

# Cultural Adaptation of the Patient Satisfaction Questionnaire and Validation of Its Use in the Portuguese Language for Women with Chronic Pelvic Pain

## *Transculturação e validação do questionário de satisfação do paciente para a língua portuguesa para mulheres com dor pélvica crônica*

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### Abstract

**Objectives** to translate and adapt the Patient Satisfaction Questionnaire (PSQ) to Portuguese and to assess its psychometric properties based on internal consistency, test-retest, factor analysis and divergent and convergent construct validities.

**Methods** The study involved 218 participants and was approved by the local Research Ethics Committee. All participants gave written informed consent and their anonymity was ensured. The instrument was translated and culturally adapted for use in the Portuguese language. The internal consistency and factorial analysis were assessed by patients and physicians. Convergent and divergent validities were also assessed specifically for the patient group, as well as test-retest reliability. The Portuguese versions of the Patient Health Questionnaire (PHQ-9) and State-Trait Anxiety Inventory (STAI) were used for the analysis of the convergent validity. In addition, we applied a questionnaire of clinical and demographic data for the analysis of the divergent validity.

**Results** The adapted version of the PSQ showed good Cronbach's  $\alpha$  and test-retest values, and the results of the convergent construct validity between the PSQ and the PHQ-9 ( $r = 0.34$ ;  $p = 0.02$ ) and the STAI ( $r = 0.47$ ;  $p = 0.001$ ) were negative, significant and moderate correlations. Divergent validity showed significant correlations only with race and education. The Brazilian Portuguese version of the PSQ proved to be a valid and reliable instrument, with psychometric properties suitable for the assessment of satisfaction among patients with

### Keywords

- ▶ chronic pelvic pain
- ▶ physician-patient relationship
- ▶ satisfaction

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chronic pelvic pain and their physicians in Brazil. The questionnaire may allow the homogenization of reports on this topic in the international literature.

## Resumo

**Objetivo** traduzir e adaptar o *Patient Satisfaction Questionnaire* (PSQ) para o Português e avaliar suas propriedades psicométricas com base na consistência interna, teste-reteste, análise fatorial e validades de construto divergente e convergente.

**Métodos** O estudo incluiu 218 participantes e foi aprovado pelo Comitê de Ética em Pesquisa local. Todos os participantes assinaram o termo de consentimento livre e esclarecido, e o anonimato dos participantes foi assegurado. O instrumento foi traduzido e adaptado culturalmente para uso em Português. A consistência interna e análise fatorial foram avaliadas por pacientes e médicos. As validades convergente e divergente também foram avaliadas especificamente para o grupo de pacientes, bem como a confiabilidade teste-reteste. O Questionário de Saúde do Paciente (PHQ-9) e o Inventário de Ansiedade Traço-Estado (STAI) foram utilizados para a análise da validade convergente. Além disso, foi aplicado um questionário de dados clínicos e demográficos para análise da validade divergente.

**Resultados** A versão adaptada do PSQ apresentou bons valores alfa de Cronbach e teste-reteste, e a validade de construto convergente entre o PSQ e o PHQ-9 ( $r = 0,34$ ;  $p = 0,02$ ) e o STAI ( $r = 0,47$ ;  $p = 0,001$ ) foram negativas, significativas e com correlação moderada. A validade divergente mostrou correlações significativas com raça e educação. Conclusão: a versão brasileira do PSQ provou ser um instrumento válido e confiável, com propriedades psicométricas adequadas para a avaliação da satisfação entre os pacientes com dor pélvica crônica e seus médicos no Brasil. O questionário pode permitir a homogeneização dos relatórios sobre este tema na literatura internacional.

## Palavras-chaves

- ▶ dor pélvica crônica
- ▶ relação médico-paciente
- ▶ satisfação

## Introduction

Chronic pelvic pain (CPP) is a public health problem affecting women worldwide, with an estimated overall prevalence of 3.8%, and seldom reflects a single pathological problem. In addition to the biological factors, this condition is frequently associated with psychological, social and cultural factors.<sup>1,2</sup> In Brazil, the prevalence of CPP may be higher, of ~ 11%.<sup>3,4</sup> Chronic Pelvic Pain is defined as persistent pain in structures related to the pelvis (digestive, urinary, genital, myofascial or neurological systems), with frequent negative emotional, sexual, behavioral and cognitive consequences, as well as symptoms suggestive of dysfunction of such systems. The temporal criterion of six months is arbitrary and is not absolutely necessary if typical central sensitization mechanisms are present ([http://www.iasp-pain.org/files/Content/ContentFolders/Publications2/ClassificationofChronicPain/Part\\_II-F.pdf](http://www.iasp-pain.org/files/Content/ContentFolders/Publications2/ClassificationofChronicPain/Part_II-F.pdf); accessed April 7, 2016).

