

Sexual dysfunction prevalence in a group of pre- and postmenopausal Mexican women

Sebastián Carranza-Lira, Flor de Durazno Casillas Núñez

UMAE Gynaecology and Obstetrics Hospital "Luis Castelazo Ayala", Social Security, Mexican Institute, Mexico DF, Mexico

Abstract

Introduction: To determine the prevalence of sexual dysfunction in pre and postmenopausal women.

Material and methods: A cross-sectional, descriptive, comparative study was done in climacteric women from 40 to 59 years of age. Female sexual function was evaluated with the female sexual function index (FSFI) on the day of consultation. The comparison between pre and postmenopausal women and between those with or without sexual dysfunction was done with Mann Whitney *U* test, χ^2 , and Spearman's correlation analysis was done.

Results: One hundred and ten women were studied, 55 were premenopausal (group 1) and 55 postmenopausal (group 2). The median of age in group 1 was 46 (40-58) years and in group 2 it was 53 (45-60) years. Premenopausal women had higher education level than postmenopausal women ($p < 0.023$). From those sexually active, 62.1% had sexual dysfunction. No statistically significant difference was found in education level, religion and marital status between women with or without sexual dysfunction. No difference in sexual dysfunction was found between premenopausal (62.1%) and postmenopausal (62.5%) women, but greater sexual dysfunction was found starting from 50 years age. Age negatively correlated with FSFI score ($\rho = -0.324$, $p < 0.001$).

Conclusion: In postmenopausal women, those older had a greater impairment in sexual function.

Key words: sexual dysfunction, premenopause, postmenopause, climacteric.

Introduction

Female sexual dysfunction has a high impact on quality of life. In woman, physiological changes and sociodemographic characteristics contribute greatly to its presentation [1]. In Mexico no epidemiologic information exists and few studies have been carried out.

Sexual dysfunction is the difficulty or impossibility to participate as desired in sexual relationships (World Health Organisation, WHO 1992). Sexual dysfunction occurs in 22% to 43% of the general population. Four dysfunction types have been recognised according to Masters and Johnson and Helen Kaplan model (desire, excitement, and orgasm phases) as well as the area of genital pain. To be considered as a dysfunction, the disturbance in any phase should cause personal and/or interpersonal affliction. Each one of the dysfunctions can be sub-classified as simple (alteration of a single phase) or complex (several phases combined), primary (from the beginning of the individual's sexual activity) or acquired (after having previous normal experience in the phase that is now altered), and it can also be situational or widespread. Now sexual dysfunction is evaluated with DSM-5 criteria, in which the problem needs to last at least six months and be present in 75% of sexual activities and must not be associated with marked distress. In this ver-

sion, sexual desire and arousal disorders are combined into female sexual interest/arousal disorder. The diagnosis of genito-pelvic pain/penetration disorder included instead vaginismus and dyspareunia. All disorders include subtypes for "lifelong versus acquired" and "generalized versus situational", and the subtypes of sexual dysfunction due to a general medical condition and due to psychological versus combined factors were deleted [2].

Finally, from the point of view of the aetiology, it can be divided in organic, psycho-social, or mixed [3].

The climacteric negatively impacts the sexuality [4], it can vary among different people and different countries and is influenced by biological and sociocultural factors [5-7]. During the climacteric hormonal changes can interfere in the sexual response by several mechanisms. Oestrogenic deficit causes vaginal mucosa thinning, decrease in elasticity, vaginal dryness, and vascular fragility. Oestrogens have several positive effects in the central nervous system, and their decrease produces symptoms that affect women's quality of life [8].

