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Article

Cultural Adaptation and Validation of the Pelvic Floor Distress Inventory Short Form (PFDI-20) and Pelvic Floor Impact Questionnaire Short Form (PFIQ-7) Portuguese Versions

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Abstract

Introduction: Throughout life, the characteristics of a woman's pelvic floor change due to physiological changes, including pregnancy, childbirth and menopause. These changes can predispose them to pelvic floor dysfunction. **Objectives:** To develop a linguistically and psychometrically adapted Portuguese (European) version of the Pelvic Floor Distress Inventory (PFDI-20) and Pelvic Floor Impact Questionnaire (PFIQ-7), for assessing symptoms and quality of life in women with pelvic floor dysfunction. **Methods:** A translation method was applied to convert the PFDI-20 and PFIQ-7 into (European) Portuguese, and their validity and reliability were tested. The Portuguese versions were completed by 287 women. Internal consistency (IC) was assessed by Cronbach's alpha (CA). Descriptive statistics and tests for inference were applied: Spearman's correlation (r) and Student's t-test. **Results:** The Portuguese versions of PFDI-20 and PFIQ-7 were effectively translated and adjusted, revealing excellent internal consistency, as reflected in Cronbach's alpha values of 0.853 for PFDI-20 and 0.937 for PFIQ-7. No Ceiling Effect was observed, while a Floor Effect was identified in both Portuguese versions of the PFDI-20 (5.2%) and PFIQ-7 (41.5%). Significant correlations were established between the instruments and five questions. **Conclusion:** The Portuguese versions of the PFDI-20 and PFIQ-7 showed adequate psychometric characteristics and are valid for use in the Portuguese population.

Keywords: psychometric validation; pelvic organ prolapse; pelvic floor dysfunctions; urinary incontinence; fecal incontinence; quality of life; PFDI-20; PFIQ-7

1. Introduction

The pelvic floor is composed of bones, ligaments, and muscle structures that encompass the lower region of the abdominopelvic cavity. Supporting pelvic organs, controlling sphincters, facilitating bladder and bowel activities, and ensuring sexual and reproductive functions are among their primary roles. Pelvic floor muscles are responsible for maintaining continence, allowing visceral urination, ensuring optimal sexual and reproductive function, and providing lumbopelvic stability [1,2]. Over the years, the characteristics of the pelvic floor experience changes due to physiological shifts in the female body, including pregnancy, childbirth, and menopause. These changes are

associated to hormonal, anatomical, and biochemical alterations that can predispose individuals to pelvic floor dysfunctions [2]. The combination of symptoms and anatomical changes related to pelvic floor muscle dysfunctions (PFMD), involving various organs within the same anatomical area, constitutes pelvic floor dysfunctions (PFD). These are a global public health concern, impacting the quality of life for millions of people, and can be classified based on symptoms and functional impairments [3–5].

The International Continence Society categorizes PFD into five domains related to the lower urinary tract (urinary incontinence, frequency, urgency, flow or difficulty in urination), bowel function (fecal incontinence, urgent rectal prolapse, obstipation), vaginal symptoms (pelvic organ prolapse), sexual function (dyspareunia and vulvodynia), and chronic pelvic pain [4].

PFD emerges from weakness in the supportive tissues of the pelvic floor, encompassing conditions such as urinary incontinence (UI), pelvic organ prolapse (POP), fecal incontinence (FI), sexual dysfunction, and other urogenital symptoms, along with lower urinary and gastrointestinal tract emptying issues. While these symptoms can occur independently, they often coexist. The severity of these symptoms can be exacerbated by factors such as childbirth, pregnancy, age, obesity, constipation, chronic cough, pelvic surgery, physically demanding activities stressing the pelvic floor, and even genetic predisposition [3,5–8]. Although more common in women, pelvic floor dysfunctions are also prevalent in both sexes [8,9].

While not fatal, PFD has biopsychosocial consequences, affecting mood, mentality, self-esteem, and significantly reducing the quality of life, with implications for social, domestic, and sexual aspects. This chronic condition is associated with diminished quality of life and physical, social, and psychological well-being [6,7,10,11]. Consequently, these factors can lead to increased likelihood of symptoms like depression, anxiety, frustration, and nervousness [10]. In terms of physical health, these symptoms lead to evident impacts, including perineal skin rashes, pressure ulcers, and urinary and uterine infections [12].