Studies have indicated that up to 60% of women with CPP do not receive a specific diagnosis, and 20% of them do not undergo any evaluation.<sup>5</sup> Furthermore, no disease can be identified in up to 30% of women.<sup>6</sup> Usually, the complexity of the disease, especially when no physical pathology is detected, has led to extensive investigations that, however, are often ineffective, costly and eventually iatrogenic.<sup>7</sup> This contributes to a doctor-patient relationship marked by the dissatisfaction of both parties.

Women attribute this dissatisfaction to the lack of a holistic approach to the problem, claiming that the professionals tend to focus only on physical symptoms. They also recognize that they have difficulties in understanding explanations and instructions due to the use of an inappropriate terminology.<sup>8</sup> On the other hand, the professionals often have difficulties in reconciling theoretical knowledge with practice, have a stereotyped view of women with this disease, and focus their approach on an interventionist technical model.<sup>9</sup> It is fundamental for the professionals to recognize the expectations and preferences of the patients in order to achieve the best possible communication<sup>10</sup> since the first visit.<sup>11</sup>

In fact, little is known about the nature and number of factors that determine satisfaction with the physician-patient relationship, which is believed to be improved by interpersonal relations, infrastructure and user perception of the health-disease process. The use of instruments that objectively assess satisfaction allows professionals to provide care that is tailored to the expectations of the patient.<sup>12</sup> In Brazil, efforts to develop models for the assessment of satisfaction have begun only recently. In contrast, in other countries numerous tools are available to assess satisfaction, although few of them assess this construct within the context of chronic pain. Among them are the Patient Treatment Satisfaction Scale (PTSS)<sup>13</sup>; Pain Service Satisfaction Test (PSST)<sup>14</sup>; and American Pain Society Patient Outcomes Questionnaire (APS-POQ).<sup>15</sup> Currently there is only one instrument designed to assess the level of satisfaction among female

patients with chronic pelvic pain and physicians, the Patient Satisfaction Questionnaire (PSQ), developed by Fry and Stones.<sup>16</sup> Characteristics such as feasibility and practicality make this instrument a potentially effective tool for the assessment of satisfaction within the context of high patient demand, in which the time devoted to the patient represents an aspect that affects the quality of care.

The cultural adaptation of an existing instrument has the advantage of increasing practicality by optimizing the allocation of physician time, as well as allowing comparisons to be drawn among different groups and cultures. Therefore, in the present study, our primary objective was to translate the PSQ into Portuguese and adapt it for use with CPP patients. In addition, we evaluated the psychometric properties of the adapted version.

## Methods

The study was approved by the Research Ethics Committee of the Hospital das Clínicas da Faculdade de Medicina de Ribeirão Preto, Universidade de São Paulo (HCFMRP-USP), Brazil – Protocol # 494/2011. All participants gave written informed consent, and their anonymity was ensured.