Rosen *et al.*, based on the International Consensus Development Conference on Sexual Female Dysfunctions [9], developed a test with psychometric properties, which is able to evaluate sexual function in women in their diverse domains: desire, excitement, orgasm,

Corresponding author:

Dr. **Sebastián Carranza-Lira**, Puente de piedra 150-422, Torre 1 Col. Toriello Guerra, México DF. C.P., 14050, tel. and fax: 55284657, e-mail: drsebastiancarranza@gmail.com

Submitted: 31.03.2017

Accepted: 24.01.2018

pain, lubrication, and satisfaction, which they named the Female Sexual Function Index (FSFI) [10]. It has shown high confidence levels, internal consistency, applicability in a wide age range and it has been clinically validated in Spanish language in a group of Chilean women from 20 to 59 years of age [11]. Recently the FSFI has been used to evaluate sexual function after genital reconstruction [12]. In Mexico the prevalence of sexual dysfunction has not been evaluated in middle-aged women using the FSFI [4].

Biological and sociocultural factors can have different effects in female sexuality in several Latin American countries [13]. In a multicentric study 7243 healthy women between 40 and 59 years of age, who consulted at 19 healthcare system centres in 11 Latin American countries were evaluated with the FSFI. Their ages were between 49 and 54 years, 55% were married, 46% postmenopausal, and 14% used hormone replacement therapy. 56.8% of them reported sexual dysfunction. A decrease in vaginal lubrication was the most commonly associated factor [14].

It has been suggested that approximately 40% of women between 40 and 64 years of age cease their sexual activity, and a study in healthy women between 40 and 64 years of age in Santiago de Chile showed that the main reasons for sexual inactivity were sexual dysfunction (49.2%), unpleasant personal relationship with their partner (17.9%), and couple's lack (17.7%). These reasons changed with age; women from 45 to 59 years reported a decrease in sexual desire (40.5%) and in those older than 60 years, couple's lack (32.4%).

In another study the incidence of sexual dysfunction was reported in 57%, with average age from 49 to 55 years [15]. Another study in African-American Colombian climacteric women aged from 40 to 59 years reported that 66.2% were sexually active, 70.8% were premenopausal, and 29.2% were postmenopausal, with a 38.4% sexual dysfunction prevalence that increased with the change in the menopausal status; one out of three were premenopausal, and half of those who were postmenopausal had sexual dysfunction [16].

In a study in 44 Mexican women in which the relationship of sexual dysfunction and urinary incontinence was evaluated, it was reported in 34%, that age and marital status were the most important factors and anorgasmia the most frequent sexual dysfunction, although only 11.4% requested help [17].

That is why the purpose of the present work was to know the prevalence of sexual dysfunction in pre and postmenopausal women and to know the associated biological and sociocultural factors.

Material and methods

A cross-sectional, descriptive, comparative study was done in Mexican women aged from 40 to 60 years

who did not have any chronic disease and who were not hysterectomised. They attended the gynaecological endocrinology service for consultation due to climacteric and were not receiving hormone replacement therapy. They were allocated, as they arrived to the consultation, to either the premenopausal or the postmenopausal group. In all them, age (years), marital status, educational level, number of pregnancies, perception of normal health, and religion were documented. Menopausal status was considered as premenopausal or postmenopausal, the former as having regular menstrual periods and the latter as having more than 12 months since the last menstrual period.

On the day of consultation, the FSFI, which considers the sexual activity in the last 4 weeks, was applied. This questionnaire has 19 questions grouped in 6 domains: desire (questions 1 and 2), excitement (questions 3 to 6), lubrication (questions 7 to 10), orgasm (questions 11 to 13), satisfaction (questions 14 to 16) and pain (questions 17 to 19). Each question had 5 or 6 answer options and they were assigned a score between 0 and 5. The score of each domain was multiplied for a homogenisation factor and the final score was the sum of the domains (greater score = better sexuality). A score ≤ 26.55 was considered as presence of sexual dysfunction. A score of 0 in a domain indicated no sexual activity in the last month.

For sample size calculation the Epi Info 7 program was used, a universe of 360 women, was considered with a maximum frequency of sexual dysfunction of 60% and a minimum of 50%, with a confidence level of 90%, gave 55 women per group.