Due to a lack of awareness about the topic, pelvic floor dysfunctions tend to be undervalued. People often hesitate to seek healthcare professionals as they consider these issues "normal." Since such matters are not openly discussed within communities, even highly educated individuals may remain uninformed about these health conditions [2,6].

To comprehensively assess this condition, it is important to evaluate movement patterns, physical and psychological states, beliefs about the condition, consequences for daily life aspects such as work, physical activity, household tasks, sexuality, social and family life, and contextual factors (external and personal) like motivation and adherence [13].

The prevalence of this health condition varies from 5% to 69% depending on the studied population, with most studies indicating an average range of 25% to 45% [10]. The Portuguese Society of Gynecology estimates that around 50% of adult females suffer from UI, but only 25% to 61% seek treatment. The overall prevalence of POP, based on clinical evaluation in menopausal women above 50 years, is approximately 40%. It is also mentioned that between 2000 and 2012, around 46,819 hospital discharges in public hospitals were registered with a primary or secondary diagnosis of POP in Portugal [14]. Regarding FI, a prevalence of up to 18% is estimated for the general population, which can reach 50% in institutionalized patients. Its prevalence increases with age and is distributed scalarly in both sexes [15]. Regarding sexual disorders, it's estimated that 40% of women experience this condition during their early reproductive years [4]. Despite the high prevalence of PFD, scientific evidence and research on managing these conditions are extremely limited [8].

Assessing the quality of life in individuals with PFD is essential for developing effective treatment plans. Therefore, evaluating subjective perception is crucial. A method to achieve this is through psychometrically validated, self-administered questionnaires that address the presence and severity of PFD symptoms, as well as their impact on daily activities and quality of life.

In 2005, Barber, in the USA, developed two short versions of previously designed specific questionnaires. These psychometrically valid and reliable instruments assess how PFD affects women's health-related quality of life. The first, Pelvic Floor Distress Inventory (PFDI-20), evaluates

symptoms caused by pelvic floor dysfunctions and their impact, while the second, Pelvic Floor Impact Questionnaire (PFIQ-7), measures the impact of PFD symptoms on quality of life. These questionnaires have been translated into multiple languages, including French, Spanish, Brazilian Portuguese, Turkish, Japanese, Danish, Dutch, among others, facilitating cross-population comparisons and multinational studies [16].

For these questionnaires to be used in Portugal, they need to be adapted to the Portuguese population and their psychometric properties evaluated. As they are not yet validated for European Portuguese, the aim of this study is to validate the PFDI-20 and PFIQ-7.

2. Materials and Methods

2.1. Study Design

Between November 2022 and May 2023, a cross-sectional study was undertaken to assess the psychometric properties of the European Portuguese adaptations of PFDI-20 and PFIQ-7. Women with Portuguese nationality and fluent in the Portuguese language (European), aged 18 years or older, with or without symptoms of POP, UI, and FI were selected to participate in the study.

2.2. Participants

The sample size of the study was determined following the recommendation to have at least 10 respondents per item in the questionnaires, according to the Consensus-based Standards for the Selection of Health Measurement Instruments (COSMIN). Thus, the estimated sample size was 200; however, the obtained sample size was 287 women.

2.3. Measurement Instruments

This study was conducted in two phases: the first phase involved the translation of the instruments into European Portuguese, and the second phase comprised the evaluation of their psychometric properties.

The PFDI-20 consists of three subscales: Pelvic Organ Prolapse Distress Inventory (POPDI-6), Colorectal-Anal Distress Inventory (CRADI-8), and Urinary Distress Inventory (UDI-6). Response options range from 0 (not present) to 4 (quite a bit). The average score of all questions is calculated (between 0 and 4) by multiplying them by 25 to obtain the total score for each subscale (range 0 to 100). Missing items are handled by using the mean of answered items. The total score is obtained by summing the three subscales (range 0 to 300). Higher scores indicate more pelvic floor dysfunction symptoms [17,18].

