SHORT COMMUNICATION

Polish translation and cross-cultural adaptation of the five-item International Index of Erectile Function

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Introduction Erectile dysfunction (ED) affects men worldwide and impairs physical and mental health and quality of life. Use of specific ED-dedicated tools is currently recommended to assess ED severity. A widely used instrument is the International Index of Erectile Function short form (IIEF-5). The IIEF-5 was not yet rigorously translated and adapted in Polish. Therefore, the aim of this study was to translate and culturally adapt the IIEF-5 in Polish to extend its applicability as an evaluation tool for clinical and research settings.

Material and methods Professional, sworn, independent translators, in cooperation with Polish language specialists and the authors, translated the IIEF-5 into Polish according to standardized forward–backward procedures. The final translated version was further assessed during direct interviews with 30 men who had ED and who were recruited from the Department of Urology, Jagiellonian University, Poland. The content, wording, applicability, and cultural relevance of the translation were discussed with all the included patients.

Results The expert panel composed of the authors, translators, and Polish language specialists produced the Polish version of the IIEF-5. Thirty Polish-speaking men with ED, most with organic and severe ED, completed the questionnaire. All the participants agreed that the instrument was clear, easy to understand, complete, and quick to finish. No items were missing.

Conclusions The Polish version of the IIEF-5 is a valid tool to determine ED severity. This evaluation instrument is valuable for clinical and research use, including use for population-based studies on ED prevalence and for interpreting findings among international studies.

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INTRODUCTION

Erectile dysfunction (ED) is a prevalent and bothersome condition, with negative effects on an individual's physical and mental health and quality of life. Estimates of the prevalence of ED have been obtained from a group of large population-based studies; ED may affect up to 20% of men worldwide, considering variations in definitions, methodology, and study population [1]. Despite its relatively high prevalence, ED is poorly acknowledged and often misunderstood.

Diagnosis of ED is primarily symptom-based. However, because ED has personal, interpersonal, social, and occupational implications, it is difficult to assess sexual history. Therefore, condition-specific and self-reported questionnaires are especially needed in routine clinical practice of physicians who care for ED patients. Further, these instruments enable patients and physicians to reach close relationships and to avoid misunderstanding [2]. Moreover, proper questionnaires enable comparisons to be made between centers, and the instruments support large-scale population-based surveys

by decreasing the time and financial costs of data collection.

The International Index of Erectile Function (IIEF) is a widely used questionnaire worldwide to evaluate symptoms associated with ED [3]. The demand for a brief, easily administered measure resulted in an abridged five-item version of the IIEF, namely, the IIEF-5, also known as the Sexual Health Inventory for Men [4, 5]. The IIEF-5 was developed for screening and diagnosing the severity of ED in day-to-day practice and in clinical trials, including epidemiological analyses. Although the IIEF-5 has been adapted to multiple languages [6, 7, 8], there was no Polish version of the instrument. Therefore, the aim of this study was to rigorously translate and adapt the IIEF-5 in Polish to provide a useful evaluation tool for clinical practice and research in Poland.

MATERIAL AND METHODS

This study was single-center and prospective. The Ethics Committee of the Jagiellonian University Medical College, Cracow, Poland approved this study.

Translation

The forward-translation from English into Polish was performed by two professional, independent, native Polish-speaking sworn translators. The investigators compared the two translations, made some minor adjustments without changing the content, and settled on a temporary version. The back-translation of the temporary version from Polish into English was performed by a professional, independent, native English-speaking sworn translator who was fluent in Polish. We examined any differences that arose in backward translation compared with forward translation that did not accurately reflect the content of the original questionnaire. Discrepancies between these two translations were adjusted by the investigators and a Polish language specialist to resolve the issues based on semantic, experiential, conceptual, and idiomatic equivalence. After that, the final draft was reviewed, and the final Polish language version of the IIEF-5 was thereby produced.

Adaptation/Content validation

Thirty adult Polish-speaking men with ED who were patients of the Department of Urology of the Jagiellonian University Medical College, Cracow, Poland, were invited randomly to adapt the questionnaires during face-to-face interviews. These patients were first asked to complete the questionnaire. The content, wording, applicability, and cultural relevance of the translations were then discussed with the patients. We excluded patients less than 18 years of age, with cognitive impairment, or with Polish language difficulties.

Statistics

Means ± standard deviations were used to present descriptive results for continuous data and to present counts and percent for discrete data. The adaptation/content validity was evaluated by measuring the levels of missing data. These calculations were used as an indicator of inappropriate items.

