

Full Length Research Paper

Assessment of sexual function in women with and without urinary incontinence and Pelvic Organ Prolapse, using the Portuguese version of the PISQ-12 questionnaire

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Objective: To assess sexual function in women with and without urinary incontinence/pelvic organ prolapse using the PISQ-12 questionnaire.

Material and Methods: One hundred and thirty-two women were evaluated for the current study. Sixty-four subjects were considered symptomatic and allocated to the study group, whereas 68 asymptomatic women formed the control group. All participants answered the PISQ-12.

Results: There was no difference in educational level, age or marital status between the groups. Using Cronbach's alpha coefficient, the study group had an α of 0.79 and the control group had an α of 0.80, which indicates good internal consistency. For the test-retest, the Intraclass Coefficient of Correlation was 0.77, ranging from 0.66 to 0.89. The study group scores were lower compared to control group scores, indicating worse sexual function (27.8 ± 9.3 vs. 42.7 ± 3.9 , $p < 0001$).

Conclusion: Based on the use of the PISQ-12 questionnaire, women with UI/POP had worse sexual function than those without UI/POP

Key words: Questionnaires; Urinary Incontinence; Pelvic Organ Prolapse; Evaluation.

INTRODUCTION

Dysfunctions of the pelvic floor, such as urinary incontinence (UI) and pelvic organ prolapse (POP), are debilitating conditions which require conservative surgery and treatment. These conditions can occur due to deterioration in the muscles, nerves and connective tissues which maintain and control the normal pelvic function. Factors such as age, childbirth, obesity,

menopause, and surgeries such as hysterectomy, can contribute to these dysfunctions. (Amaro JL et al, 2005) The International Continence Society (ICS) defines UI as a complaint of any involuntary loss of urine, and is considered a public health problem, affecting the quality of life of thousands of women. (Abrams P et al, 2002; Haylen BT et al, 2010) According to the International Urogynecology Association-IUGA and the ICS (2009), POP is defined as a lowering of one or more of the vaginal walls, the uterine cervix, or the vaginal apex (vaginal scar) following hysterectomy (Abrams P et

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al,2002; Haylen BT et al,2010). UI and POP are both common, occurring in up to 50% of multi parous women. One study showed that 40% of the female population between the age of 45 and 85 years old have evidence of at least stage II of POP, and approximately 10% of these women undergo surgical treatment (Suzanne H et al, 2008).The etiology of this condition is multi factorial and includes pregnancy, births, weaken of the pelvic sling, anomalies of the connective tissue, age and menopause (Bump RC, Norton PA, 1998) . These anatomic and functional alterations lead to social, psychological, physical and sexual problems which interfere with the quality of life in this group of women.

In the health field, interest in the concept of Quality of Life (QL) is relatively recent. The concept includes evaluation of the physical and psychosocial impact which dysfunction, infirmities and incapacities can cause, allowing for a better understanding of the patient and their adaptations to their condition (Seidl EMF, Zannon CMLC,2004).

Scientific research in the area of sexuality emerged only in the 1920s. The study published in 1966 by Masters and Johnson, and again in 1970, on Feminine Sexual Response brought research on feminine sexuality into prominence. (Pons ME,2009)

According to the World Health Organization, sexual dysfunction (SD) is defined as an inability to derive satisfaction from the sexual act (Abdo C, 2006). When this problem coexists with UI or POP, it can increase the difficulties of the patient in this regard, possibly due to the stigma attached to sexuality. This subject is often overlooked by health professionals, although the sexual well being of women is important to evaluate.

Problems of the pelvic floor, including UI, anal incontinence and POP, are very common, affecting approximately one third of adult women. (Espuña PM et al, 2008)

Although these conditions do not mean a risk to life, the social and economic consequences can be significant. Symptoms interfere with social well being, psychological, occupational, and domestic aspects of well being, and are also related to sexual satisfaction.

As part of the process of validating the PISQ-12 questionnaires, we divided patients into two groups, those with and without complaints of UI and /or POP. The aim of this article was to show the results of our findings when the Portuguese validation of the PISQ-12 questionnaire.

MATERIAL AND METHODS

An observational, transversal study was conducted involving an initial sample of 100 women from the Urogynecology Center (NUG) of the Care Management Center (NGA-25/ Jaú-SP) between September to December 2009.

