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Validation test of Indonesian female sexual function index (Indonesian FSFI)



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ABSTRACT

Background: Female Sexual Function Index (FSFI) is a multidimensional questionnaire that can show female sexual function. This questionnaire consists of 6 domains in which sexual desire, sexual arousal, lubrication, orgasm, sexual satisfaction and pain (19 questions in total). The survey is useful for early detection of female sexual dysfunction complaints. The validated questionnaires are helpful to support the overall validity of research data.

Aim: To obtain an Indonesian FSFI questionnaire that is following the original questionnaire as well as valid and reliable for the usage in the Indonesian population.

Methods: Series of validation test are conducted through several stages: forward translation, expert panel, backward-translation, pre-testing and cognitive interviewing, final version and documentation. The study was conducted by collecting data from 107 patients

in reproductive health age (18-35 years old) in Daerah Istimewa Yogyakarta province, from January to March 2018.

Results: Indonesian version of Female Sexual Function Index (FSFI-I) is easy also excellent to understand and assess the sexual function of women). The test value more than 0.300 (0.326-0.623) was considered as valid. One question (number 19) is 0.282, less than 0.300 but still valid because the value is more than r-table. The reliability test of the questionnaire was performed using Cronbach's Alpha with a highly significant result of 0.844. Reliability retest test was evaluated using V Aiken as a result of 0.833 showing FSFI having good content validity for all groups.

Conclusions: Indonesian version Female Sexual Function Index (FSFI-I) is valid and reliable in this study; however, it requires further research with larger samples widely used in Indonesia.

Keywords: Female Sexual Function Index, Indonesia, validation test

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INTRODUCTION

In the course of a woman's life, a woman's sexual activity can change with age from adolescent to menopause, and it is influenced by pregnancy and childbirth.¹⁻⁵ Marital status, depression, anxiety disorders, and other health conditions may also affect it.^{1,6-10} The complex interactions between genetic, biological, psychological, social, and cultural factors play an essential role in the etiology of female sexual disorders.^{2,7} Indeed, a sexual disorder in women is one of the most common health problems. About 43% of American women suffer from sexual disorders. Research on Asian women in some countries shows sexual disorders occur in about 20-25% of women.^{3,9,10} Female sexual disorder includes sexual desire disorders, sexual arousal disorders, pain (discomfort), and orgasmic disorders, of which 11-33% of the survey results are subject to specific disorders.^{4,6} In Indonesia, the prevalence of female sexual dysfunction had not been documented well.

The FSFI questionnaire was developed and validated in 2000.³ The questionnaire is validated through several stages in sequence, including panel selection of each question, pre-testing, and expert panel. Based on the method of analysis, there are five identified sexual function factors such as desire

or sexual arousal (libido), lubrication, orgasm, satisfaction, and pain.^{4,7}

Female Sexual Function Index (FSFI) is a multi-dimensional questionnaire that can show female sexual function. The FSFI consists of 6 domains in which sexual desire, sexual arousal, lubrication, orgasm, sexual satisfaction, and pain (totaling 19 questions).¹ The FSFI questionnaire is used to assess sexual disorders in adolescents, pregnant women, middle age to menopause. FSFI is also used to evaluate sexual disorders in various clinical conditions, including women with diabetes mellitus, high blood pressure, genital organ disorders, obstructive sleep apnea, tinnitus, spinal injuries, pelvic organ surgery, aortic surgery, and women with certain medications.³ Female with questionnaire result of female sexual dysfunction can be evaluated further towards its risk factors, causes, and management.¹⁻¹⁰

The Female Sexual Function Index (FSFI) questionnaire can be used to help to establish the diagnosis of female sexual dysfunction. Assessment results on the number of values >26.5 suggest any presence of female sexual dysfunction.¹ To obtain a non-confusing assessment result, FSFI is used in women who engage in sexual activity during the last 6 months and the

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evaluation is performed in the previous 4 weeks. The results of the zero assessment indicate the absence of sexual activity during the assessment.⁴ On international use, FSFI has been translated into Chinese, Arabic, Persian, Malaysian, Turkish, Korean and Japanese.³ Clinical and epidemiological studies show that FSFI has been validated to establish the diagnosis of female sexual disorders and help assess the quality of life in these countries.^{4,8} FSFI is an easy-to-understand questionnaire and can be used to measure all aspects of female sexual function.⁵⁻⁹

METHODS

Translation process of FSFI questionnaire

The research design used is a series of validation tests conducted through several stages, which are the forward translation, back translation, expert panel, and pre-testing and cognitive interviewing.