For statistical analysis the statistical program SPSS V 20 for Windows was used. For the comparison of age, number of pregnancies, and time since menopause between the pre- and postmenopausal women, as well as with sexual activity and without sexual activity, the Mann-Whitney U test was used. To compare the demographic variables, marital status, education level, and religion, between premenopausal and postmenopausal women, with and without sexual dysfunction, the χ^2 test was used. Spearman's correlation analysis was done between age and FSFI score, in the group with sexual life.

The project was authorised by the Local Research and Ethics in Research Committee with the number R-2016-1905-6, and the women signed an informed consent form.

Results

One hundred and ten healthy Mexican climacteric women aged from 40 to 60 years, with neither hysterectomy nor hormone replacement therapy, and who answered the FSFI were studied; 55 were premenopausal (group 1) and 55 postmenopausal (group 2). The me-

dian of age was 46 (40-58) years in the premenopausal women and 53 (45-60) years in the postmenopausal women ($p < 0.001$). The number of pregnancies was of three (0-6) in both groups, with no difference between them. The time since the menopause was three (1-18) years for group 2.

Premenopausal women had greater education level than postmenopausal women ($p < 0.023$), while for marital status and religion no differences were found (Table 1).

Of the total, 44 (40%) did not have sexual activity, while 66 (60%) had a sexually active life. When comparing both groups those without sexual activity were older than those with sexual activity 51 (40-60) years vs. 47 (41-58) years, respectively ($p < 0.033$), a smaller percentage had stable couple 25 (56.8%) vs. 54 (81.8%). A greater percentage of premenopausal women had a sexually active life in comparison with the postmenopausal women: 42 (76.3%) vs. 24 (43.6%), respectively ($p < 0.001$).

In the sexually active women, sexual function was determined according to FSFI score, when it was ≤ 26.55 , sexual dysfunction was considered. Of the sexually active women, 62.1% had sexual dysfunction 62.5% of premenopausal and 61.9% of those postmenopausal without statistical significant differences. There were no statistically significant differences in education level, marital status and religion among women with and without sexual dysfunction (Table 2).

Table 3 shows the score of the different FSFI sections in sexually active women by age group. A significant fall of FSFI score as found from 50 to 54 years, which shows that age can be a decisive factor in sexual function because at lower age better sexual function was seen, specifically in desire, excitement, and lubrication items, mainly in the group from 40 to 44 years old, with a lower score in the 55 to 59-year-old group. In orgasm and pain, the 45 to 49-year-old group had the lower affectation.

The Spearman's correlation analysis between age and the FSFI score was in group with sexual life $\rho = -0.324, p < 0.008$.

Discussion

It has been found that sexual dysfunction risk is decreased in women who have the perception of normal health. In this study, only women without chronic degenerative diseases were included, without hormonal replacement therapy and without hysterectomy, who had normal health perception, so the results do not show a factor determined by the co-morbidities, but only by a relation to the menopausal status and the socio-demographic environment.

Sexuality is an integral and outstanding part of quality of life, which is altered by the climacteric. However,

Table 1. Sociodemographic characteristics, according to menopausal status

	Premenopausal	Postmenopausal	p
Marital status			
Single	12 (21.8)	8 (14.5)	NS
Married	34 (61.5)	36 (65.4)	
Divorced	5 (9.0)	3 (5.4)	
Free union	4 (7.2)	5 (9.0)	
Widow	0 (0.0)	3 (5.4)	
Education level			
Primary	7 (12.7)	22 (40.0)	0.023
Secondary	16 (29.0)	11(20.0)	
Technical	5 (9.0)	7 (12.7)	
High-School	15 (27.2)	7 (12.7)	
University	6 (10.9)	5 (9.0)	
Postgrade	6 (10.9)	3 (5.4)	
Religion			
Catholic	49 (89.1)	46 (83.6)	NS
Christian	4 (7.3)	4 (7.3)	
Jehovah witness	0 (0.0)	1 (1.8)	
Other	0 (0.0)	3 (5.4)	
None	2 (3.6)	1 (1.8)	

Results express number of women (%)

Table 2. Sociodemographic characteristics of sexually active women, grouped by sexual function.

