

Cross-cultural adaptation and validation of the English version of the International Index of Erectile Function (IIEF) for use in Malaysia

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We adapted the English International Index of Erectile Function (IIEF) into Malay. This was difficult as many sex-related terms do not exist in colloquial Malay. In the pretest, there was no difficulty with comprehension and all subjects judged the Malay IIEF equivalent to the English IIEF. After slight modification, a final instrument was evaluated in two studies. Study A included 136 subjects. It showed that the instrument had good reliability and discriminant validity. The factor structure of the English IIEF was not reproducible. Study B included 26 ED subjects who underwent oral sildenafil therapy. The Malay IIEF was sensitive to treatment response. The area under the ROC curve of the Malay IIEF-5 was 0.86; the optimal cutoff score has a sensitivity of 85% and specificity of 75%. The results suggest that the Malay IIEF requires more work, but the Malay IIEF-5 has acceptable measurement properties to recommend its use in clinical practice and research.

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Introduction

Erectile dysfunction (ED) is defined as the inability to achieve or maintain an erection sufficient for satisfactory sexual performance.¹ A recent prevalence survey (unpublished data) in Malaysia estimated 16% of men aged 40 years or older had 'moderate to complete ED'. And the vast majority of these men had not sought treatment. Effective medical treatment for ED has also become available in recent years, for example, oral drugs like sildenafil (VIAGRA, Pfizer Inc),^{2,3} tadalafil, vardenafil, oral phentolamine (Vasomax), sublingual apomorphine (Uprima).⁴ Thus, ED is probably common, under reported and under diagnosed, and yet treatable. Doctors in Malaysia, like their counterparts elsewhere, need to improve their ability in diagnosing ED.

Laboratory-based physiological measures of erectile function (EF) such as volumetric plethysmography (Rigiscan), strain gauge plethysmography and erectiometer are not readily accessible in this country. While they provide objective measurements, they have important design and methodological weaknesses, and may not be the best method to diagnose ED.⁵ It is preferable to assess sexual function in naturalistic setting with patient self-report techniques. Recently, the International Index of Erectile Function (IIEF), a self-report composite multidimensional measurement scale for male sexual function has become available. The instrument was supported by rigorous psychometric, cultural and linguistic validation.⁶ This instrument was developed primarily for research use, and indeed the original clinical studies that demonstrated the efficacy of sildenafil^{2,7} had utilized IIEF score as the efficacy measure. An abbreviated version of the IIEF comprising only five of the 15 items in the original instrument, the so-called IIEF-5, had subsequently been developed as a diagnostic tool for ED to complement clinical judgment. The IIEF-5 too was supported by rigorous diagnostic validation⁸ and could reliably be used for the diagnosis of ED and for determining the responsiveness to treatment. As a result, the IIEF-5 has become very popular in clinical practice and rightly so. Both the IIEF and

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its abridged version IIEF-5 are simple and yet have adequate measurement properties for research and clinical applications, respectively.

Unfortunately, the validity of IIEF and IIEF-5 are only established hitherto in several European languages. There is a need for research to extend its validity to the languages commonly used in other countries. This requires us to translate and cross-culturally adapt the original English instrument such as to minimize the influence of language and other cultural attributes on the subject's response, thereby assuring validity of inference. The objectives of this study were thus:

- (1) To translate and adapt the original US English version of IIEF and IIEF-5 into the Malay language, such that the translated version is crossculturally equivalent to the original version.
- (2) To determine the psychometric properties of the translated Malay version of the IIEF and the diagnostic properties of the IIEF-5.

Methods

The study was conducted in two phases. The first phase aimed to obtain a crossculturally equivalent Malay version of the original IIEF. The second phase then determined the measurement properties of the Malay version of both IIEF and IIEF-5 obtained from the Phase 1 study.

IIEF

The IIEF consists of 15 items that evaluates five distinct domains of the male sexual function. These domains and the corresponding IIEF items that tap into them are EF (questions 1, 2, 3, 4, 5, and 15), orgasmic function (OF, questions 9 and 10), sexual desire (SD, questions 11 and 12), intercourse satisfaction (IS, questions 6, 7, and 8), and overall satisfaction (OS, questions 13 and 14). The IIEF-5 is a subset of the IIEF and comprises items 2, 4, 5, 7, and 15.

Phase 1 study design

The original English version of the IIEF was independently translated into the Malay language by two qualified translators from the National Translation Institute. It is stressed that the selection of translators was not based on educational criterion alone as such persons often may not be culturally representative. Each translator translated the English IIEF into his mother tongue, which was Malay.