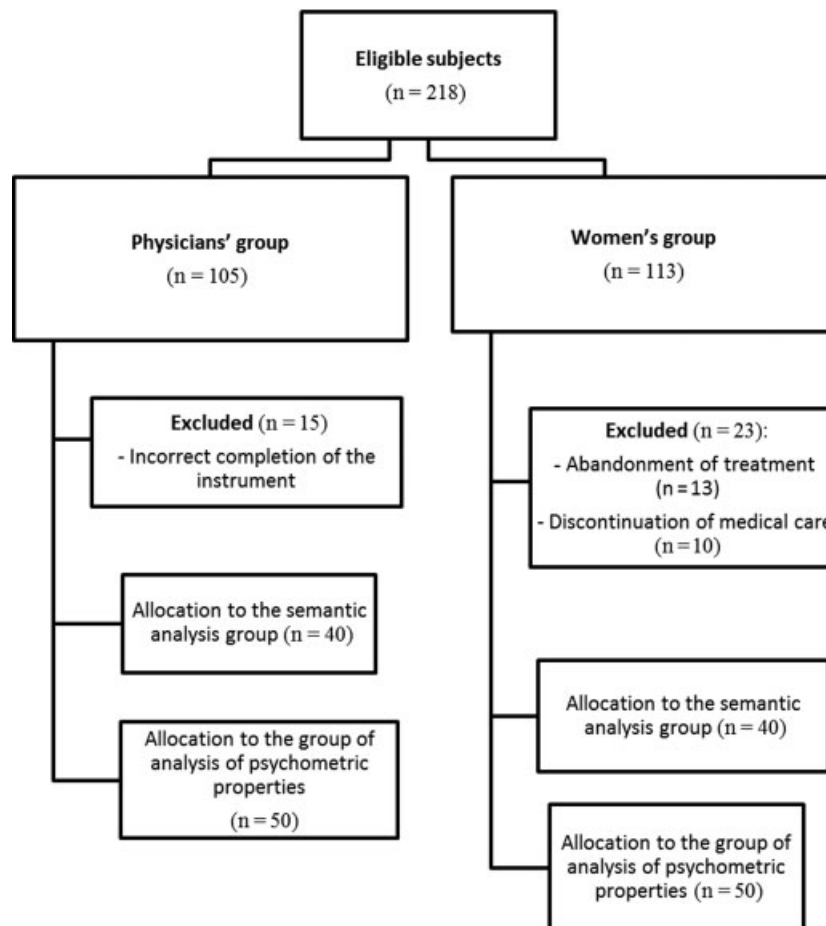
The study was conducted at the multidisciplinary HCFMRP-USP outpatient clinic specializing in the care of women with CPP. The HCFMRP-USP is a tertiary care facility

that is a referral center serving a population of five million inhabitants, all residing in municipalities within the northern region of the state of São Paulo, predominantly covered by the public health system.

We included women diagnosed with CPP. Women participating in other studies related to chronic pain and satisfaction, as well as illiterate women were excluded, in the latter case because filling out the instruments requires a minimum educational level in order for it to be self-applicable. The physician group consisted of professionals in training (medical students or residents) who were responsible for the care of women at the facility under study. The exclusion and allocation of the selected participants to the study groups are described in the flow chart (– Fig. 1).

## Instruments

The PSQ, which is freely available for public use, is based on four areas related to the interaction with and perception of the other party: communication, rapport, trust, and sense of ease. The questionnaire is presented as a 100-mm visual analogue scale applied to 4 questions for the members of each group (physicians and patients). The maximum score that can be achieved on the PSQ is 400 (a score of 100 for each question), which represents the best possible experience related to the encounter in question.<sup>16</sup>



**Fig. 1** Flow chart showing the allocation of the selected participants to the study groups.

In the study, we used the version adapted to Portuguese of the Patient Health Questionnaire (PHQ-9)<sup>17-19</sup> and State-Trait Anxiety Inventory (STAI)<sup>20</sup> for the analysis of the convergent validity. In addition, we applied a questionnaire of clinical and demographic data.

### Description of the Study Phases

In the present study, our first step was the translation and cultural adaptation of the instrument for use in Brazil, as recommended.<sup>21,22</sup> The initial translation of the PSQ was performed by two independent Brazilian investigators with considerable knowledge of the English language, who were aware of the objectives of the study. Based on the analysis and comparison of the translators and the senior researcher, we arrived at a consensus version in which no errors or divergent interpretations of the items were observed. That version was then back-translated into English by a translator whose native language is English and evaluated by one of the original authors of the PSQ. The consensus and back-translated versions were then analyzed by a rating committee consisting of three professionals (a physician, a physiotherapist and a psychologist), who assessed the equivalence of the versions, generating a provisory final version. At the outpatient clinic we recruited 40 patients, as well as the 40 physicians responsible for their care for semantic validation of the provisory final version. The final translated version was designated as Questionário de Satisfação do Paciente (QSP) (► **Supplementary Material** [online only]).

For the analysis of the psychometric properties of the QSP we recruited 50 additional patients and the 50 physicians responsible for their care. The instruments were given to the participants in the following order: QSP, STAI, PHQ-9 and questionnaire of clinical and sociodemographic data. The medical group only answered the QSP.

In those two groups, we assessed the internal consistency of the adapted instrument. The dimensionality was tested by factorial analysis in both groups. The convergent and divergent validities were also assessed specifically for the patient group. Similarly, to determine the stability (test-retest reliability) of the instrument, the patients completed the QSP at two different times, twenty days apart. The physicians were not submitted to test-retest analysis because of the great patient demand for their services during each period, the difficulty in establishing an adequate interval between evaluations, and the difficulty in contacting them for reevaluation.

