Form. The sample was based on the estimate of women residing in the areas covered by the Family Health Units (*Unidades Básicas de Saúde da Família* – UBSF) Fazenda Rio Tavares and Tapera (which for 2021 was 12,423 women), with an error of 5%, a confidence interval of 95%, and an anticipated frequency of 50% (considering that the prevalence in the literature is widely variable). Thus, the sample size of 373 women was obtained through OpenEpi. By estimating losses at up to 20%, a final sample size of 466 women was obtained.

Subsequently, the sampling was stratified by the proportion of women in the two teams, resulting in a sample of 210 women for the Family Health Team (FHT) of Fazenda Rio Tavares and 256 women for the FHT of Tapera. Using a systematic approach, the first and third women from each shift, divided by the lunch break, were selected, who met the inclusion criteria and had a nursing or medical appointment at the evaluated teams. The professional who was providing the service exclusively invited participants to participate in the research at the end of each appointment. In cases where there was acceptance, a short link or QR code was provided to access the Informed Consent Form and subsequently the questionnaire, if the patient agreed with the content of the former.

At UBSF Fazenda Rio Tavares, these types of care were provided by researcher M, physicians B and D, and nurses C and I; and at UBSF Tapera, researcher W, physician F, and nurse M2. Non-research professionals were previously consulted and agreed to voluntarily participate in these invitations without being directly involved in data collection.

Selected individuals who did not respond to the questionnaire for more than two weeks after the invitation, who did not accept to participate in the project, or who filled out the form incompletely were deemed losses.

Women over 18 years of age who attended at least one in-person appointment or teleconsultation with the reference health team during the collection period were included. Women who did not have access to the Internet were excluded, as the form was made available through digital means.

The study took place at a FHT of UBSF Fazenda Rio Tavares and another at UBSF Tapera, health institutions managed by the Municipal Health Department in Florianópolis, State of Santa Catarina.

Data were collected by applying the validated FSFI questionnaire for the Brazilian language, indirectly, with each patient individually completing the digital questionnaire in the privacy of their home. Data were collected from August to December 2021. Due to the new coronavirus (COVID-19) pandemic conditions established in March 2020 in Brazil, the questionnaire, as well as the Informed Consent Form,

were accessed through the KoBotoolBox tool. Subsequently, these data were cataloged in a spreadsheet for analysis. The form, the questions that comprise each domain, and the correction factor to weight the scores are detailed in the questionnaire validation article.[6]

The following variables were analyzed: age (in years); *per capita* household income (continuous) measured by the sum of the wages, earnings, or pensions of all residents in the interviewee's household; marital status; hormone use (binary); overall FSFI score (binary) and scores by FSFI categories — desire, arousal, lubrication, orgasm, satisfaction, and pain (continuous).

The relations between categorical variables were compared using Pearson's chi-square and Pearson's correlation between variables treated as continuous. Welch's t-test was used for relations between categorical variables and variables treated as continuous. Data were analyzed by the RStudio with R and the results of the analysis reported using the ggstatplot package with parameter, statistic, significance, effect size, confidence interval, and number of observations.[8-10]

RESULTS

We obtained 338 responses from the 466 submitted forms, resulting in a response rate of 72% (Table 1). To better understand the discrepancy between the FHTs analyzed, we present the data broken down between the two UBSFs (Table 1).

Table 1. General sociodemographic factors broken down by the participants' Family Health Units. Florianópolis (SC), 2021.

Variables	Total n=338	UBSF Fazenda Rio Tavares n=205	UBSF Tapera n=133
Age n*	333	164	165
average (min-max)	38.9 (18–85)	37.6 (10.9)	39.9 (12.9)
≥51 years old (%)	62 (18.6)	26 (15.9)	33 (20)
Marital status n*	337	168	165
Married/Common-law marriage n* (%)	107 (31.8)	105 (62.5)	91 (55.2)
Single n* (%)	139 (41.2)	63 (37.5)	74 (44.8)
Years of formal education n*	332	163	165
Mean (SD)	12.9 (5.1)	11.9 (4.6)	14.0 (4.8)
Use of hormone n*	334	165	165
Yes n* (%)	213 (63.8)	71 (43)	49 (29.7)
Monthly *per capita* income n*	321	157	160
average (min-max)	1,451	1,113 (100–10,000)	1,769.2 (0–10,000)

UBSF: Family Health Unit; SD: standard deviation.

