Maturitas 71 (2012) 407–412

Contents lists available at SciVerse ScienceDirect

Maturitas

journal homepage: www.elsevier.com/locate/maturitas

Assessment of sexual function of mid-aged Ecuadorian women with the 6-item Female Sexual Function Index

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ARTICLE INFO

Article history:
Received 20 December 2011
Received in revised form 17 January 2012
Accepted 19 January 2012

Keywords:
Sexual function
Middle age
Female Sexual Function Index
Short FSFI
Sexuality assessment
Menopause

ABSTRACT

Background: Assessing sexuality is a difficult task, hence used tools should be straight forward and easy to use.
Objective: To assess sexual function in mid-aged Ecuadorian women.
Method: In this cross sectional study, 904 otherwise healthy women 40–59 years completed the short 6-item Female Sexual Function Index (FSFI-6) and a general socio-demographic questionnaire containing personal/partner data. Internal consistency of the tool was also assessed.
Results: Median age of the whole sample was 49 years, 51.1% were postmenopausal, 43.8% lived at high altitude, 12.6% used hormone therapy (HT), 58.5% presented hot flushes, 43.5% were abdominally obese and 80.8% had a partner. Overall, 72.4% of surveyed women reported sexual activity ($n = 655/904$) with 65% of these presenting total FSFI-6 scores equal or below 20 the calculated median (lower sexual function). A 10.2% of those having a partner were sexually inactive. Internal consistency of tool was high (Cronbach's alpha = 0.91). Total FSFI-6 scores positively correlated with coital frequency and female and partner educational level and inversely with female age, waist circumference, hot flush intensity and partner age (bivariate analysis). Multiple linear regression analysis determined that lower scores (lower sexual function) were related to high altitude, history of sexual abuse, sedentarism, hot flush intensity, partner age and sexual dysfunction whereas partner educational level, coital frequency and female parity were significantly related to higher scores (better sexual function).
Conclusion: As assessed with a consistent, short, and easy to use tool lower sexual function of this mid-aged series was related to several female and partner factors. More research with this tool is warranted.

1. Introduction

Sexuality is a key aspect within the context of female quality of life reflecting their bio-psycho and social well being [1,2]. Several reports seem to point out to the fact that during the climacteric there is a link between general quality of life, menopausal symptoms, depressive status and sexual function. Female sexual function during mid-life is directly related to their hormonal, emotional and health status, and to various partner aspects [2–8].

In recent years a great deal of information has been gathered in relation to female sexual function by means of the originally designed 19 item Female Sexual Function Index (FSFI-19) [9–13]. However a short version of this tool, including 6-items, has recently been proposed (FSFI-6) which seems to parallel with the results obtained with the long version yet with optimized screening time [14]. In this study heterosexually active women, 18 years or more, were prospectively recruited from three Italian outpatient clinics devoted to sexuality and reproductive medicine. The FSFI-6 showed that women with scores 19 or less displayed female sexual dysfunction (FSD). The FSFI-6 displayed a sensitivity and specificity of 0.93 and 0.94, respectively. Important to mention is the fact that only 4% of women recruited in this study were menopausal [14]. Since FSD is highly prevalent during the menopausal transition and studies

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doi:10.1016/j.maturitas.2012.01.013

using this short version of the FSFI are still lacking the aim of the present research was to assess sexual function and related factors in mid-aged Ecuadorian women using the FSFI-6.

2. Methods

2.1. Participants

A cross-sectional study was carried out from August 2010 to February 2011 under the sponsorship of the Ecuadorian Climacteric & Menopause and Climacteric Society aiming to assess sexual function among mid-aged women. For this, otherwise healthy women (40–59 years) who were accompanying or visiting patients being attended for at gynecological and obstetrical healthcare centers of main Ecuadorian cities with more than 100,000 inhabitants were requested to fill out the FSFI-6 and an itemized questionnaire containing female/partner socio-demographic data. Women unable to understand the survey, not consenting participation or with psychological or physical incapacity imposing difficulties during the interview were excluded. In addition, lesbian women were not included in this survey because this population requires the use of modified questionnaires to study their sexuality [15]. The research protocol of the study was reviewed and approved by the Bioethics Committee of the Facultad de Medicina de la Universidad Católica de Santiago de Guayaquil, Ecuador. All women were informed about the research (purposes and used tools) and written consent obtained.