### Statistical Analysis

Data related to all variables were entered into a Microsoft Excel (Microsoft, Redmond, US) database and analyzed on a spreadsheet generated by the Statistical Package for Social Science (SPSS for Windows, Rel. 15. 2006, SPSS Inc., Chicago, US). In order to determine reliability, we calculated Cronbach's  $\alpha$  and adopted the values proposed by Kline.<sup>23</sup> In the factorial analysis, Kaiser-Meyer-Olkin (KMO) values  $> 0.5$  were considered ideal. To determine test-retest reliability, we calculated the intraclass correlation coefficient (ICC). To determine convergent validity, we used the Pearson correlation coefficients related to the PHQ-9 and STAI instruments, adopting cut-off scores between 0–27 and

20–80 respectively. Normality was determined using the Kolmogorov-Smirnov test, and the significance level was set at 0.05 for all analyses.

## Results

### Translation and Cultural Adaptation

Aspects of face and content validity were addressed in this stage of the study. The content validity of the QSP was confirmed by the analysis of the expert committee, which consolidated all the versions of the questionnaire and developed what would be considered a preliminary version of the instrument for field testing. The preliminary version of the instrument was subjected to a semantic analysis, with three significant changes being made: insertion of an explanatory text (for the patients) about the objective of the QSP; insertion of a model/example (also for the patients) of how to fill out the QSP; and standardization of the terms “nothing” and “completely” in the QSP for patients and physicians. The translated and adapted version of the PSQ, now called QSP (► **Supplementary Material** [online only]), was obtained at the end of this stage.

### Psychometric Properties

In the physician group, the mean age was 26.3 years (range 22–30 years); the educational level ranged from the last (sixth) year of medical school to the third year of medical residency; 60.6% ( $n = 30$ ) were males and 39.4% ( $n = 20$ ) were females; and the mean total QSP score was 312.3 (range: 163–400). In the patient group, the mean age was 38.7 years (range: 17–55 years) and the mean total QSP score was 305.2 (range: 141–400) in the first application, compared with 309.5 (range: 78–399) in the second. The clinical and sociodemographic characteristics of the patient group are listed in ► **Table 1**.

Factorial analysis confirmed the one-dimensional characteristic of the adapted instrument for the physician and patient groups (KMO = 0.65 and 0.73 respectively). In the analysis of reliability, Cronbach's  $\alpha$  was 0.72 for the physician group (question 1: 0.58; question 2: 0.59; question 3: 0.73; question 4: 0.71) and 0.72 for the patient group (question 1: 0.63; question 2: 0.62; question 3: 0.67; question 4: 0.70), indicating a good correlation between variables. In the test-retest condition, the ICC values showed satisfactory and significant correlations (QSP-1: ICC = 0.34,  $p = 0.008$ ; QSP-2: ICC = 0.52,  $p < 0.001$ ; QSP-3: ICC = 0.54,  $p < 0.001$ ; QSP-4: ICC = 0.67,  $p < 0.001$ ; QSP-total: ICC = 0.71,  $p < 0.001$ ).

The determination of the convergent validity revealed a significant negative and moderate correlation between the QSP and the PHQ-9 ( $r = -0.34$ ;  $p = 0.02$ ), as well as between the QSP and the STAI ( $r = -0.47$ ;  $p = 0.001$ ). The determination of the divergent validity showed that the QSP score correlated significantly with race ( $t = 2.16$ ;  $p = 0.04$ ) and educational level ( $t = 2.87$ ;  $p = 0.006$ ). White females with high school education tended to score higher on the QSP. Although there was no significant correlation between age and satisfaction ( $r = -0.14$ ;  $p = 0.35$ ), the negative trend of all correlations suggests an inverse relationship between

**Table 1** Sociodemographic characteristics of the patient group

Characteristic	% (n)
Race	
White	56% (28)
Other	44% (22)
Marital status	
Steady partner	68% (34)
No steady partner	32% (16)
Education (years)	
≥ 8 years of schooling	62% (31)
< 8 years of schooling	38% (19)
Religion	
Catholic	66% (33)
Other	34% (17)
Employment status	
Employed	52% 2(6)
No activity	48% (24)
National minimum wage	
≥ 2×	64% (32)
< 2×	36% (18)
Duration of pain	
< 48 months	46% (23)
≥ 48 months	54% (27)

Note: national minimum wage of R\$ 678.00, approximately US\$ 285.00.

the 2 variables, with younger women being less satisfied than older women.