One of the two translators was provided with sufficient information to make him aware of the purposes of IIEF, and the concepts and domains underlying it. This was to ensure reliable restitution of the intended measurement. The other translator was deliberately blinded to the intent of and concepts underlying IIEF. The translation was then contrasted with the one produced under nonblinded condition.

The two translations were then back translated into English independently by two translators. The back translators' mother tongue was also Malay. Ideally, it should have been English, but the service of such a person was difficult to obtain. However, the translator had provided documentary evidence of fluency in both spoken and written English and of previous translation records. Both back translators were blinded to the intent and concept of IIEF.

A Review Panel was constituted to determine the face validity and crosscultural equivalence of the translated instrument. The committee was chaired by the principal investigator and comprised of three medical members with experience in ED and two other lay members. All members had to demonstrate fluency in both English and Malay.

The Panel was tasked to produce a final version based on both the translated and back-translated versions of IIEF, as well as the original version. All versions were considered equally important. The Panel was instructed to:

- (a) Modify or reject items and instructions of the translated IIEF; or request for more translation and back translation.
- (b) Assure that the translation was fully comprehensible.
- (c) Verify the crosscultural equivalence between the original English IIEF and the translated version. The emphasis was on conceptual equivalence rather than linguistic or semantic equivalence.

Through this iterative process, and by allowing the Panel to compare the various translated and back-translated versions of IIEF, it was hoped the translation that was most conceptually equivalent to the original English IIEF could be determined.

The Malay version finally determined by the Panel was then subjected to further pretest. The objectives were to check for equivalence between the original English IIEF and the final translated version as well as to assess comprehension and readability. This required confirmation that the items could be understood without arousing reluctance or hesitation. In all, 14 bilingual volunteers were recruited for the pretest of the Malay version of the IIEF. All subjects had provided verbal informed consent, were aged greater than 40 years, had a condition that predisposed them to ED such as hypertension, diabetes mellitus, end-stage kidney failure, and finally had passed both the English and

Malay language fluency tests administered before entry into the study.

In the pretest, subjects were requested to complete both the English and Malay versions of the IIEF and then were interviewed by a trained interviewer. The interviewer used random probe technique to repeatedly ask subjects ‘What do you mean?’, and then probed and encouraged the subject to elucidate his or her understanding of the item in an open-ended manner. This was to ensure the translated item was understood as having a meaning equivalent to the one in the English IIEF. At the end of the interview, each subject was asked to rate the equivalence of each item on a five-point Likert scale (Completely equivalent, Almost equivalent, Neutral, Not quite equivalent, Not equivalent).

The outcome of the Phase 1 study described above was a presumed equivalent instrument in the Malay language that had been adapted to the local culture.

Phase 2 study design

Cross-cultural equivalence does not imply equivalence of psychometric properties. These properties may change in the process of translating and adapting the original IIEF.

Two different studies were designed to validate the Malay IIEF:

- (1) Study A enrolled 171 subjects comprising 111 normal healthy volunteers from the community (Community sample) and 60 patients attending primary care clinics (Clinical sample). All subjects had provided verbal informed consent, had passed a Malay literacy test (to ensure they could self-administer the Malay IIEF) and were aged greater than 40 years. After initial screening, subjects self-administered the Malay version of the IIEF. A physician then evaluated the subjects to determine the presence of ED based on medical history, physical examination and objective testing where available, while blinded to subjects’ responses to IIEF. At exit from the clinic, subjects were requested to complete the Malay version of the IIEF a second time by self-administration.
- (2) Study B enrolled 32 patients who were clinically evaluated to have ED and consented to undergo a trial of sildenafil therapy 50 mg 1 h prior to sexual activity (ED sample). After 4 weeks of therapy, subjects returned to the clinic where they completed the Malay version of IIEF by self-administration again. They were also asked a global efficacy question: ‘Did the treatment with Sildenafil improve your erection?’. Subjects were designated as a ‘responder’ or ‘non-responder’ based on their response to this question.

Statistical methods

The sample size for this study was determined based on the parameter, the test–retest repeatability. This is measured by the intraclass correlation (r). We expect IIEF to have an r of 0.8 in this study,⁵ and an r of 0.7 or higher would be acceptable to us. Thus, we defined $H_0: \rho_0 = 0.7$ and $H_1: \rho_1 = 0.8$. Using a two-sided test as suggested by Walter *et al*,⁹ with $\beta = 0.2$ (80% power) and $\alpha = 0.05$, a sample size of 117 evaluable subjects would be required. Assuming 45% of subjects might refuse to repeat self-administration of IIEF, a total of 170 subjects would have to be enrolled.