For data analysis, we considered questionnaires that did not have blank answers and that did not indicate "absence of sexual activity" in any of the questions to be adequately completed.

Using only the adequately completed questionnaires and the cutoff point of >26 points in the FSFI, we found a 67.8% prevalence of female sexual dysfunction (FSD).

In a discussion regarding this study, we were asked whether there was any relationship between FSD and menopause. Considering that we had not asked whether the participants were in the menacme period or not, we compared the proportions of FSD using the age of 51 years as the cutoff point, which was in accordance with the only population-based study found by us.[11] Only 18.6% of the participants were 51

years or older and the proportion of FSD did not differ between them (56% in women ≥51 years *vs.* 69.1% in those under 51 years old, p=0.19).

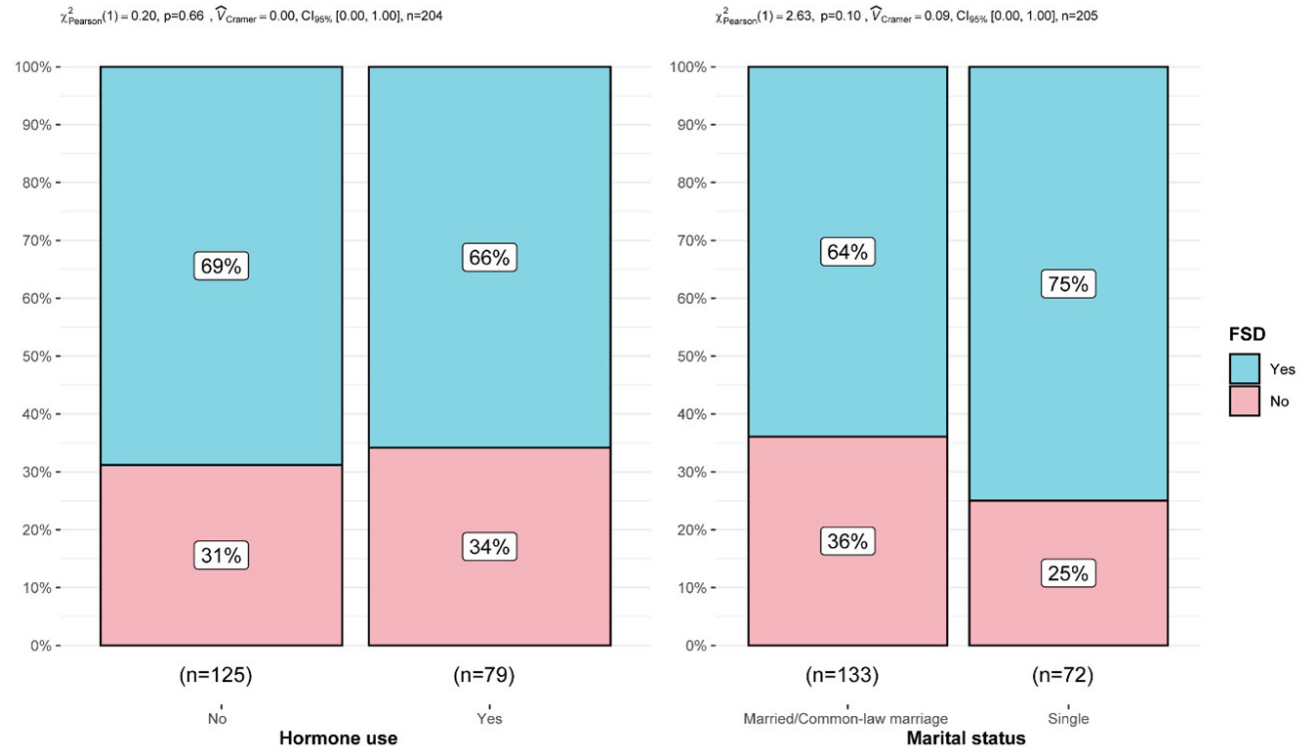
We observed a possible measurement bias when comparing age, years of formal education, and *per capita* income between participants who filled in the FSFI questionnaire completely or not. Participants who adequately completed the questionnaire are younger, have more years of formal education, and higher *per capita* income (Table 2).

Table 2. Assessment of measurement bias by comparing the distribution of sociodemographic variables broken down by adequacy in completing the Female Sexual Function Index. Florianópolis (SC), 2021.