Comprising twenty-one questions, the PFIQ-7 evaluates the quality of life experienced by women, considering how pelvic floor symptoms (related to the bladder, vagina/pelvis, and intestine) affect their physical, social, and emotional well-being [10]. It is divided into three subscales, each with seven questions: Pelvic Organ Prolapse Impact Questionnaire (POPIQ-7), Colorectal-Anal Impact Questionnaire (CRAIQ-7), and Urinary Impact Questionnaire (UIQ-7). Each question's score ranges from 0 (not at all) to 3 (quite a bit). Within each subscale, the average score of all questions is multiplied by 33.3 to obtain the total score (range 0 to 100). The total score is obtained by summing the scores of the three subscales (range 0 to 300) [17,18].

Translating a measurement instrument to another language involves different levels of equivalence, both lexical (language) and cultural in nature. The Portuguese versions of the PFDI-20 and PFIQ-7 were developed through a translation-back-translation process, following the questionnaire translation recommendations proposed by the Scientific Advisory Committee of the Medical Outcomes Trust [19].

The Portuguese version translators, native speakers of Portuguese with high proficiency in English, independently translated the PFDI-20 and PFIQ-7. Both translations were reviewed by a consensus panel of four physiotherapists. This preliminary version was subjected to blind back-

translation into English by two independent bilingual experts. All inconsistencies between the obtained English version and the original were analysed and addressed through the consensus panel to ensure the resulting instruments were both comprehensible and conceptually consistent with the originals. While maintaining consistency with the original instrument, some expressions or phrases were slightly adjusted to ensure complete understanding by the Portuguese population.

The initial Portuguese versions of the PFDI-20 and PFIQ-7 were filled out by six native Portuguese speakers who were proficient in the language. They provided feedback to identify and correct potential difficulties in completion, comprehension, cultural adaptation, and we obtained the final Portuguese versions of the questionnaires.

In this study, content, criterion, and construct validities were evaluated. Content validity assesses whether the questionnaires are understood and whether all important and relevant items were included. This was achieved through expert panel analysis and clarification interviews on content and terminology used. Floor and Ceiling Effects were also calculated. We identified an issue if more than 15% of participants scored at the extreme ends, either the maximum or minimum possible values [18,19].

Criterion validity predicts the outcome in a specific situation and was assessed through the comparison of the questionnaires among themselves and with five questions (Q1-Q5) related to the perception of health, physical fitness, ability to perform specific activities, and mental/emotional well-being, namely: Q1 - "In general, would you say your health is?"; Q2 - "Does your health now limit you from climbing several flights of stairs? If so, how much?"; Q3 - "During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health? Accomplished less than you would like"; Q4 - "During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)? Accomplished less than you would like."; Q5 - "During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting friends, relatives, etc.)?". With the following response options: Q1 - "Excellent", "Very Good", "Good", "Fair", "Poor"; Q2 - "Yes, limited a lot", "Yes, limited a little", "No, not limited at all"; Q3 - Q5: "All of the time", "Most of the time", "A good bit of the time", "Some of the time", "None of the time". Assuming positive associations between the results of the Portuguese versions of the PFDI-20 and PFIQ-7 and Q1, Q2, Q3, Q4, and Q5.

Construct validity was evaluated through several hypotheses we established, namely that women with higher values of UDI-6, POPDI-6, and CRADI-8 would have higher values of UIQ-7, POPIQ-7, and CRAIQ-7, respectively; that women who had one or more natural childbirths would score higher on the PFDI-20, as this type of childbirth is associated with a higher likelihood of pelvic dysfunctions and also that women who had undergone obstetric surgery would exhibit more symptoms of PFD and a greater impact of these on their quality of life compared to those who were not subjected to such surgery [20].

The study was approved by the Ethics Committee of the Polytechnic Institute of Coimbra (CEIPC) in Portugal (Registration code: 170_CEIPC_2022). Permission for translation was also obtained from the original authors of the questionnaires. Participants were informed about the study's objective and invited to participate.

2.4. Statistical Analysis

The statistical treatment of the data obtained was carried out using specialized software: IBM SPSS Statistics version 28. Reliability was assessed through internal consistency. Internal consistency was measured using Cronbach's Alpha, with values above 0.70 indicating good reliability [17].

For sociodemographic and clinical characterization, as well as questionnaire scores, descriptive statistical analysis. Spearman's correlation (rs) was used, and for the analysis of differences between groups, the T-student test was utilized. The interpretation of statistical tests was conducted based on a significance level of 0.05 ($p \leq 0.05$), with a confidence interval of 95%.