The psychometric properties of the Malay version of IIEF were determined as follows:

- (1) Test–retest repeatability was measured by Pearson’s correlation coefficient and intraclass correlation. This was estimated using the ANOVA estimator.
- (2) Internal consistency of the domains and total score were measured by the Cronbach’s α statistic.
- (3) The factorial validity was assessed by a principal components analysis with varimax rotation and extracting only the first five factors to attempt to reproduce the factor structure of IIEF.
- (4) Discriminant validity or the ability of IIEF to discriminate between subjects with and without clinical diagnosis of ED as determined independently by a physician. This was evaluated using an independent t -test.
- (5) Treatment responsiveness (sensitivity) was evaluated by comparing the pretreatment and post-treatment domain scores of patients who undergo sildenafil therapy and who self-rated as responder at the end of 4 weeks.
- (6) Treatment specificity was evaluated by comparing the pretreatment and post-treatment domain scores of patients who undergo sildenafil therapy and who self-rated as nonresponder at the end of 4 weeks.
- (7) Finally, the diagnostic performance of IIEF-5 was evaluated by the ROC curve.

Results

Translating and adapting the IIEF

It was fairly easy to obtain a literal word for word translation using formal Malay vocabulary and grammatical rules. However, we wanted to strive for conceptual rather than literal equivalence between the English IIEF and its Malay version. As it turned out, colloquial translation and cross-cultural adaptation of the English IIEF into Malay was difficult. Short of resorting to ‘vulgar’ words, many sex-related terms do not exist in colloquial Malay.

The words in formal Malay were largely of foreign origin. For example, the words penis and vagina in Malay were of Arabic origin ('zakar' and 'faraj' respectively). Similarly, the words sex and climax were rendered 'seks' and 'klimaks', both of English origin. Certain key concepts in IIEF like erection, penetration and sex life were also difficult to express colloquially in Malay. Literal translations frequently resulted in items that were awkward and unnatural. On the other hand, sex-related words and concepts were difficult to express naturally in colloquial Malay without sounding vulgar. The Malay version of IIEF finally produced by the Review Panel was at best a compromise. Many English words had required elaboration using multiple words, or otherwise conceptual equivalents were used in Malay, which are not always comparable to the original English version.

Pretesting the Malay version of IIEF

In all, 14 bilingual subjects participated in the pretest. Their mean s.d. age was 54 (8.5) years. All subjects had no difficulty understanding the translated instrument and found it readable. Their verbatim responses showed that they were able to discern the essential meaning being conveyed. Many suggested alternative words or phrases to improve the instrument presentation or readability. More than 90% of the subjects (range 93–100%) rated 14 of the 15 items in the Malay version of the IIEF as 'Almost Equivalent' or 'Completely Equivalent' to the original English version. Of the subjects, 86% rated item seven as equivalent. The correlation between their scores on the original English instrument and the translated Malay version was uniformly high (*r* ranging from 0.7371 to 1). Out of 15 items, eight had *r* greater than 0.9, and only three items had *r* between 0.7 and 0.8. The correlation coefficient for the total score was 0.98.

We reviewed the many suggestions put forward by the subjects. Taking into consideration the frequency of similar suggestions among subjects, and in the light of their rating of equivalence and correlation of their scores, three suggestions were

adopted. They are as follows:

- Objection to the word 'penetration' as there is no equivalent word in Malay in the sexual context. We accept that it be interpreted as synonymous with 'sexual intercourse'.
- Objection to the phrase 'kehidupan seks' (sex life in English) as it is not a commonly used phrase in Malay. It was replaced with the phrase 'kemampuan seks' to connote the capacity to engage in sex.
- Objection to the word 'ketegangan zakar' as it was not colloquial. It was decided that 'kemaluan atau 'batang' keras' would have to be added to elaborate the meaning of 'erection' and to make it more colloquial, although admittedly these may sound crude to the better educated.

The final Malay version of IIEF questionnaire can be obtained from the author on request.