Variables	Complete FSFI n=205	Incomplete FSFI n=133	p†
Age n*	203	130	
average (min-max)	36.4 (18–76)	42.9 (19–85)	<0.001
Years of formal education n*	202	130	
Mean (SD)	13.5 (4.5)	12.1 (5.1)	<0.001
Per capita income n*	198	123	
average (min-max)	1,534 (100–10,000)	1,316 (0–10,000)	<0.001

FSFI: Female Sexual Function Index; SD: standard deviation. *valid observations; †Welch's t -test.

We did not find statistically significant differences between the presence of FSD when comparing marital status and hormone use (Figure 1), nor *per capita* income (Figure 2). However, women with FSD have on average 1.35 more years of formal education (Figure 2).



FSD: Female sexual dysfunction.

Figure 1. Comparison between the frequencies of female sexual dysfunction between marital status and hormone use. Florianópolis (SC), 2021.

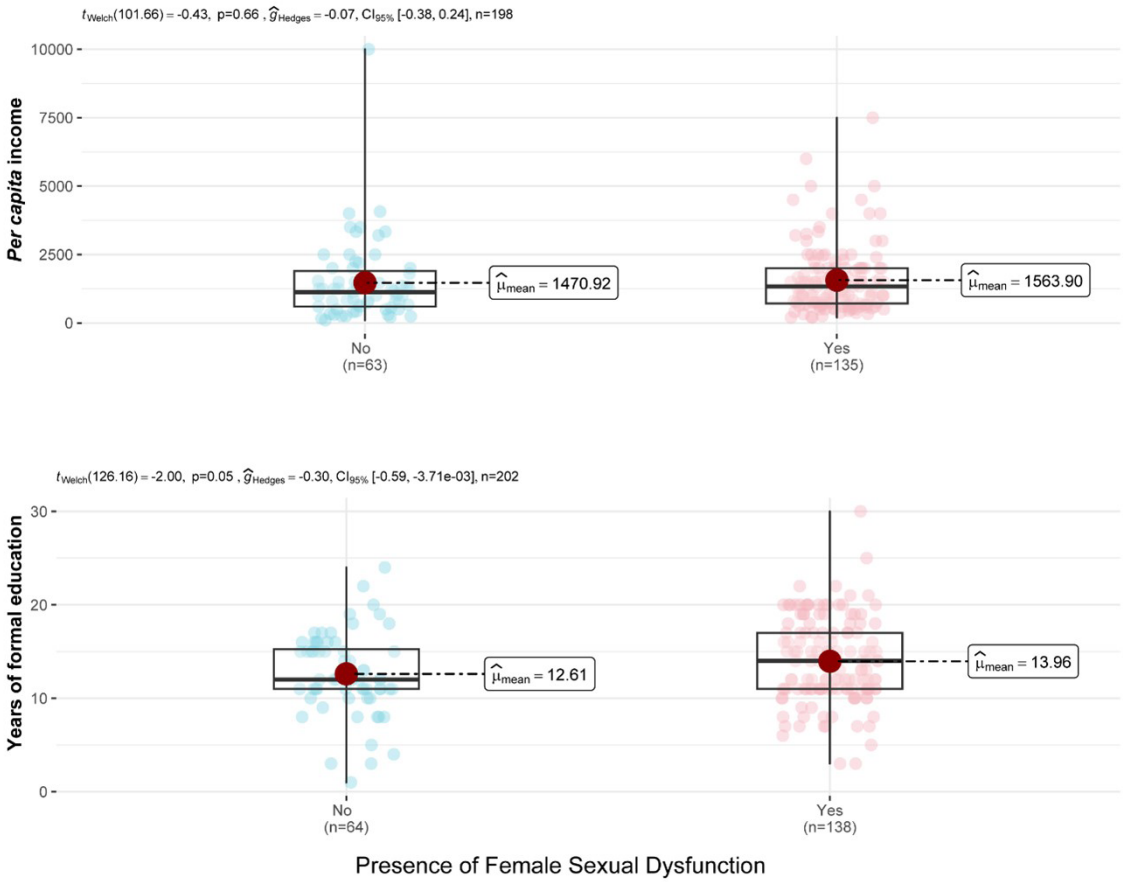


Figure 2. Comparison between the frequencies of female sexual dysfunction between *per capita* income and years of formal education. Florianópolis (SC), 2021.