Forward translation

The FSFI questionnaire was translated into Indonesian by two translators who were experts in related fields, accustomed to various terms in the survey, and had excellent language-related skills in the questionnaire (English) but had a mother tongue according to the language used as validation test (Indonesian). The validation test process began with forwarding translation, which involves 2 obstetric gynecologists. Both of these people were Indonesian citizens, born in Indonesia, and who had mother tongue in the Indonesian language. They were accustomed to using FSFI questionnaires on daily patient examinations, so it was expected that they had understood the entire content and purpose of the questionnaire.

Back translation

The questionnaire was translated back into English by two independent translators, who had a mother tongue in English and had no knowledge of the questionnaire. Back translation is done on some questions that have been chosen by an expert based on keywords or sensitive to cross-cultural translation problems and when additional questions are deemed necessary, WHO approval must be requested. The translation results are compared back to the original English questionnaire, to ensure no missing or missing parts throughout the translation process. The process of back translation, which the questionnaire was translated back to English by two independent translators, who had a mother tongue in English, and did not know the questionnaire. Back translation can be done only on a few questions that experts have chosen based on keywords or sensitive to cross-cultural translation problems. Any additional questions deemed necessary shall

be subject to WHO approval. This process is done by 2 foreign students (from Australia and Germany who have mastered the Indonesian language well). Both students read the entire translation of the questionnaire and re-translated as necessary. The translation results are compared back to the original English questionnaire, to ensure no missing or missing parts throughout the translation process.

Expert panel

This meeting aims to identify and resolve the various problems that arise from the translation process that has been passed. From the entire translation process that has been performed and resulted in the FSFI questionnaire in the Indonesian language, the expert panel is asked to make statements about the translation and suggestions. The existing questionnaires are then taken to the expert panel. Expert panel meetings aimed at identifying and resolving various problems arising from the process of translation that has been passed. The panel involved consists of 5 people from a variety of expertise, for instance, each 1 sexologist, 1 andrologist, 1 urologist, and 2 specialist obstetrics and gynecology consultant in urogynecology and reconstruction. From the entire translation process that has been done and resulted in the FSFI questionnaire in the Indonesian language, the five experts claim to be able to accept the whole process and only submit a minor correction that does not change the meaning of the statement in the questionnaire.

Pre-testing and cognitive interviewing

Pre-testing and cognitive interviewing are required for pre-test of the questionnaire in the target population. Respondents will provide advice on language and questionnaire form. From the suggestion given, a final FSFI questionnaire was prepared in the Indonesian language. After the questionnaire has been agreed upon by the expert panel, pre-testing and cognitive interviewing are conducted, with the aim of pre-testing the questionnaire later for the target population. Respondents included 10 individuals who could represent the group that would use the questionnaire. In this process, the advice of 10 women consists of doctors, midwives, and housewives. The ten people were asked to read the entire translation of the questionnaire and provide advice, related to the use of language and questionnaire form. Seven people stated the whole questionnaire was easy to understand, 2 people said easy to understand by adding minor notes to the use of the same words, 1 person stated less simple. From the suggestion given, a final FSFI questionnaire was prepared in the Indonesian language, which could then be used for the purposes of supporting the diagnosis of female pelvic floor dysfunction in Indonesia.