Women who were older than 18 years of age, in a heterosexual relationship with an active sexual life for at least six months, were included in this study. All women underwent a gynecological physical examination including a Stress Test (ST) and quantification of pelvic organ prolapse (POP-Q), according to the criteria established by Bump, 1996 [POP-Q]. (Bump RC et al, 1996) All women signed an informed consent form, which had been previously approved by the Research Ethics Committee of the Faculty of Medical Sciences of the Santa Casa de São Paulo Hospital.

Of the initial sample, a total of 64 women completed the evaluation and were included in the Study group. A further 68 asymptomatic women were included in the Control group (no UI or POP complaints). The size of the sample was determined for an α of 5% (type I error) and a β of 0.10 (type II error).

The ICIQ-SF and ICIQ-VS questionnaires, versions previously validated for use in Portuguese, were applied at the same time as the Portuguese version of the PISQ-12 with the aim of evaluating the correlation among the questionnaires (construction validity).

The PISQ-12 is composed of 12 questions divided into three sections: Emotional and Behavioral (Questions 1-4); Physical (Questions 5-9) and Partner relationships (Questions 10-12). Answers are graded according to the Likert scale which ranges from Always, Usually, Sometimes, Seldom, Never. Overall PISQ-12 scores range from 0-48, with each response scoring a value of 0-4, as follows: Always=0, Usually=1, Sometimes=2, Seldom=3 and Never=4. Questions 1, 2, 3 and 4 use inverse scoring. Higher scores indicate better sexual function. (Rogers R G et al ,2003)

Statistical Analyses

Cronbach's Alpha was applied to measure internal consistency and to verify the homogeneity, or accuracy, of the items. As a general rule, accuracy should not be lower than 0.80 when the scale is fully used, although values above 0.60 indicate consistency.

The Intraclass Correlation Coefficient (ICC) was applied to measure the test-retest reliability. ICC values above 0.70 indicate good reliability. The Mann-Whitney test was used for comparison of continuous or ordinal variables between groups, whereas the Kruskal Wallis test was employed for three or more groups. Comparison of

	Study Group	Control Group	P
Age ^a	49.8±11	46.6±10.2	0.129
Mean±SD			
Marital Status ^b			
Married	52 (39.9%)	60 (45.5%)	
Separated	6 (4.5%)	3 (2.3%)	0.263(bb)
Single	4 (3.0%)	5 (3.8%)	
Widow	2 (3.1%)	0	
Educational level ^b			
1st Grade (Primary)	38 (61.3%)	43 (64.2%)	
2nd Grade (Secondary)	16 (25.8%)	16 (23.9%)	
3 rd Grade (College or University)	3 (4.8%)	4 (6.0%)	0.952
Illiterate	5 (8.0%)	4 (6.0%)	
Occupation ^c			
Retired	1 (0.7%)	4 (3.0%)	
Housewife	36 (27.5%)	29 (22.1%)	0.028
Employed	26 (19.8%)	29 (22.1%)	
Unemployed	0	6 (4.6%)	
a Mann-Whitney	Frequency of loss =3		
b Chi square (bb) grouping married x other			
c Fisher			

Table 1: Sociodemographic characteristics of participants of Study and Control groups

proportions was performed using the Chi Square Test or Fisher's Exact Test, when applicable. The level of significance was set at 0.5% for all statistical tests. The SAS System for Windows (Statistical Analysis System), version 9.2., (SAS Institute INC, 2002-2008) was used for all calculations.

RESULTS

A total of 132 women were evaluated. Sixty-four were considered to be symptomatic and were assigned to the Study group, while 68 subjects formed the Control group. There was no significant difference between the groups in terms of educational levels, age, or marital status, as shown in Table 1.

On the Cronbach's alpha test, the study group had an α of 0.79 and the control group had an α of 0.80, indicating good internal consistency, and there was no question that

Instrument	Group	N	Mean	SD	Minimum
PISQ-12	Study	64	27.8	9.3	6.0
	Control	68	42.7	3.9	33.0
					Median Maximum p
					28.0 46.0 <0.0001*