	Sexual dysfunction (n = 41)	Without sexual dysfunction (n = 25)	p
Marital status			
Single	6 (14.6)	3 (12.0)	NS
Married	30 (73.2)	16 (64.0)	
Divorced	1 (2.4)	2 (8.0)	
Free union	4 (9.7)	4 (16.0)	
Education level			
Primary	8 (19.5)	3 (12.0)	NS
Secondary	12 (29.3)	6 (24.0)	
Technical	3 (7.3)	5 (20.0)	
High-School	6 (14.6)	5 (20.0)	
University	8 (19.5)	2 (8.0)	
Postgrade	4 (9.7)	2 (8.0)	
Religion			
Catholic	35 (85.5)	21 (84.0)	NS
Christian	3 (7.3)	3 (12.0)	
Jehovah witness	0 (0.0)	0 (0.0)	
Other	2 (4.9)	0 (0.0)	
None	1 (2.4)	1 (4.0)	

The results are number of women (%)

Table 3. FSFI items score and FSFI score, by group of age in sexually active women (n = 66)

Age (years)	Desire	Excitation	Lubrication	Orgasm	Satisfaction	Pain	Total
40-44	3.6 (1.8-4.8) ^{a,d}	3.9 (2.7-5.4) ^{b,e}	5.1 (3.0-6.0) ^f	4.0 (2.4-6.0)	4.8 (3.6-6.0) ^e	4.0 (1.6-6.0) ^g	26.0 (16.9-30.8) ^m
45-49	3.6 (1.2-5.4) ^{h,i}	3.6 (2.1-5.1)	3.9 (2.1-6.0) ^j	4.8 (2-6) ^k	4.8 (1.2-6)	4.8 (2-6) ^l	26.1 (16.6-33.9) ⁿ
50-54	3.0 (1.2-4.8) ^{a,h}	2.7 (0.9-4.2) ^b	3.6 (1.2-6.0)	3.2 (1.2-6)	3.2 (1.6-6.0) ^c	3.6 (2-6)	18.8 (11.2-31.6) ^{m,n}
55-59	3.0 (1.2-5.4) ^{d,i}	3.3 (2.4-4.5) ^e	3.9 (1.8-6.0) ^{f,j}	4.4 (2-5.6) ^k	4.8 (2.4-6.0)	3.6 (1.2-6.0) ^{g,l}	22.0 (12.4-30.3)

a: < 0.012, b: < 0.028, c: < 0.045, d: < 0.003, e: < 0.037, f: < 0.019, g: < 0.029, h: < 0.013, i: < 0.003, j: < 0.045, k: < 0.022, l: < 0.013, m < 0.008, n < 0.012
 FSFI – Female Sexual Function Index

sexual function not only depends on oestrogen levels but also on the interaction of biological factors with psychological, social, and cultural aspects and the individual factors of each woman that confer individual characteristics. In this study, nearly half (40%) of the evaluated women had not had sexual activity in the last four weeks and 56.8% of them were in a stable relationship. Other studies have reported the reasons for sexual inactivity in middle aged women as sexual dysfunction in half of the cases and in the other half due to a bad relationship or lack of a partner [1, 14-17]. So, it is worth asking women without sexual activity other questions to explain the reason for their sexual inactivity. In those with a stable relationship, it would be convenient to know the couple's age and whether the man had some type of male sexual dysfunction that impedes sexual activity, and to investigate other types of sexual activities and if sexual activity is perceived as important or necessary.

The results of this study showed a high percentage of women with sexual dysfunction in the premenopausal and in the postmenopausal age; however, lower scores suggestive of sexual dysfunction were found beginning from 50 years age. It is worth mentioning that the FSFI does not make a diagnosis, but indicates that something is wrong with sexual function.

In relation with the sociodemographic variables among the groups with dysfunction and without it, no statistically significant difference was found in the education level, religion and marital status.

This study has the weakness that sample size was smaller for detecting differences in sociodemographic variables, but also has the strength of being one of the first research projects in this area in Mexico.