The validation process of FSFI questionnaire

FSFI validation test that has been translated in Indonesia language needs to be done to obtain questionnaires that are completely valid and reliable and it can be used in the population of Indonesian meetings. The study was conducted in RSUP Dr Sardjito, as well as in the working area of the educational networking hospital, from January to March 2018. The population is women of reproductive age up to menopause. The sample of the study (respondent) is part of the research population that meets the inclusion and exclusion criteria and has given consent to participate in the study. The sample of the study was taken randomly. The study was also a part of research about predictor instrument for pelvic floor dysfunction after vaginal delivery.

Inclusion criteria are aged 18-35 years, married, and have a minimum education level of junior high school, and are willing to participate in the study. Exclusion criteria were respondents with a history of severe diseases such as malignant disease, and still in certain treatment affecting women's sexual activity.

Respondents were asked to answer all questions in the Indonesian FSFI questionnaire as well as to communicate when a word or question that may not be understood. All respondents were asked to fill out the questionnaire 2-4 weeks after filling out the initial questionnaire to evaluate the reliability of the questionnaire.

Statistical test for validity using product moment correlation technique, seen from corrected item-total correlation of each question point. Calculation of reliability using Cronbach's alpha analysis, Test-retest reliability Intraclass correlation coefficients. Internal reliability of the FSFI-I questionnaire was calculated using Cronbach's α coefficients. Test-retest reliability is evaluated by using intraclass correlation coefficients (ICC).

RESULTS

This validation test research involved 107 subjects. The statistical-validity test of the questionnaire using the corrected item-total correlation of each question item had value more than 0.300 (0.326-0.623) was considered as valid. One question (number 19) is 0.282, less than 0.300 but still valid because the value is more than r-table. Cronbach's Coefficients were used to determine the total score and 6 domains in FSFI-I, with the result of the $\alpha = 0.844$ (range 0.828-0.843) > r table, which showed that FSFI-I had high significant reliability (Table 2). Test-retest reliability was evaluated by using Aiken V with result is 0.833 which showed FSFI had good content validity.

DISCUSSION

Female Sexual Function Index (FSFI) has been widely used in various studies in various countries. Validity and reliability have also been frequently tested. The results of the study suggest that the FSFI questionnaire has been shown to have good sensitivity and specificity to determine a woman with sexual dysfunction or not. Lee et al. (2014) stated that the sensitivity value of FSFI was 89.9% and 86.3% for specificity. Assessment of FSFI resulted in no sexual dysfunction on the sum of > 26.5 and said to have sexual dysfunction in the sum of <26.5. The five factors included in it consist of sexual desire or arousal (libido), lubrication, orgasm, satisfaction, and pain.^{2,5}

The translational process undertaken in this study provides the results of the FSFI questionnaire in the Indonesian language that can be used to help the diagnosis of female pelvic floor dysfunction. The process of translating involves respondents who have been following the provisions. In the panel discussion can be submitted that the contents of the questionnaire in the Indonesian language have been following the original questionnaire, no matter lost or changed the meaning.

In the pre-testing and cognitive interviewing phase involving 10 respondents, almost all respondents (9 people) stated that they could understand the questionnaire easily. One person stated the questionnaire was less simple. Of the 9 people who understood, 7 people did not give special notes, but 2 people added suggestions in the form of word adjustments. The word 'stimulus' is questioned whether it will change its meaning when it is changed into the word 'sexual passion'. In this process, an answer can be given: yes, it will change the meaning. The word 'stimulus' in the questionnaire of FSFI number 3,4,5 and 6, means 'arousal' or sexual awakening, which is a physical change of women due to the sexual arousal it undergoes. The word 'sexual arousal' in the questionnaire of FSFI number 1 and 2 means a sex drive or libido, which comes from feelings and has not arrived at a physical change. For this reason, the word 'stimulus' in the questionnaire of FSFI numbers 3,4,5 and 6 cannot be replaced by the word 'sexual arousal' as in the numbers 1 and 2. The word 'vaginal twist' at number 8,9,10, can be replaced with a 'slimy vagina' as at number 7, because its meaning is more easily understood and is in line with all questions in the FSFI questionnaire 'lubrication' questionnaire group. For how to write 'orgasm' on the numbers 11 and 12 with 'pleasure', then for number 13 can also be added the same information.