3. Results

The cross-cultural adaptation of the Portuguese versions of the PFDI-20 and PFIQ-7 achieved a satisfactory level of semantic, conceptual, idiomatic, and equivalence adequacy.

3.1. Cultural and Linguistic Adaptation

The translation was carried out as planned, and no issues were encountered during the process. The content validity of the Portuguese adaptations of PFDI-20 and PFIQ-7 was assured through collaborative revisions involving experts and the women who participated in the pilot study. During the pilot study, all the women demonstrated a clear understanding of the questionnaire items. No words or questions presented difficulties in comprehension, and no adaptations were needed. All participants responded to all items in the Portuguese versions of the PFDI-20 and PFIQ-7 questionnaires, and no missing items were found. The structure of the original versions remains intact in the final Portuguese adaptations of the PFDI-20 and PFIQ-7 questionnaires.

3.2. Psychometric Validation of the Portuguese Versions of the PFDI-20 and PFIQ-7

3.2.1. Sample

From the 305 women who participated in the questionnaire, only 287 (94.1%) met the eligibility criteria for inclusion due to inconsistencies in their responses. The mean age of the sample was 33.47 ± 8.2 years (Table 1).

Table 1. Sociodemographic and Clinical Characteristics of the Study Population.

Title 1	Title 2
Age (years) Mean ± SD	33.47 ± 8.2
Formal Education n (%)	
Up to 12th Grade	66 (23%)
Higher Education	154 (53.7%)
Master's Degree	63 (22%)
Doctorate	4 (1.4%)
BMI Mean ± SD	23.67 ± 3.8
Childbirths n (%)	
Yes	161 (56.1%)
No	126 (43.9%)
Number of Childbirths n (%)	
1	92 (32.1%)
2	58 (20.2%)
3	10 (3.5%)
4	1 (0.3%)
How Long Ago? n (%)	
Less than 12 Months	47 (16.4%)
More than 12 Months	114 (39.7%)
Type of Childbirth n (%)	
Caesarean Section	39 (13.6%)
Natural	122 (42.5%)
Hysterectomy n (%)	
No	280 (97.6%)
Yes	7 (2.4%)
Obstetric Surgery History n (%)	
No	233 (81.2%)
Yes	54 (18.8%)
Urinary Incontinence History n (%)	

No	214 (74.6%)
Yes	73 (25.4%)
Fecal Incontinence History n (%)	
No	277 (96.5%)
Yes	10 (3.5)
Prolapse History n (%)	
No	257 (89.5%)
Yes	30 (10.5%)
Menopause n (%)	
No	268 (93.4%)
Yes	15 (5.2%)
Don't know	4 (1.4%)

Abbreviations: BMI: Body Mass Index (kg/m2).; SD: standard deviation.

Among the 287 participants, 161 (56.1%) had undergone at least one childbirth, with 13.6% of these being caesarean deliveries and 42.5% being natural births. Only 2.4% had undergone a hysterectomy, and 18.8% had undergone other obstetric surgeries. Of the total population, 73 (25.4%) had a history of UI, 10 (3.5%) reported a history of FI, and 30 (10.5%) reported a history of POP.

3.2.2. Reliability

Reliability results assessed through internal consistency are described in Table 2.

Table 2. Internal Consistency of Portuguese Versions of the PFDI-20 and PFIQ-7 Questionnaires.

Internal Consistency (n = 287)	
Cronbach's Alpha	Cronbach's Alpha
PFDI-20 = 0.85	PFIQ-7 = 0.94
POPDI-6 = 0.71	UIQ-7 = 0.92
CRADI-8 = 0.74	CRAIQ-7 = 0.92
UDI-6 = 0.81	POPIQ-7 = 0.92

Abbreviations: PFDI-20: Pelvic Floor Distress Inventory.; POPDI-6: Pelvic Organ Prolapse Distress Inventory.; CRADI-8: Colo-rectal-anal Distress Inventory.; UDI-6: Urinary Distress Inventory.; PFIQ-7: Pelvic Floor Impact Questionnaire.; UIQ-7: Urinary Impact Questionnaire.; CRAIQ-7: Colo-rectal-anal Impact Questionnaire.; POPIQ-7: Pelvic Organ Prolapse Impact Questionnaire.