## Discussion

In this study we present the results of the process of cross-cultural adaptation and validation of the instrument Patient Satisfactory Questionnaire for Portuguese (Questionário de Satisfação do Paciente - QSP), which today is the only validated measurement of satisfaction of women with CPP and physicians available in Brazil. Despite the difference between the Cronbach's  $\alpha$  of the adapted and original (0.84) versions, the value obtained was adequate, considering that this measurement is usually affected by item number, since more extended instruments have the tendency to show higher  $\alpha$  values.<sup>24</sup> Similar results for Cronbach's  $\alpha$  ( $\alpha = 0.70$  and  $\alpha \geq 0.97$ ) and ICC (0.67 to 0.81) were obtained in studies proposing the development and validation of instruments for the assessment of patient satisfaction with treatment for chronic and acute pain.<sup>13,14</sup> The KMO criterion used in this adaptation confirmed the one-factor character of the QSP instrument as in the original version of the instrument, which showed 60–81% of the variance. The convergent construct validity of the QSP was confirmed by analysis, and it was in agreement with similar results reported by other authors.<sup>14</sup> Previous depression is known to be an

important determinant of patient dissatisfaction with medical care.<sup>25</sup>

The divergent construct validity was confirmed by analysis, except for the variables age, race and education. Some studies have shown that black individuals with chronic pain experience increased pain severity, more disability, higher damage to routine activities and increased psychosocial problems, such as anxiety and depression.<sup>26–29</sup> These findings have an impact on the studies related to the satisfaction with the medical care, where the same differences between races are reproduced regarding levels of satisfaction. White individuals usually report a more positive experience about medical care when compared with other races.<sup>30,31</sup> This racial discordance between doctors and patients can reduce the patient's perceptions of the quality of care, and may contribute to the lower levels of satisfaction with medical contact among African American patients.<sup>32</sup> On the other hand, recent evidence also suggests that physicians may approach the clinical encounter with preconceived and sometimes stereotypical ideas and attitudes that may harm the doctor-patient relationship.<sup>33–35</sup>

In agreement with our findings, other studies have shown a complex relationship between patient satisfaction and the age variable, with younger women reporting more dissatisfaction with medical contact.<sup>36</sup> A possible explanation for these findings is the fact that, with age, chronic pain becomes an expected and more accepted experience, so older patients tend to catastrophize less.<sup>37</sup> Considering the schooling variable, there is no consensus about its direct influence on the satisfaction construct, even though low educational levels are known to be related to a variety of negative health outcomes.<sup>38</sup> This is consistent with past research that has linked low educational attainment to maladaptive pain-coping strategies. Cano and colleagues have suggested that numerous pain coping strategies may be dependent on cognitive skills that are potentially enhanced by higher educational levels.<sup>39</sup> Based on the concept that satisfaction is a construct made up of aspects of health care and is also influenced by expectations and patient characteristics, pain-coping strategies can positively influence the perception of the care received.

We believe that this instrument can offer objective and rapid information about the level of patient satisfaction with the medical visit. This potentially allows the monitoring of the degree of patient satisfaction regarding the process of improvement and adequacy of clinical centers either by the habilitation of a multidisciplinary team or by providing an adequate infrastructure. Shared decision making, for example, has been proposed as a promising model of health and chronic pain care, but it requires an appropriate doctor-patient interaction, with satisfaction of both parties.<sup>40</sup> This is important because a high level of satisfaction is associated with positive expectations regarding treatment, which, in turn, are associated with a more significant clinical improvement.<sup>41,42</sup>

## Conclusion

The psychometric properties of the QSP meet acceptable parameters in the scientific literature, with the instrument thus representing a valid and precise tool. During the cultural

adaptation process, the QSP maintained fundamental characteristics for clinical use, representing a short, easy to understand and objective instrument that allows the assessment of the satisfaction of doctors and patients regarding the daily routine care of CPP. This instrument is a practical tool to be used to guide efforts in the constant improvement of care through the development and selection of more effective therapies, as a guide to the healthcare humanization process and to help the understanding of circumstances related to adherence and the patient's stay in the care process. The questionnaire may allow the homogenization of reports on this topic in the international literature.

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