Table 1 Statistics Corrected Item-Total Correlation and Cronbach's Alpha

	Average if item deleted	Variation scale if item deleted	Corrected Item-Total Correlation	Cronbach's Alpha if the scale is removed
Sexual Desire				
1. Frequency	56.32	100.894	.489	.636
2. Stage	56.41	100.918	.528	.675
Sexual Arousal				
3. Frequency	56.09	99.459	.592	.654
4. Stage	56.28	375.385	.617	.957
5. Self-confidence	56.14	97.768	.638	.629
6. Comfort	55.97	98.961	.572	.636
Lubricating				
7. Frequency	56.03	97.229	.557	.595
8. Difficulty	56.40	97.508	.371	.791
9. Receiving frequency	56.15	99.230	.505	.416
10. Receiving difficulty	56.54	98.644	.387	.748
Orgasm				
11. Frequency	56.16	97.458	.539	.498
12. Difficulty	56.47	98.748	.357	.706
13. Comfort	55.89	97.787	.571	.565
Comfort				
14. Closeness with partner	55.66	97.492	.638	.679
15. Sexual closeness	55.75	96.002	.683	.760
16. Overall sexual activity	55.86	96.356	.634	.688
Pain				
17. Frequency during penetration	56.32	101.262	.350	.510
18. Frequency after penetration	56.35	101.759	.327	.564
19. Stafe of during and after penetration	56.26	103.527	.280	.431

Table 2 Statistics V Aiken

No.	Aiken V FSFI									V score
	1	2	3	4	5	6	7	8	9	
1	5	5	5	5	5	5	5	5	5	1
2	5	5	5	5	5	5	5	5	5	1
3	5	5	5	5	5	5	5	3	3	0.888888889
4	5	4	5	5	4	5	5	4	4	0.888888889
5	5	5	5	5	5	5	5	5	5	1
6	4	4	4	4	5	4	4	4	4	0.777777778
7	5	5	5	5	5	5	5	3	5	0.944444444
8	5	4	4	4	4	5	4	3	4	0.777777778
9	5	5	5	5	5	5	5	5	5	1
10	5	5	5	5	5	5	5	5	5	1
11	5	5	5	5	5	5	5	5	5	1
12	4	4	4	5	5	4	5	4	4	0.833333333
13	5	5	5	5	5	5	5	5	3	0.944444444

Table 2 Continue

No.	Aiken V FSFI									V score
	1	2	3	4	5	6	7	8	9	
14	5	5	5	5	4	5	5	5	5	0.972222222
15	5	4	5	4	4	4	4	4	3	0.777777778
16	5	5	5	5	5	5	5	5	5	1
17	5	5	5	5	5	5	5	4	5	0.972222222
18	5	5	5	5	5	5	5	5	5	1
19	4	4	4	4	5	5	5	4	4	0.833333333

The words 'halftime' on the questionnaire answer option is suggested to be replaced with another sentence. No replacement of the words was given but the information related to the words on the questionnaire, so that respondents can better understand how to fill out the questionnaire as a whole. The intended timeframe is during the 4 weeks of a woman's life with normal sexual activity. The sequence of words 'about half the time' means about half the 4 weeks of a woman's life with normal sexual activity, 'more than half the time' means more than a 2-week span of a woman's life with normal sexual activity, while 'less than half-time' meaning less than the 2-week span of a woman's life with normal sexual activity.

There is 1 person who states the questionnaire is less simple. This can be overcome by giving information on a questionnaire that can be read before a respondent fills out a questionnaire. This will help respondents better understand the questionnaire, to provide answers that match the purpose of filling out the questionnaire.

CONCLUSION

The Indonesian version of Female Sexual Function Index (FSFI-I) questionnaire is valid, reliable, and effective to assess female sexual disorders in the population in Indonesia. This questionnaire can be used to support researchers and also become tools to help to find out female sexual dysfunction complaints in society.

CONFLICT OF INTEREST

All authors declare there is no conflict of interest regarding publication of this manuscript and have got patient's permission in this article.

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