The Portuguese versions exhibited strong internal consistency, as indicated by a Cronbach's Alpha coefficient of 0.853 for the PFDI-20 (range between 0.711 and 0.811) and 0.937 for the PFIQ-7 (range between 0.917 and 0.923). All values were statistically significant (p < 0.001).

3.2.3. Content Validity

Content validity was established through a review conducted by a multidisciplinary panel of experts during the adaptation process and qualitative analysis of feedback from the population during the pilot study. The expert panel reached a consensus that the questionnaires contained all the pertinent questions, and no supplementary questions were incorporated beyond those in the original versions. The target population indicated that the questionnaires were well understood and readable. No Ceiling Effect was observed in either of the Portuguese versions (UDI-6: 0.7%). However, a Floor Effect was identified in both Portuguese versions of the PFDI-20 (5.2%) and PFIQ-7 (41.5%).

3.2.4. Criterion Validity

The comparison of the questionnaires (PFDI-20 and PFIQ-7) among themselves and with the five questions (Q1-Q5), assessed through Spearman correlation, is presented in Table 3.

Table 3. Construct validity results (Spearman's coefficient (rs)) – correlation between the instruments and Q1, Q2, Q3, Q4, Q5.

	PFDI-20	POPDI-6	CRADI-8	UDI-6	PFIQ-7	UIQ-7	CRAIQ-7	POPIQ-7
PFDI-20	-							
POPDI-6	0.782**	-						
CRADI-8	0.680**	0.412**	-					
UDI-6	0.858**	0.555**	0.346**	-				
PFIQ-7	0.652**	0.505**	0.441**	0.578**	-			
UIQ-7	0.584**	0.434**	0.260**	0.648**	0.787**	-		
CRAIQ-7	0.419**	0.320**	0.494**	0.238**	0.674**	0.353**	-	
POPIQ-7	0.458**	0.460**	0.273**	0.385**	0.678**	0.420**	0.418**	-
Q1	0.438**	0.358**	0.335**	0.374**	0.413**	0.350**	0.260**	0.344**
Q2	-0.420**	-0.277**	-0.336**	-0.391**	-0.461**	-0.366**	-0.301**	-0.397**
Q3	-0.423**	-0.369**	-0.270**	-0.363**	-0.486**	-0.399**	-0.328**	-0.455**
Q4	-0.248**	-0.220**	-0.231**	-0.179**	-0.315**	-0.207**	-0.276**	-0.275**
Q5	-0.297**	-0.240**	-0.311**	-0.214**	-0.366**	-0.273**	-0.308**	-0.318**
Q1	Q2	Q3	Q4	Q5				
Q1	-							
Q2	-0.396**	-						
Q3	-0.457**	0.374**	-					
Q4	-0.347**	0.390**	0.436**	-				
Q5	-0.360**	0.365**	0.376**	0.443**	-			

Abbreviations: PFDI-20: Pelvic Floor Distress Inventory.; POPDI-6: Pelvic Organ Prolapse Distress Inventory.; CRADI-8: Colo-rectal-anal Distress Inventory.; UDI-6: Urinary Distress Inventory.; PFIQ-7: Pelvic Floor Impact Questionnaire.; UIQ-7: Urinary Impact Questionnaire.; CRAIQ-7: Colo-rectal-anal Impact Questionnaire.; POPIQ-7: Pelvic Organ Prolapse Impact Questionnaire.; Q1: Question 1.; Q2: Question 2.; Q3: Question 3.; Q4: Question 4.; Q5: Question 5.;.

In the Table 3 the criterion validity was high and confirmed by examining the correlations of the Portuguese versions of the PFDI-20 and PFIQ-7 and their respective subscales with questions Q1-Q5. This indicates a significant impact of POP on the quality of life and the overall perception of health. The highest Spearman coefficients were both related to the correlations of the Portuguese version of PFIQ-7 with Q2 and Q3. Construct validity was further confirmed by the correlation between the PFDI-20 and PFIQ-7, rs = 0.652 (p < 0.01).

3.2.5. Construct Validity

All predefined hypotheses were confirmed as shown in table 3 and table 4.

Table 4. Construct validity values between history of childbirth and history of obstetric surgery and the Portuguese versions of the PFDI-20 and PFIQ-7.