In accordance with the guidelines for adaptation of questionnaires and in agreement with other adaptations of IIEF-5, we aimed primarily at a sample size of 10 men with ED [9]. But, after consulting two independent experts in health-related quality of life and two independent Polish language specialists, we decided to exceed that sample size because of unique Polish language grammar, free word order, and pronunciation. This increase in the sample size provided a smaller margin of error, and a large sample helped to identify outliers.

RESULTS

In November 2021, the final Polish language version of the IIEF-5 was produced as described in Materials and Methods; Table 1 shows the Polish IIEF-5.

Between December 2021 and January 2022, thirty consecutive patients from the Department of Urology, Jagiellonian University Medical College, Cracow, Poland were selected to assess content validity (cross-cultural adaptation) during direct interviews. Most of these men had organic ED (24; 80%), followed by psychogenic (3; 10%), mixed (2; 7%), and unknown (1; 3%). The mean IIEF-5 score was 6.3 ±4.4 (range 1–25; the lower the score, the greater severity of symptoms). On the basis of IIEF-5 score, we further classified patients according to the recommended five original categories of ED severity [4]: severe ED (score 5–7) – 21 patients (70%), moderate ED (score 8–11) – 3 patients (10%), mild to moderate ED (score 12–16) – 3 patients (10%), mild ED (score 17–21) – 3 patients (10%), and no ED (score 22–25) – none.

These thirty men with ED (mean age 53.7 ±12.8) who were invited for face-to-face interviews generally found the instruments to be clear, easy to understand, complete, and quick to finish. During direct discussions, the individuals did not discern any wording issues that necessitated adjustments in the Polish-translated instrument. In addition, interviewed individuals acknowledged the impor-

Table 1. *Polish version of the International Index of Erectile Function (IIEF-5)*

Kwestionariusz IIEF-5

W okresie ostatnich sześciu miesięcy:

1. Jak oceniasz swoją **pewność**, że mógłbyś osiągnąć i utrzymać erekcję?
   Bardzo nisko (1)
   Nisko (2)
   Średnio (3)
   Wysoko (4)
   Bardzo wysoko (5)

2. Gdy osiągałeś erekcję poprzez stymulację seksualną, jak często były one wystarczająco mocne, aby umożliwić penetrację?
   Prawie nigdy/nigdy (1)
   Kilka razy (znacznie rzadziej niż w połowie przypadków) (2)
   Czasami (mniej więcej w połowie przypadków) (3)
   Przeważnie (znacznie częściej niż w połowie przypadków) (4)
   Prawie zawsze/zawsze (5)

3. Jak **często** w trakcie stosunku seksualnego byłeś w stanie utrzymać erekcję po rozpoczęciu penetracji partnerki/partnera (wejściu w nią/niego)?
   Prawie nigdy/nigdy (1)
   Kilka razy (znacznie rzadziej niż w połowie przypadków) (2)
   Czasami (mniej więcej w połowie przypadków) (3)
   Przeważnie (znacznie częściej niż w połowie przypadków) (4)
   Prawie zawsze/zawsze (5)

4. Jak trudno w trakcie stosunku seksualnego było dla Ciebie utrzymać erekcję do zakończenia stosunku?
   Niezwykle trudno (1)
   Bardzo trudno (2)
   Trudno (3)
   Nieznacznie trudno (4)
   Nietrudno (5)

5. Kiedy podejmowałeś próbę stosunku seksualnego, jak często był on dla Ciebie satysfakcjonujący?
   Prawie nigdy/nigdy (1)
   Kilka razy (znacznie rzadziej niż w połowie przypadków) (2)
   Czasami (mniej więcej w połowie przypadków) (3)
   Przeważnie (znacznie częściej niż w połowie przypadków) (4)
   Prawie zawsze/zawsze (5)

tance of all questions that were essential to evaluate the spectrum of sexual problems related to ED and the need for this questionnaire in the daily clinical practice of clinicians in Poland. The number of missing items was 0. Therefore, we concluded that the content validity was optimal.

DISCUSSION

The instrument described in this report is the first to be rigorously translated and adapted in the Polish language for assessment of ED. With the IIEF-5, now Polish-speaking men can be reliably evaluated for their ED. In addition, this instrument will finally enable comparisons to be made in research projects at different centers and across different cultures and empower investigators to perform large-scale population-based studies of ED in Poland. Because of a lack of such measures, even basic epidemiology data on ED are absent in our region.

