Validation of Mental Health Nurses' Knowledge Questionnaires toward the Sexual Behavior Problems of Mental Disorder Patients through Cultural Adaptation

[1]Suzanna*, [2]Intansari Nurjannah, [2]Sri Hartini
Corresponding Author: * suzanna.stikesmp@gmail.com
[1] Institut Ilmu Kesehatan dan Teknologi Muhammadiyah Palembang, Indonesia
[2] Faculty of Medicine, Public Health, and Nursing (FK-KMK), Universitas Gadjah Mada, Indonesia

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ABSTRACT

One of measurements on nurses' basic skills regarding patient's sexual behavior problem is through nurse's knowledge domain using a structured-questionnaire with structural equation modeling, hypothesis that has been developed in previous studies in Chinese version. Meanwhile, the Indonesia version has not yet beeb developed, especially in the scope mental health services. Objective: Validate a mental health nurse's knowledge questionnaire on sexual behavior problems in mental patiens. This type research is quantitative using bivariate analysis namely validity and reliability tests. Result showed validity test on 60 respondents of mental health nurses from 31 questions about nurses's knowledge showed that there were 21 valid items with r count or corrected item values were greater than r table. Meanwhile, in valid items were not used. The result of the reliability test Cronbach's Alpa value was 0.66 > 0.60, so nurses' knowledge questionnaire can be said to be reliable. The conclusion explains that 21 items of nurses' knowledge questions were declared valid and reliable and could be used as a standard for measuring nurses' knowledge in patients' sexual problems.

Keywords
Nurses's Knowledge
Sexual Behavior
Mental Health Service

Introduction

Sexual health is not only the absence of diseases, but it also involves the social, emotional, mental, and physical welfare concerning sexuality (WHO, 2010; 2011). Furthermore, sexuality has become one of the important aspects while providing health care since 1970, and every individual has the right to sexual care and health information for decision-making [3]–[5]. The health information needs must be also considered through individual sexual education as part of the responsibility for nursing practices [6]. The study of the health dimension revealed that a nurse needs to know and have four basic skills in sexual health services for patients.

Basic skills consist of self-knowledge and comfort toward sexuality topics, acceptance of topics associated with attitudes and self-confidence, basic knowledge and its intervention, as well as communication skills to recognize the needs of patients and families [7], [8]. They also consist of four domains, namely the concepts, side effects and treatment, assessment of sexual health care and harassment, as well as sexual violence (Watts, 2016). However, several studies revealed that knowledge is one of the obstacles to sexual teaching because nurses do not have information related to comprehensive basic knowledge of sexuality and disease concepts [9]–[12].

Part of the information delivery about sexuality is how its possession by nurses becomes the basis of their communication skills in terms of asking questions, discussing, and interacting with patients [7], [8]. They still need to be improved through a sustainable education program [13]–[17]. The measurement of basic skills through aspects of knowledge, attitudes, self-efficacy, and communication skills of nurses was carried out using questionnaires and structured statements with SEM (Structural Equation Modeling) hypothesis testing that has been developed by previous studies [10]–[12].

A previous study developed instruments in the Mandarin version for nurses who worked in the Public Health Services. There is no questionnaire in Indonesia related to the description of basic skills on patient sexual behavior problems, specifically for mental health nurses. Therefore, this study aims to validate nurses' knowledge questionnaire on the sexual behavior problem of mental disorder patients with a cultural adaptation approach.

Method

This is a quantitative study with several correlation tests. The sample population was divided into two groups, namely experts and participants. The expert groups consisted of 3 academics in the field of mental nursing and maternity, 2 practitioners of psychiatrist and mental health nurse, as well as 1 Indonesian linguist who synthesized the adaptation of

instruments translated into Indonesian. Meanwhile, the participant group consisted of 60 mental health nurses who were selected based on the predetermined inclusion criteria.

The instrument trial comprised of different assessments, namely content and facial validity tests, as well as a reliability test. Its development was carried out through cross-cultural adaptation for the questionnaire on the knowledge, attitudes, and self-efficacy of nurses. The outline in the guidelines for adaptation consists of five stages.

Phase I: Translation, Phase II: Synthesis, Phase III: Back Translation, Phase IV: Review of the Expert Committee Assessment, Stage V: performing instrument experiment test (Pre-testing) [18], [19]. Furthermore, the instrument was assessed using content validity, as well as understanding and validity tests combined with item analysis and reliability.

Nurses' knowledge questionnaire is associated with their ability to provide appropriate information related to patient sexual health problems. It also consists of three domains, including treatment (side effects and medical care), assessment of health care, namely history and evaluation of the problems, as well as violent sexual harassment.

For the favorable questions, values of 2 and 1 were given to the correct and wrong responses, respectively, and this indicated the level of preference (positive) or approval. Meanwhile, for the unfavorable questions, values of 1 and 2 were given to the correct and wrong responses, respectively, and this indicated the level of dislike (negative).

Table. 1 Explanation of Question domain type

Question domain type	Total	Number of questions	Favorable/ unfavorable
Knowledge	20	11	UF
		1-10,12-14,20,21,23,28,29	F
Treatment (side effect)	2	24,25	F
Nursing studies	7	15-19,22,27	F
Sexual harassment and sexual offense	2	30-31	UF

The content validity was carried out to determine the suitability, clarity, understanding, and completeness of the questionnaire based on the opinion of the five experts (expert judgment), which consists of practitioners and academics in the field of mental health and nursing.