	Total Sample (n = 287) M ± SD	Childbirth History	M ± SD	p	Obstetric Surgery History	M ± SD	p
PFDI-20	49.44 ± 39.85	No (n =126) Yes * (n =122)	41.96 ± 36.84 55.45 ± 41.36	0.007	No (n = 233) Yes (n =54)	44.43 ± 35.42 71.01 ± 48.90	<0.001
POPDI-6	12.18 ± 15.06	No (n =126) Yes * (n =122)	9.56 ± 13.04 14.79 ±15.39	0.04	No (n = 233) Yes (n =54)	10.59 ± 12.70 19.06 ± 21.41	0.007
CRADI-8	14.91 ± 14.07	No (n =126) Yes * (n =122)	13.61 ±11.63 14.40 ± 15.01	0.648	No (n = 233) Yes (n =54)	13.60 ± 13.14 20.54 ± 16.52	0.003
UDI-6	22.36 ± 20.57	No (n =126) Yes * (n =122)	18.78 ± 18.96 26.37 ± 21.96	0.04	No (n = 233) Yes (n =54)	20.24 ± 19.43 31.48 ± 22.93	<0.001
PFIQ-7	23.21 ± 39.98	No (n =126)	20.54 ± 37.49	0.238	No (n = 233)	17.31 ± 31.18	0.012

		Yes * (n=122)	26.55 ± 42.46		Yes (n=54)	48.63 ± 59.66	
		No (n=126)	7.48 ± 15.91		No (n= 233)	8.00 ± 16.37	
UIQ-7	9.61 ± 18.12	Yes * (n=122)	12.56 ± 20.47	0.30	Yes (n=54)	16.56 ± 23.17	0.006
		No (n=126)	5.81 ± 11.45		No (n= 233)	4.57 ± 10.95	
CRAIQ-7	6.96 ± 15.67	Yes * (n=122)	7.49 ± 18.17	0.385	Yes (n=54)	17.27 ± 25.81	<0.001
		No (n=126)	7.25 ± 15.51		No (n= 233)	4.74 ± 13.05	
POPIQ-7	6.63 ± 15.49	Yes * (n=122)	6.51 ± 15.94	0.356	Yes (n=54)	14.80 ± 21.57	<0.001

Abbreviations: PFDI-20: Pelvic Floor Distress Inventory.; POPDI-6: Pelvic Organ Prolapse Distress Inventory.; CRADI-8: Colo-rectal-anal Distress Inventory.; UDI-6: Urinary Distress Inventory.; PFIQ-7: Pelvic Floor Impact Questionnaire.; UIQ-7: Urinary Impact Questionnaire.; CRAIQ-7: Colo-rectal-anal Impact Questionnaire.; POPIQ-7: Pelvic Organ Prolapse Impact Questionnaire. * Natural.; M: Mean.

Construct validity was established through the comparison of women who underwent natural childbirth with those who did not. A greater prevalence of PFD symptoms was observed among women who had experienced natural childbirth, in comparison to those who had not. The POPDI-6 and UDI-6 subscales of the Portuguese version of the PFDI-20 questionnaire are the only ones that show significance ($p = 0.04$). In the history of obstetric surgery, all correlations were significant ($p < 0.05$). Higher values are demonstrated regarding PFD symptoms and their impact on the quality of life in women who underwent this type of surgery when compared to those who were not subjected to it. These data are higher in the UDI-6 (31.48 ± 22.93) and CRAIQ-7 (17.27 ± 25.81) subscales (Table 4).

4. Discussion

The PFDI-20 and PFIQ-7 questionnaires are strongly recommended as essential instruments for assessing pelvic floor disorder symptoms and quantifying their impact on the quality of life among the studied population [21]. Both the PFDI-20 and PFIQ-7 have been translated into several languages, including Hispanic Spanish, Amharic, French, Swedish, Arabic, Brazilian Portuguese, Finnish, Dutch, among others [18,19,22–25]. However, they had not yet been validated for the Portuguese language. Within this study, the reliability and the validity of the Portuguese adaptations of the PFDI-20 and PFIQ-7 questionnaires were assessed. These instruments were successfully translated and culturally adapted to the European Portuguese context. The results demonstrated excellent internal consistency, strong criterion validity, and good construct validity. These findings are consistent with validations of other versions, such as the Spanish and Amharic versions [18,19,22–25]. All predefined hypotheses were confirmed.