* Mann- Whitney

Table 2: Descriptive analysis and comparison of scores between groups

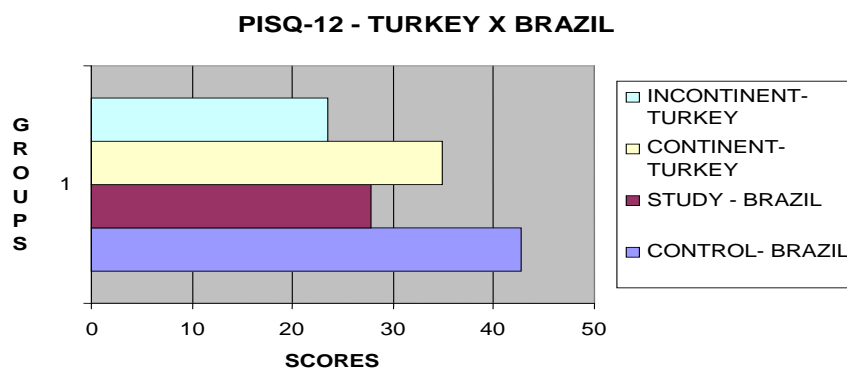


Figure 1: Scores of validations in Turkish and in Portuguese by group.

if excluded the consistency would be greater. Regarding test retest, the ICC was 0.77 and ranged from 0.66 to 0.89.

There was a significant difference between the PISQ-12 scores in the Study and Control groups (Table 2).

DISCUSSION

A study conducted by Handa et al (2004) in 1299 patients evaluating sexual function concluded that women with UI are less likely to be sexually active than those with no dysfunction, but found no relationship for POP. However, the cited study revealed that age could be a confounding variable. According to Barber et al (2002), who studied women who sought treatment for pelvic floor disorders, POP appeared to be associated with sexual difficulties.

By contrast, Weber et al (2000), found no significant differences in sexual function in women with and without POP. However, specific questionnaire, reveal the relationship between POP and sexual function, as shown in the study by Rogers et al (2001) and Novi et al (2005), in which the sexual function scores of women with POP were much lower than those of the control group. Özel et al (2005) used the specific "Pelvic Organ Prolapse/Urinary Incontinence Sexual Questionnaire -Short Form" (PISQ-12) and confirmed that UI and POP objectively interfere with sexual function.

Comparative studies between groups with UI and POP, and without UI or POP using the English version of the PISQ-12 have not been conducted. However, in the Turkish validation study, a comparative study between these two groups was performed. Cam C et al, (2009)

By the validation of the Portuguese version of the questionnaire, the internal consistency of the PISQ-12, as measured by the Cronbach's Alpha, was considered to be satisfactory. The general index obtained was 0.79 for the study group and 0.80 for the control group. The Index of Correlation (IC) for the test-retest of each question was considered to be moderate to strong overall, ranging from 0.63 to 0.89. The total IC score was 0.77.

The validity of the questionnaire was evaluated using descriptive analysis and by comparing the PISQ-12 scores for the Study and Control groups. In this moment we found that the mean score was lower in the Study group (27.8±9.3), compared to the Control group (42.7±3.9), indicating that sexual function was worse in incontinent women and/or POP ($p < 0.0001$). This mirrors the result found in the Turkish study which found a mean score for incontinent women of 23.6±8.4 and for continent women 34.8±6. (Rogers R G et al, 2003) (Figure.1)

Although some studies demonstrate the correlation between IU and POP with worse sexual function, more researches should be taken in order to corroborate with our findings. Perhaps including treatments and the results.

CONCLUSION

Use of the PISQ-12 questionnaire revealed that women with UI/POP had worse sexual function scores than women without UI/POP.

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Abbreviations and short forms

UI - Urinary Incontinence
 POP – Pelvic Organ Prolapse
 ICS - International Continence Society
 IUGA - International Urogynecology Association
 WHO - World Health Organization
 SD - Sexual Dysfunction
 PISQ-12- Pelvic Organ Prolapse/Urinary Incontinence Sexual Questionnaire
 NGU - Urogynecology Center
 NGA - Care Management Center
 ST - Stress Test
 POP-Q - Pelvic Organ Prolapse Quantification
 ICIQ-SF - International Consultation on Incontinence Questionnaire – Short Form
 ICIQ-VS - International Consultation on Incontinence Questionnaire - Vaginal Symptoms.
 ICC - Intraclass Correlation Coefficient
 CI - Correlation Index

REFERENCES

Abdo C (2006). Elaboração e Validação do quociente sexual-versão feminina: uma escala para avaliar a função sexual da mulher. *Rev Bras Med.*;63(9):477-482.
 Abrams P, Cardozo L, Fall M, Griffiths D, Ulmsten U, Rosier P, Ulmsten U, van Kerrebroeck P, Victor A, Wein A (2002).