Phase 2 study

A total of 171 subjects were enrolled into Study A and 32 subjects into Study B. However, only 136 of the Study A subjects had evaluable data (no missing data and completed repeat IIEF administration), and only 26 subjects completed follow-up in Study B. Table 1 shows the characteristics of these subjects. All the study subjects had to pass a Malay Literacy Test to be eligible for the study. This test was not meant to measure the degree of literacy, but was to ensure the subjects could self-administer the Malay IIEF. The mean age was about 54 in all groups. The clinical sample had high prevalence of comorbid diseases such as hypertension and diabetes. Similarly, high proportion of subjects (range 47–57%) had clinically diagnosed ED. All subjects in Study B had to have ED to be eligible for inclusion.

Scale reliability

Table 2 shows the internal consistency and test-retest repeatability of the Malay IIEF and IIEF-5. It is

Table 1 Study designs and baseline characteristics of subjects enrolled in the studies

	Study A			Study B, n=26
	Community, n=76	Clinical, n=60	Both, n=136	
Age (y), mean (range)	55 (40–80)	53 (40–70)	54 (40–80)	54 (45–70)
Percentage of hypertension	—	68	—	73
Percentage of diabetes	—	60	—	69
Percentage of clinical ED	47	57	51	100

clear that both measures are uniformly high for all domains, for both IIEF overall and IIEF-5 scores.

Discriminant validity

Table 3 shows the ability of the IIEF to discriminate between subjects clinically evaluated to have ED and those who do not. Undoubtedly, the domain scores of the IIEF and the IIEF-5 were able to discriminate between patients with clinical ED and those without. The differences in scores were most obvious in the EF domain score, and the IIEF-5 score.

Factorial validity

Table 4 shows the results of the attempt to reproduce the factor structure of the original IIEF. Factor loadings and eigenvalues of the first five factors

Table 2 IIEF domain characteristics: reliability

	Internal consistency	Test-retest repeatability	
	Cronbach's α	Intraclass correlation	Pearson's correlation
All items	0.96	0.92	0.92
Erectile function	0.93	0.88	0.88
Orgasmic function	0.86	0.82	0.82
Sexual desire	0.80	0.82	0.82
Intercourse satisfaction	0.82	0.89	0.89
Overall satisfaction	0.96	0.82	0.83
IIEF-5	0.90	0.88	0.88

extracted using principal components analysis with varimax rotation are shown.

The expected structure of five distinct domains is not clearly present. The eigenvalue is concentrated on the first factor, while the remaining four factors extracted have eigenvalue less than 1. Factor 2 of the Malay version of IIEF correspond with the OS domain of the original IIEF, while factor 3 correspond with SD domain, and Factor 4 with OF domain. Factor 1 contains a mixture of loadings from both EF and IS domains. The intercorrelation among the five domains confirm that the EF and IS domain scores are highly correlated ($r=0.9$). The other domain scores are also highly correlated with one another (Table 5).

Sensitivity and specificity

Table 6 shows the mean change in scores for each domain, total IIEF score and IIEF-5 score, before and after treatment among responder to sildenafil treatment. Significant changes in mean scores were

Table 3 IIEF domain characteristics: discriminant validity

Domain	Patients with ED	Patients without ED	P-value
	Mean \pm s.d.	Mean \pm s.d.	
All items	37.0 \pm 15.6	54.5 \pm 13.6	<0.0001
Erectile function	14.5 \pm 6.5	22.6 \pm 6.1	<0.0001
Orgasmic function	5.5 \pm 3.2	8.0 \pm 2.7	<0.0001
Sexual desire	5.4 \pm 1.9	6.8 \pm 1.7	<0.0001
Intercourse satisfaction	6.2 \pm 3.4	9.6 \pm 3.2	<0.0001
Overall satisfaction	5.4 \pm 2.2	7.5 \pm 1.9	<0.0001
IIEF-5	12.5 \pm 5.4	19.0 \pm 5.0	<0.0001

Table 4 Principal components analysis with varimax rotation of 15 items of the Malay version of IIEF: factor loadings and eigenvalues^a