The distribution of scores in the lubrication and desire domains was different when comparing marital status, with apparently greater impairment among single women (Figure 3). In the other domains there was no significant difference.

When correlating the scores of the domains with age, *per capita* income, and years of formal education, we observed that the longer the education time, the greater the impairment of desire, arousal, and lubrication, and the greater the age, the lesser the impairment of desire and arousal (Figure 4). The correlation between worse outcomes and more years of formal education remains when compared with the FSFI score (Figure 4).

DISCUSSION

The prevalence of FSD was 67.8%. We had a lower response rate than expected, but still adequate, including adults and older women of all marital statuses surveyed, and the majority of participants use some hormone. Overall, participants have around 13 years of formal education and an average *per capita* income higher than the current Brazilian minimum wage, of BRL 1,210.

The overall prevalence of FSD found in our study was similar to that reported in previous studies with other populations.[3,4] This fact highlights the relevance of FSD in the daily work of family and community physicians in Florianópolis and other professionals who work in Family Health Teams.[12]

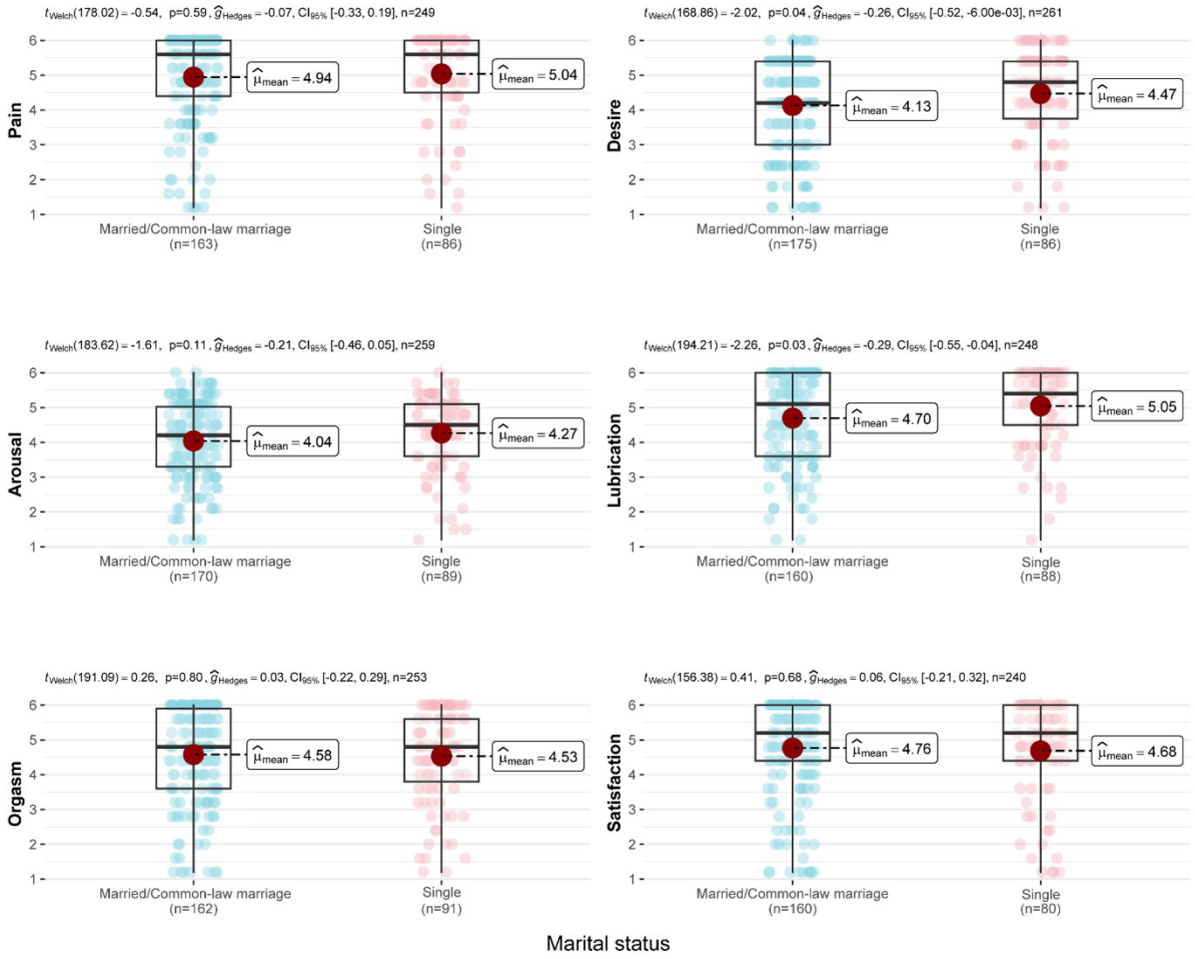


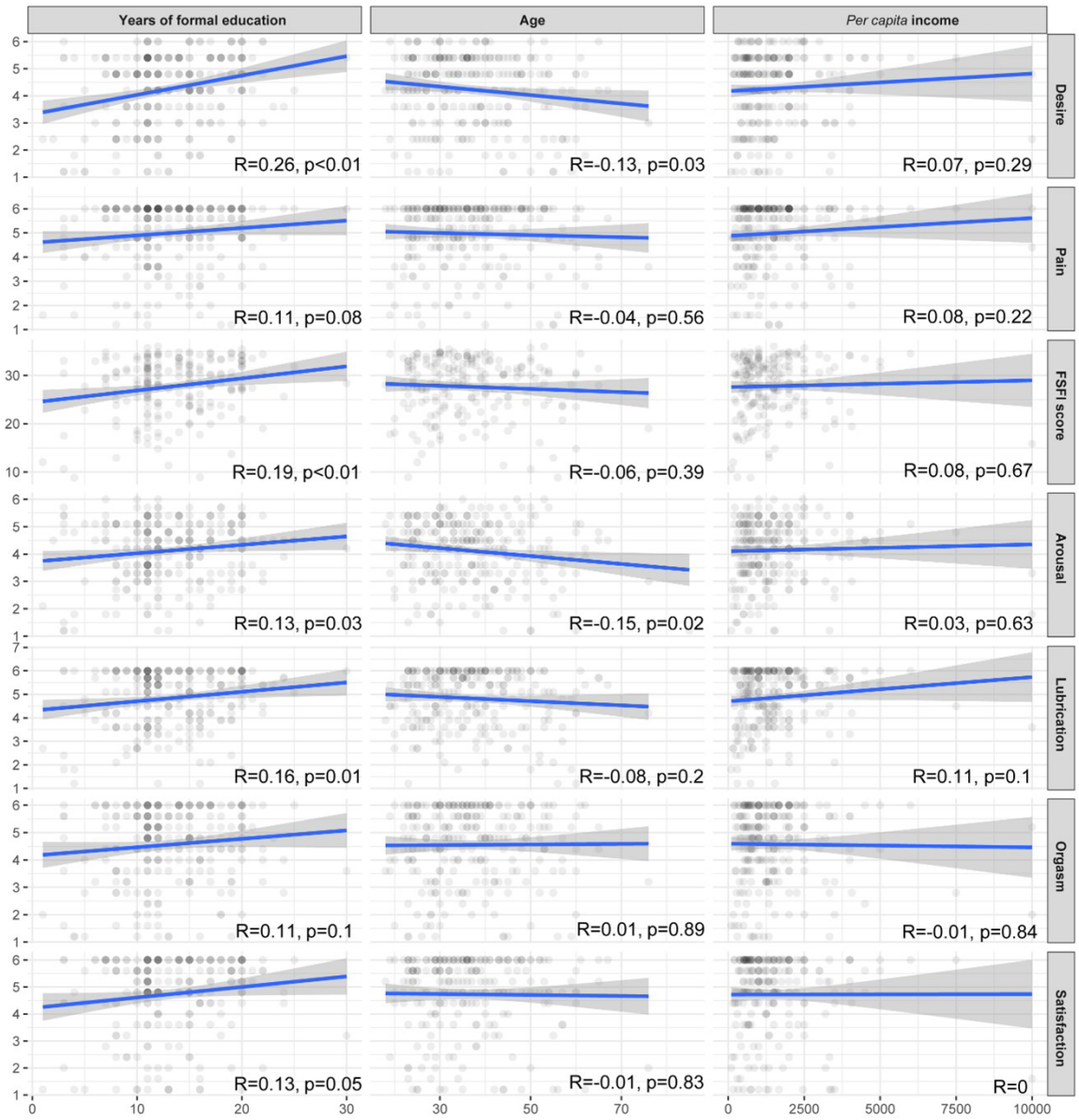
Figure 3. Comparison between scores of the six domains of the Female Sexual Function Index and marital status. Florianópolis (SC), 2021.