Complex care for individuals with ED is often multidimensional and multifactorial, and current recommendations advocate specific instruments for investigation of sexual function [10]. Specific questionnaires enable physicians to fully assess a disease-specific condition, support selection of appropriate treatments, follow results of implemented management, ensure true comparisons with other studies, and expedite international multicenter trials. Various patient-reported outcome measures are available to evaluate ED; but IIEF-5 is one of the most widely used measures, instituted in many research settings and recommended by the European Association of Urology [10].

Erectile dysfunction is a significant public health concern. Although the etiology of ED is often multifactorial, ED may be a red flag for cardiac disorders or hormonal imbalances (e.g., diabetes), conditions that may have profound effects on overall survival. Further, studies show close correlations between ED and hazardous health behaviors such as smoking and insufficient physical activity [10]. Finally, ED has negative effects on men's sexual health and quality of life, and ED can lead to secondary psychological issues (e.g., depression) that, in turn, can affect relationship quality and satisfaction [11]. These effects highlight the need to learn more about ED prevalence, etiology, and cultural differences, to formulate adequate preventive and treatment models [8]. To do so, satisfactory self-report instruments are needed that enable large-scale screening and assessment of erectile function among many populations [12]. In that regard, the IIEF-5 appears to be an optimal measurement instrument.

In our study, we did not assess other psychometric properties of the adapted instrument (e.g., construct/criterion validity or convergent and discriminant power) because of a paucity of rigorously translated and adapted Polish language instruments that measure ED. To our knowledge, there are no other Polish-validated measures available that have a construct similar to the IIEF-5; therefore, we were not able to measure other psychometric parameters. The lack of adequate reference/gold standard instrument has been also reported in other validation studies of IIEF-5 [6, 7, 13].

CONCLUSIONS

A Polish version of the IIEF-5 was successfully translated and adapted. The instrument was found to be a cross-culturally equivalent instrument compared to the original English version. This cultural

and linguistic adjustment provides opportunity to investigate and compare self-reported ED status in international research, population-based studies, and routine clinical settings.

References

1. Derogatis LR, Burnett AL. The epidemiology of sexual dysfunctions. J Sex Med. 2008; 5: 289-300.

2. Yafi FA, Jenkins L, Albersen M, et al. Erectile dysfunction. Nat Rev Dis Primers. 2016; 2: 16003.

3. Rosen RC, Riley A, Wagner G, et al. The international index of erectile function (IIEF): a multidimensional scale for assessment of erectile dysfunction. Urology. 1997; 49: 822-830.

4. Rosen RC, Cappelleri JC, Smith MD, Lipsky J, Peña BM. Development and evaluation of an abridged, 5-item version of the International Index of Erectile Function (IIEF-5) as a diagnostic tool for erectile dysfunction. Int J Impot Res. 1999; 11: 319-326.

5. Cappelleri JC, Siegel RL, Glasser DB, Osterloh IH, Rosen RC. Relationship between patient self-assessment of erectile dysfunction and the sexual health inventory for men. Clin Ther. 2001; 23: 1707-1719.

6. Mahmood MA, Rehman KU, Khan MA, Sultan T. Translation, cross-cultural adaptation, and psychometric validation of the 5-item International Index of Erectile Function (IIEF-5) into Urdu. J Sex Med. 2012; 9, 1883-1886.

7. Utomo E, Blok BF, Pastoor H, Bangma CH, Korfage IJ. The measurement properties of the five-item International Index of Erectile Function (IIEF-5): a Dutch validation study. Andrology 2015. 3: 1154-1159.

8. Pakpour AH, Zeidi IM, Yekaninejad MS, Burri A. Validation of a translated and culturally adapted Iranian version of the International Index of Erectile Function. J Sex Marital Ther 2014; 40: 541-551.

9. Terwee CB, Bot SD, de Boer MR, et al. Quality criteria were proposed for measurement properties of health status questionnaires. J Clin Epidemiol. 2007; 60: 34-42.

10. European Association of Urology (EAU), Non-Oncology Guidelines [Internet]; Sexual and Reproductive Health, Publicated: 2021 [Cited: 2022 January]. Available from: https://uroweb.org/guideline/sexual-and-reproductive-health/.

11. Przydacz M, Golabek T, Skalski M, et al. Lower urinary tract symptoms and sexual functioning of patients with depression. Psychiatr Pol. 2022; 56: 309-321.

12. Fisher WA, Eardley I, McCabe M, Sand M. Erectile dysfunction (ED) is a shared sexual concern of couples I: couple conceptions of ED. J Sex Med. 2009; 6: 2746-2760.

13. Lim TO, Das A, Rampal S, et al. Cross-cultural adaptation and validation of the English version of the International Index of Erectile Function (IIEF) for use in Malaysia. Int J Impot Res. 2003; 15: 329-336. ■