#	Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
1.	Erection frequency	0.84	-0.01	0.03	-0.02	0.06
2.	Erection firmness	0.86	0.03	0.01	0.01	0.01
3.	Penetration ability	0.70	0.14	0.00	0.20	-0.04
4.	Maintenance frequency	0.70	0.14	0.01	0.04	0.06
5.	Maintenance ability	0.07	-0.02	0.03	0.19	0.55
6.	Intercourse frequency	0.33	-0.05	0.11	-0.05	0.36
7.	Intercourse satisfaction	0.42	0.26	0.00	0.33	0.04
8.	Intercourse enjoyment	0.39	0.26	0.02	0.18	0.18
9.	Ejaculation frequency	0.38	0.06	0.08	0.51	-0.01
10.	Orgasm frequency	0.29	0.03	0.01	0.51	0.10
11.	Desire frequency	0.34	0.10	0.58	0.04	-0.13
12.	Desire level	-0.08	0.12	0.63	0.05	0.20
13.	Overall satisfaction	0.08	0.88	0.01	-0.02	0.03
14.	Relationship satisfaction	0.04	0.90	0.03	0.03	-0.04
15.	Erection confidence	0.23	0.28	0.16	-0.08	0.34
	Eigenvalue	9.73	0.65	0.36	0.24	0.18

^aItems with high loadings within each factor are boldfaced.

Table 5 IIEF domain intercorrelations^a

	Domain intercorrelations				
	EF	OF	SD	IS	OS
EF	1.00				
OF	0.82	1.00			
SD	0.75	0.66	1.00		
IS	0.90	0.81	0.74	1.00	
OS	0.72	0.66	0.69	0.75	1.00

^aThe highest intercorrelation is boldfaced.

Table 6 IIEF domain characteristics: sensitivity

Domain	n	Mean change	s.e.m.	t-statistic	P-value
Treatment responders					
All items	24	13.2	2.5	5.4	<0.0001
Erectile function	24	6.0	1.2	4.8	0.0001
Orgasmic function	24	1.7	0.5	3.4	0.0026
Sexual desire	24	1.1	0.4	2.8	0.01
Intercourse satisfaction	24	2.3	0.5	4.4	0.0002
Overall satisfaction	24	2	0.4	5.5	<0.0001
IIEF-5	24	4.8	1.0	4.56	0.0001

Table 7 Sensitivity, specificity, and the correct classification rate for IIEF-5

Cutoff score	Sensitivity (%)	Specificity (%)	Correctly classified (%)
22	98	27	60
21	98	35	65
20	94	52	72
19	92	63	77
18	87	70	79
17	85	75	80
16	72	85	79

observed in all domains. The change was most salient in the EF score, and the IIEF-5 score.

Only two patients out of the 26 patients who enrolled for the sildenafil treatment trial were nonresponders. The sample size was insufficient for determining the specificity of IIEF. Hence, results on specificity are not reported.

ROC curve

Figure 1 shows the ROC curve for IIEF-5. While the graph suggests that the IIEF-5 does diagnostically distinguish between ED and non-ED, the area under the curve is only 0.86. We can use the curve in determining the ‘optimal’ cutoff point on IIEF-5 score to be used for diagnosing ED. ‘Optimal’ here refers to the point that minimizes the overall misclassification rates (both false positive and false

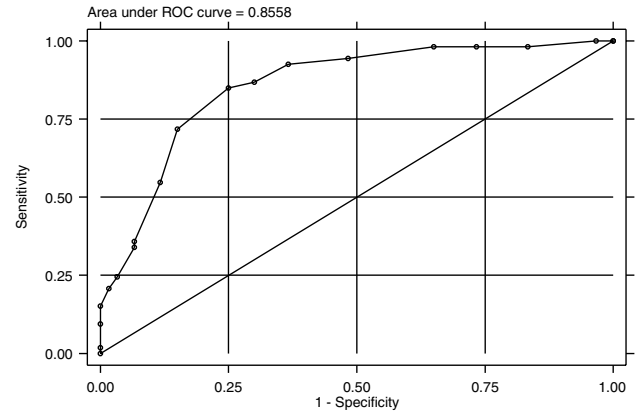


Figure 1 ROC curve for the IIEF-5.

negative), or conversely that maximizes the overall correct classification rates (both true positive and true negative). Table 7 shows the sensitivity, specificity and the correct classification rate of IIEF-5 for a range of scores from 16 to 22. The optimal cutoff point is 17, which has a sensitivity of 85%, specificity of 75% and the highest overall correct classification rate of 80% among all other possible choice of cutoff points.