Hence, it can be concluded that sexual function was mostly affected in older women.

Disclosure

Authors report no conflict of interest.

References

1. Blümel JE, Araya H, Riquelme R, et al. Prevalencia de los trastornos de la sexualidad en mujeres climatéricas. Influencia de la menopausia y de la terapia de reemplazo hormonal. *Rev Méd Chile* 2002; 130: 1131-1138.
2. DSM-5 Manual diagnóstico y estadístico de los trastornos mentales. American Psychiatric Association Editorial Médica Panamericana 5a ed. 2014.

3. Ojanlatva A, Makinen J, Helenius H, et al. Sexual activity and perceived health among Finnish middle-aged women. *Health Qual Life Outcomes* 2006; 4: 2-11.
4. Castelo-Branco C, Blümel JE, Araya H, et al. Prevalence of sexual dysfunction in a cohort of middle-aged women: influences of menopause and hormone replacement therapy. *J Obstet Gynaecol* 2003; 23: 426-430.
5. Nicolosi A, Laumann EO, Glasser DB, et al. Global study of sexual attitudes and behaviors investigators' group. Sexual behavior and sexual dysfunctions after age 40: the global study of sexual attitudes and behaviors. *Urology* 2004; 64: 991-997.
6. Nazareth I, Boynton P, King M. Problems with sexual function in people attending London general practitioners: cross sectional study. *BMJ* 2003; 23: 423-426.
7. Carranza-Lira S, Flores-Miranda MA, Gómez-Brigada I. Comparación de los síntomas del climaterio entre mujeres perimenopáusicas de la ciudad de México y las de una comunidad zapoteca del estado de Oaxaca. *Ginecol Obstet Mex* 2010; 78: 116-120.
8. Blümel JE, Del Pino M, Aprikian D, et al. Effect of androgens combined with hormone therapy on quality of life in post-menopausal women with sexual dysfunction. *Gynecol Endocrinol* 2008; 24: 691-695.
9. Basson R, Berman J, Burnett A, et al. Report of the international consensus development conference on female sexual dysfunction: definitions and classifications. *J Urol* 2000; 163: 888-893.
10. Rosen R, Brown C, Heiman J, et al. The Female Sexual Function Index (FSFI): a multidimensional self-report instrument for the assessment of female sexual function. *J Sex Marital Ther* 2000; 26: 191-208.
11. Blümel JE, Binfa L, Cataldo L, et al. Índice de función sexual femenina: un test para evaluar la sexualidad de la mujer. *Rev Chil Obstet Ginecol* 2004; 69: 118-125.
12. Vital M, de Visme S, Hanf M, et al. Using the Female Sexual Function Index (FSFI) to evaluate sexual function in women with genital mutilation undergoing surgical reconstruction: a pilot prospective study. *Eur J Obstet Gynecol Reprod Biol* 2016; 202: 71-74.
13. Blümel JE, Chedraui P, Baron G, et al; Collaborative Group For Research Of The Climacteric In Latin America (REDLINC). Sexual dysfunction in middle-aged women: a multicenter Latin American study using the female sexual function index. *Menopause* 2009; 16: 1139-1148.
14. Blümel JE, Castelo-Branco C, Cancelo MJ, et al. Impairment of sexual activity in middle-aged women in Chile. *Menopause* 2004; 11: 78-81.
15. Figueroa JR, Jara AD, Fuenzalida PA, et al. Prevalencia de disfunción sexual en mujeres climatéricas. *Rev Méd Chile* 2009; 137: 345-350.
16. Monterrosa-Castro A, Márquez-Vega J, Arteta-Acosta C. Disfunción sexual en mujeres climatéricas afrodescendientes del Caribe Colombiano. *IATREIA* 2014; 27: 31-41.
17. Pérez-Martínez C, Vargas-Díaz, Cisneros-Castolo M. Prevalencia de disfunción sexual femenina en una población que asiste a una unidad de urología. *Rev Mex Urol* 2008; 68: 98-102.