In the analysis of sociodemographic factors, we found no major variations in the distribution of dysfunctions, which demonstrates their homogeneity among women of different marital statuses, who use hormones or not, or who are from different socioeconomic classes.[4] This finding had already been confirmed in other studies on the validation of the FSFI tool.[7]

The statistically significant associations, although modest, were those related to years of formal education with accentuated FSD in the domains of desire, lubrication, and arousal, in addition to lower scores in the domains of desire and arousal the greater the age.

Regarding the association of FSD with years of formal education, this relation had already been demonstrated in studies on other populations.[13] Conversely, the data on the association of older age with better satisfaction rates in the domain of desire and arousal seem contrary to the expected and socially widespread behavior of decreased desire as women age. Nevertheless, we must be aware that the average age of response was approximately 37 years for women without FSD and 36 years for women with FSD, approximately ten years younger than the expected age for the onset of menopause, which would represent an expected organic cause for the reduction in desire and arousal.[14]

We had a high abstention rate, illustrating the number of women who did not want to participate in the research. These differ from the negative ones, which were relatively few. This datum is only



FSFI: Female Sexual Function Index.
Figure 4. Correlation between scores in the six domains and the total score of the Female Sexual Function Index between per capita income, age, and years of formal education. Florianópolis (SC), 2021.

observable through the way the questionnaire is offered. Participation was offered at the time of the appointment, which was well received and accepted by almost all patients. However, after sending the questionnaire via messaging applications for self-completion at home, many patients did not respond to it and neither provide the reason for withdrawing from the research. We consider the possible influence of the professional at the time of acceptance, assuming that there may be some shame in refusing the invitation, given the cultural aspects and the inevitable verticalization between health professional and patient. Once protected by the distance offered by the digital tool, they express their real desire not to participate. We also speculate about the lack of knowledge of the relevance of studies in our environment and the disregard for the topic addressed in the research, leading them to withdrawing from participation. Finally, it is also possible to theorize that some women accessed the questionnaire and

felt embarrassed to provide details about their privacy, even though the confidentiality of the study was assured in the Informed Consent Form.

Nonetheless, for those who agreed to participate in the research, the use of the questionnaire in electronic format via the Internet, anonymously, possibly contributed to more reliable responses, as sexuality is a sensitive and intimate topic, especially for women, in our current society.[2,15,16]

We believe that there may have been some difficulty in interpreting the questions due to the formal language used and the impossibility of assistance from researchers, as the questionnaire was self-administered. This may have contributed to the higher number of incomplete questionnaires. This possibility is supported by the fact that women who completed the questionnaire correctly had more years of formal education than those who incompletely filled it in. In addition, another observed bias was that we did not invite patients who we previously knew to be illiterate, as this was a self-administered questionnaire, which was a sample selection criterion that emerged after the start of the collection and was not foreseen in the project's development.

During the months in which the research was carried out, it was possible to notice an increase in the interest of some women in wanting to discuss aspects related to sexuality during medical and nursing appointments. Conducting the research potentially paved the way for the interviewed women to feel safe in bringing their complaints to medical and nursing appointments.[2]

The adopted questionnaire presents, in the pain domain, the last one evaluated, a possible heterosexual focus that was pointed out by some homosexual women. This demonstrates a limitation of FSFI in addressing sexual practices, possibly painful, that are not restricted to vaginal penetration.

Considering the biases of this study, we suggest expanding the research to other primary care units with the aim of diversifying the surveyed population; and, if possible, taking into account the current SARS-CoV-2 pandemic, that the questionnaire be applied with the patient still in the health unit, avoiding losses due to abstention caused by the use of messaging applications.

Given the high prevalence of FSD observed in our environment, we consider it important to add educational and training activities focused on the study of sexual health, especially during health residencies that include primary health care. Moreover, we consider it relevant to use more awareness-raising initiatives among the population regarding the importance of participating in research in the health area.

CONFLICT OF INTERESTS

Nothing to declare.

AUTHORS' CONTRIBUTIONS

MVB: Project administration, Formal analysis, Conceptualization, Data curation, Writing – original draft, Writing – review & editing, Investigation, Methodology, Funding acquisition, Resources. WOD: Data curation, Writing – original draft, Investigation. DSL: Writing – review & editing, Software, Supervision, Validation, Visualization.

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