Discussion

Translating and adapting the English IIEF into Malay

Our experience with translating and adapting the English IIEF into Malay was more difficult than had been the experience described with other Asian languages such as Thai and Chinese.¹⁰ In retrospect, this perhaps should not have surprised us. While the experience of sex is undoubtedly universal and most sex-related concepts exist at least implicitly in all cultures, it is also undeniable that cultures differ in the way the experience of sex is conceived and expressed. Malay is perhaps not an especially rich language for expressing sex-related matters. Many of the key words and concepts referred to in the IIEF simply do not exist in the same highly developed forms as it does in English. The equivalent words or concepts in formal Malay were themselves of Arabic or English origin, the colloquial form often simply did not exist. When some of these words exist, they refer to the subject somewhat obliquely rather than in a direct fashion, for example, sexual intercourse means literally ‘to join in one body’ in Malay, or it has moral overtones beyond the word itself, for example, sex organ is referred to as ‘shame’ literally in Malay. Some of the colloquial equivalent in Malay may be regarded as vulgar by the better educated. For example, the key concept of erection in terms of comprehension and naturalness was best

rendered 'batang keras' in Malay (literally a stiff rod in English).

Validation of the Malay IIEF

The Malay IIEF turns out to be as reliable as the original IIEF. This needs to be emphasized in view of the difficulties encountered in adapting the English IIEF into Malay. Further, sex is a taboo subject and may thus result in anxiety among respondents. This is compounded by the fact that most developing countries, which include Malaysia, are not 'questionnaire sophisticated'. This was especially so with the community sample in this study among whom, many were not familiar with the use of pencil-and-paper data collection. That the Malay IIEF could achieve such high reliability under such circumstances was indeed remarkable.

The validity of the Malay IIEF is also to some extent supported. It does discriminate between subjects with and without ED and it is sensitive to response to treatment; although somewhat attenuated in scores compared with the English IIEF. For example, the mean difference in the EF domain score between subjects with clinical ED and those without was 15.1 for the English IIEF⁶ and only 8.1 for the Malay IIEF. Similarly, the mean change in score in the EF domain among responders (sensitivity) was 12.8 for the English IIEF,⁶ while it was only 6.0 for the Malay IIEF. Interestingly, the mean change in EF domain scores observed in trials of sildenafil^{3,11} conducted in Asia was about 11, which was similar to those observed in US¹² and European¹³ trials. On that basis, a recent review of IIEF⁴ suggests that the IIEF (or at least its EF domain) was a robust measure in different countries and cultures. In our opinion, the discrepancy in the sensitivity property of the Malay IIEF (or its EF domain) reflects the differences between clinical trial setting and the community and primary care setting in which our study was conducted. Similar issues have been raised concerning the validation and utility of IIEF-5 in general practice setting.¹⁴⁻¹⁷

However, the Malay IIEF is also clearly not quite measuring the same thing as the original English IIEF. In particular, the factor structure has changed. The large eigenvalue for the first factor suggests a rather general measure of sexual function, without clear division into five distinct domains. There is currently no standard guideline for the crosscultural adaptation and validation of questionnaire instrument. While one may not agree that factor structure ought to be completely reproducible before one may infer crosscultural equivalence, some degree of similarity is to be expected. Our results show that the Malay IIEF has rendered the male sexual function as largely a one-dimensional concept, rather than the finer distinction into five dimen-

sions. A similar lack of subtle distinction is found with the response format. Many subjects had difficulty with the distinction among 'extremely difficult', 'very difficult' and 'difficult'. This accounted for the attenuated difference in score between subjects with ED and those without, and similarly the attenuated response in IIEF score to treatment with sildenafil.

The Malay IIEF-5 did diagnostically distinguish between ED and non-ED subjects, although again with reduced diagnostic performance. The AUC of 0.86 may compare unfavorably with the AUC of 0.97 reported for the English IIEF,⁸ however, it is good enough for screening purpose.

Finally, previous attempts in translating and adapting the English IIEF into other languages,¹⁰ while successful had stopped short at that. The translated instruments were pressed into service whether for clinical practice or for clinical trial. It is assumed that the translated IIEF 'inherits' the psychometric properties of the original IIEF. This study shows that this is generally an unsafe assumption. In view of the difficulty in achieving equivalence with the English IIEF as shown by this study, it may be tempting to develop language- or culture-specific measures. However, it is still preferable to have a common instrument for measurement to enable comparability of results across culture and to enable crosscultural studies, which can contribute significantly to our understanding of cultural notions underlying our universal experience of sex.

Conclusion

More work is needed to fine tune the Malay IIEF to achieve equivalence with the English IIEF. However, despite this we feel confident in recommending the IIEF-5 for applications in clinical practice and clinical research such as clinical trials, where emphasis is on the erectile component of sexual function rather than overall male sexual function. The diagnostic performance of the Malay IIEF-5 is acceptable and it is sufficiently sensitive to treatment.

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