Standardisation Sub-committee of the International Continence Society. The standardization of Terminology of lower urinary tract function: report from the Standardisation Sub- committee of the International Continence Society. *Neurourol Urodyn*;21:167-178.
 Amaro JL, Haddad JM, Trindade JCS, Ribeiro RM (2005). Reabilitação do Assoalho Pélvico nas Disfunções Urinárias e Anorretais. São Paulo: SegmentoFarma;. pp.47-49.
 Barber MD, Visco AG, Wyman JF, Fantl JA, Bump RC (2002). Sexual function in women with urinary incontinence and pelvic organ prolapse. *Am. J. Obstet. Gynecol.*;99(2):281-289.
 Bump RC, Norton PA (1998). Epidemiology and Natural History of Pelvic Floor Dysfunction. *Obst Gynecol Clin North Am J* 1998;25(4):1-24.
 Bump RC, Mattiasson A, Bo K, Brubaker LP, DeLancey JO, Klarskov P, Shull BL, Smith AR (1996). The Standardisation of Terminology of Female Pelvic Organ Prolapse and Pelvic Floor Dysfunction. *Am. J. Obstet. Gynec.* 1996;175:10-17.
 Cam C, Sancak P, Karahan N, Sancak A, Celik C, Karateke A (2009). Validation of the short form of the Pelvic Organ Prolapse/ Urinary Incontinence Sexual Questionnaire (PISQ-12) in a Turkish population. *Eur. J. Obstet. Gynecol. Reprod. Biol*;146:104-107.
 Espuña PM, Puig CM, Gonzáles AM, Zardain PC, Rebollo AP (2008). Cuestionário para evaluación de la función sexual em mujeres com prolapso genital y/ o incontinência. Validación de La version española Del “ Pelvic Organ Prolapse/ Urinary Incontinence Sexual Questionnaire (PISQ-12)”. *Actas Urol Esp.*;32(2):211-129.
 Handa VL, Harvey L, Cundiff GW, Siddique SA, Kjerulff K (2004). Sexual function among women with urinary incontinence and pelvic organ prolapse. *Am. J. Obstet. Gynecol.*;191:751-756.
 Haylen BT, Ridder D, Freeman RM, Swift SE, Berghmans B, Lee J, Monga A, Petri E, Rizk DE, Sand PK, Schaer GN (2010). An International Urogynecology Association (IUGA)/ International Continence Society (ICS) joint report on the terminology for female pelvic floor dysfunction. *Int. Urogynecol. J.*;21(1):5-26
 Novi JM, Jeronis S, Morgan MA, Arya LA (2005). Sexual function in women with pelvic organ prolapse compared to women without pelvic organ prolapse. *J Urol*;173:1669-1672.
 Rogers RG, Vilarreal A, Kammerer-Doak D (2001). Qualls C. Sexual function in women with and without urinary incontinence and or pelvic organ prolapse. *Int Urogynecol J. Pelvic Floor Dysfunct.*;12:361-365.
 Rogers RG, Coates KW, Kammerer- Doak D, Khalsa S, Qualls C (2003). A short form of the Pelvic Organ Prolapse/Urinary Incontinence Sexual Questionnaire (PISQ-12). *Int. Urogynecol. J.*2003;14:164-168.
 Seidl EMF, Zannon CMLC. Qualidade de vida e saúde: aspectos conceituais e metodológicos. *Cad Saúde Pública.* 2004;20(2):580-588.
 Pons ME (2009). Sexual health of women with pelvic floor disorders. *Int Urogynecol J.*;20(Suppl 1):S5-S7.
 Suzanne H, Diane S, Christopher M, Elisabeth A (2008).. Conservative management of pelvic organ prolapsed in women. *Cochrane Library, Issue 4.*. Oxford: Update software.
 Özel B, White T, Urwitz-Lane R, Minaglia S (2005). The impact of pelvic organ prolapse on sexual function in women with urinary incontinence. *Int Urogynecol J.*;17:14-17.
 Weber AM, Walters MD, Piedmonte MR (2000). Sexual function and vaginal anatomy in women before and after surgery for pelvic organ prolapse and urinary incontinence. *Am. J. Obstet. Gynecol.*;182(6):1610-1615.