2.2. General questionnaire

2.2.1. Female data

Female data included: age (years), parity, menopausal status (pre-, peri- or postmenopausal), partner status (yes/no), marital status, educational level (total years), sexual status in the past 4 weeks (active or inactive), coital frequency (per month), high altitude residency (2000 or more meters above sea level) and accessed healthcare system (free–minimal cost or paid). Lifestyle and other personal factors included: smoking habit, church attendance, and history of sexual abuse. Medical care and drug use included: current psychiatric consultation (yes/no) and the use of psychotropic drugs, oral contraceptives and hormone therapy (HT) or phytoestrogens for the menopause. Menopausal status was defined using criteria of the Stages of Reproductive Aging Workshop: premenopausal (women having regular menses), perimenopausal (irregularities > 7 days from their normal cycle) and postmenopausal (no more menses in the last 12 months) [16]. Those with bilateral oophorectomy were considered as postmenopausal. Women performing less than 15 min of physical activity (i.e. walking) two times per week were defined as sedentary [17]. Waist or abdominal circumference was measured in centimeters (cm) with an anthropometric tape placed directly on the narrowest point between the lower rib margin and the iliac crest on a plane perpendicular to the long axis of the body, while the subject stood balanced on both feet, approximately 20 cm apart, and with both arms hanging freely. A waist circumference greater than 88 cm was used to define abdominal obesity [18]. The presence and severity of hot flushes was assessed with the first item of the Menopause Rating Scale (MRS). Severity was graded from 1 to 4 and defined as mild = 1; moderate = 2; severe = 3; and very severe = 4 points.

2.2.2. Partner data

Women provided data related to their partner including: age, educational level, healthiness, faithfulness, alcoholism, or sexual dysfunction presence (erectile dysfunction and/or premature ejaculation). Definitions for alcoholism, erectile dysfunction and premature ejaculation have previously been described [11]. Women or men capable of performing daily routine activities were defined as healthy.

2.3. The 6-item Female Sexual Function Index (FSFI-6)

This instrument is composed of 6 questions derived from the original FSFI-19, each covering one of the original domains: desire (original item #2), arousal (original item #4), lubrication (original item #7), orgasm (original item #11), satisfaction (original item #16) and pain (original item #17) [14]. Each question can provide a score varying from 0 to 5. Scores obtained for each question are then summed up to provide a total FSFI-6 score. Isidori et al. [14] have proposed a cut-off value of 19 or less to identify women at risk of FSD. Instead the present research used the calculated median for the sample to identify women with lower sexual function. Individual scores obtained for each item were also computed separately and displayed as medians [interquartile ranges and percentiles]. The Spanish version of the FSFI-19 [11,13] was used to extract the 6 items of the FSFI-6. The assembled FSFI-6 was tested among 50 women prior to its use in this research.

2.4. Statistical analysis

Statistical analysis was performed using SPSS software package (Version 19.0 for Windows, SPSS Inc., Chicago, IL, USA). Data are presented as medians, interquartile ranges, percentiles (p25 and p75), percentages, coefficients, and 95% confidence intervals. The Kolmogorov–Smirnov test was used to determine the normality of data distribution. According to this, non parametric data were compared with the Mann–Whitney (two independent samples) or the Kruskal–Wallis test (various independent samples). Rho Spearman coefficients were calculated to determine correlations between FSFI-6 total scores and various numeric variables.

Multiple linear regression analysis was performed to obtain a best model predicting total FSFI-6 scores (sexual function, dependant variable) among those sexually active. For this, independent variables (female and partner), found to be significant during bivariate analysis, were entered into the model using a backward stepwise procedure with a significance level of p set at <0.05. For all calculations a p value of <0.05 was considered as statistically significant.

Sample size calculation was performed using the EPI-INFO 6.04 statistical package. A minimal sample size of 94 women per center was determined considering that each center covers an approximate population of 5000 women between 40 and 59 years and assuming that 50% would present lower sexual function [11] with a 10% desired precision and a 95% confidence level.

3. Results

During the studied period a total of 952 heterosexual women were invited to participate, 4.2% denied participation and 0.9% provided incomplete data, leaving 904 complete surveys for statistical analysis. Median [interquartile range] age of the whole sample was 49 [8.0] years. A 51.1% were postmenopausal, 43.8% lived at high altitude, 12.6% used HT, 58.5% presented hot flushes, 43.5% were abdominally obese and 80.8% had a partner (Table 1).

Overall, 72.4% of surveyed women reported sexual activity (n = 655/904) displaying a coital frequency ranging from 1 to 48 per month. A 10.2% of those having a partner were sexually inactive. Computed FSFI-6 scores (total and domains), expressed as medians, are depicted in Table 2. A 65% displayed total FSFI-6 scores equal or below 20 the calculated median (lower sexual function). FSFI-6 scores were significantly higher among younger and premenopausal women yet similar between HT users and non users.