For an instrument to be used effectively, it needs to be validated for the target population and language. This validation process involves multiple steps, including linguistic, cultural, and psychometric validation. In the linguistic aspect, maintaining the original context, meaning, instructions, and questionnaire presentation is crucial to ensure good equivalence. The translation processes were like those in previous validations in Amharic, Spanish, Finnish, Brazilian Portuguese, and Swedish [18,19]. The content validity is aligned with what is described in other validation studies [18,19]. The Portuguese versions of the PFDI-20 and PFIQ-7 showed excellent agreement among experts regarding the relevance of the questions. They were reviewed by independent bilingual translators and were piloted, revealing no incongruities, thus confirming excellent content validity.

As anticipated, the reliability of the Portuguese versions of the PFDI-20 and PFIQ-7 was confirmed. Similar values are found in the Amharic, Spanish, Finnish, Brazilian Portuguese, and Swedish versions [18,19,22–25].

While there is no universally acknowledged gold standard for pelvic floor disorder symptoms, we relied on the correlation between PFDI-20, PFIQ-7, and Q1-Q5 to estimate criterion validity. It is noteworthy that the criterion validity falls within an acceptable range. These outcomes are consistent with prior studies, even though they employed distinct criterion standards [17].

The results of construct validity indicate a strong association between Q1, Q2, Q3, Q4, Q5 and the Portuguese versions of the PFDI-20 and PFIQ-7, suggesting that questions related to both physical fitness perception and mental well-being significantly impact the lives of the studied population. A significant correlation was also established between the Portuguese versions of the PFDI-20 and PFIQ-7 and the history of obstetric surgery. The absence of a significant relationship between the PFIQ-7 and history of natural childbirth versus no childbirth is not surprising, as this questionnaire assesses the impact of symptoms rather than the symptoms themselves. Despite the good correlation, it would have been expected to observe a more substantial difference between women who did not undergo childbirth versus those who had a natural childbirth and that the difference in PFD symptoms would be more pronounced in the CRADI-8 subscale between the two groups. This might be attributed to the limited sample size (n = 10) of individuals with fecal incontinence.

Through our analysis, we can conclude that the incidence of PFD is higher in women with a level of education equal to or lower than the 12th grade, suggesting potential difficulties in accessing literacy and/or healthcare. In future evaluations, it would be interesting to explore geographical differences in academic background to investigate any correlation with PFD, as well as analyze the socioeconomic status of the target population.

As a limitation, we acknowledge that the validation process could have been supported by another gold standard for criterion validity. One less strong aspect identified is that we did not conduct a test-retest.

One of the strengths of our study is the sample size, which exceeds that of most validations of these questionnaires. Notably, our study yielded results regarding psychometric validation (construct, criterion, content validity, reliability, and feasibility) that are consistent with other validations.

5. Conclusions

The validated short versions of the PFDI-20 and PFIQ-7 in European Portuguese have achieved semantic, conceptual, idiomatic, and content equivalence with the original versions. Both instruments exhibit strong reliability and validity in the evaluation of symptoms and the quality of life in women with pelvic floor dysfunctions. The questions can be easily applied and utilized in a clinical context.

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Abbreviations

The following abbreviations are used in this manuscript:

MDPI	Multidisciplinary Digital Publishing Institute
PFDI-20	Pelvic Floor Distress Inventory

POPDI-6	Pelvic Organ Prolapse Distress Inventory
CRADI-8	Colo-rectal-anal Distress Inventory
UDI-6	Urinary Distress Inventory
PFIQ-7	Pelvic Floor Impact Questionnaire
UIQ-7	Urinary Impact Questionnaire
CRAIQ-7	Colo-rectal-anal Impact Questionnaire
POPIQ-7	Pelvic Organ Prolapse Impact Questionnaire
PFMD	Pelvic Floor Muscle Dysfunctions
PFD	Pelvic Floor Dysfunctions
POP	Pelvic Organ Prolapse
FI	Fecal Incontinence
UI	Urinary Incontinence
COSMIN	Consensus-based Standards for the Selection of Health Measurement Instruments
CEIPC	Ethics Committee of the Polytechnic Institute of Coimbra
rs	Spearman's correlation
SD	Standard Desviation

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