Some experts assessed the item in terms of the extent to which it represented the construct measured. The assessment results were obtained with Aiken's V formula and the content validity ratio (Lawshe's CVR/Content Validity Ratio). The formula was developed by Aiken (1985) to calculate the content validity coefficient based on the number (n) of people supporting an item. Furthermore, it is illustrated as follows: $V = \Sigma s / \{n(c-1)\}$, where $s = r-lo$, lo = lowest validity assessment number (1), c = highest validity assessment number (5), r = numbers given by the expert. V values of 0-1.00 indicate that the item has a high coefficient.

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Lawshe's CVR was developed by Lawshe (1975) to reflect the level of content validity based on empirical data. There is often a subject matter expert (SME), which states whether the item in the test is essential for the operationalization of the theoretical construction of the relevant test. Essential items are needed and are very important for the measurement process. The CVR obtained in this study was within the range of -1 to +1. Values > 0.00 indicates that more than 50% of the SME in the panel believe the item is essential.

The higher the value obtained above 0 indicates the more essential and the higher the validity of its contents. The formula often used for the calculation is CVR = (2 ne/n) -1, with the description: SME: 10 Appraisers, ES Answers: Essential, Ne: Non-Essential. The value obtained often range between -1.00 to +1.00, which indicates that the item is essential. The CVI (Content Validity Index) was calculated by obtaining the average CVR for all items using the formula CVI: $\sum$ CVR/K, where K is the number of items.

A questionnaire comprehension test was carried out to ensure that every word can be understood by the ten nurses and four mental disorder patients. They were invited to read all the questionnaires and then asked to convey words or terms that were understood or not understood.

Subsequently, a trial was carried out using respondents who had similar characteristics to the samples in this study at the Lampung Mental Hospital. The respondents consisted of 90 mental health nurses.

A Validity test was also performed with item analysis by calculating the correlation coefficient of each question item. A question or statement is valid when the r-count value is greater than the r-table. The test was carried out for each part of the questionnaire, hence, the question items or invalid variable statements can be identified.

The statistical analysis was performed with the Pearson Product Moment correlation test using a correlation coefficient at a significance level of 0.05, for a sample of 90 people. Therefore, the item is considered valid when the value of r = 0.254. Instrument reliability tests were also carried out on each variable by assessing Cronbach's Alpha > 0.60 (Dahlan, 2014).

Result and Discussion

The content validity test from the experts revealed that nurses' knowledge questionnaire was representative and clear. Furthermore, the results of Aiken's V calculation were in the high coefficient range. The CVR and CVI values obtained for all instruments were also in the essential range. Details of the calculated value of content validity were provided by the experts and assessors.

Table. 1 Explanation of the nurse knowledge questionnaire

No	Statement	Responses	
		Correct	incorrect
1.	Clarifying myths and taboos about sexuality in cultural perspective.		
2.	Encouraging patients to participate in social activities can improve sexual function and role		
3.	Discussion of sexuality can be done by considering transcultural aspects		
4.	Encourage patients to share feelings about changes in perceived sexual health problems		
5.	When assessing a patient's case experience of changes in sexual behavior / sexual function there are several nursing diagnoses about sexual problems		
6.	Asking to patient about sexual problems they feel during curing process.		
7.	Encourage discussion about sexual health problem with couples/partner		
8	Assessing patient's ability about their role as husband or wife before they get treatment for the disease		
9	To avoid patient's shyness when talking about their sexual problems, you can use safer and more private environment		
10	Teach and let them know the physical differences between men and women in terms of sexuality		
11	Use terms such as erection, sexual intercourse, masturbation in sexual health treatment		
12	Identify some patient's sexual behavior that appear in ward		
13	Provide information about the physiological effects of changes in sexual patterns from the treatment that the patient is undergoing		
14	Antipsychotics, antihypertension, diabetes, can cause erectile dysfunction and patient sexual problems		
15	Explain the side effects of the drug in the sexual response cycle		
16	Encourage discussion about changes in body appearance / function related to sexual health with a partner		
17	Provide open communication and assessment of positive self-esteem in patients		
18	Set a safe bed environment if patients with risky sexual behavior are indicated		
19	Provide information on the dangers of pregnancy in certain cases such as mental disorders, gene disorders etc.		
20	If there is a patient's behavior in the treatment room in the form of sexual harassment, sexual assault and sexual contact, immediate action must be taken		
21	Display pornographic images and words form part of the patient's sexual behavior during treatment		

The series of assessments was then continued with an understanding test, which was carried out on a small group of ten nurses. They were invited to read all the questionnaires and then asked to convey the words or terms that were not understood, such as autoerotic, sociosexual, resolution, and impulse. Some of these terms were then discussed and jointly modified based on the input from the group. After the understanding test, the instrument was tested on respondents with similar characteristics, namely 60 mental health nurses.

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Table. 3 Instrument content validity value

Instrument	Aiken's V	CVR	CVI	Information
Knowledge	0,6-0,75	0,4-0,8	0,6	High coefficient, essential, representative & clear

The content validity was then continued with the validity and reliability tests. Based on the validity test on 60 psychological nurses from 31 knowledge questions, there were 21 valid items with r count or correlated item values greater than the r table, namely 0.254, while the invalid items were not used. The reliability test result showed a Cronbach's Alpha value of 0.66 > 0.60, which indicates that the knowledge questionnaire is reliable. The development of instruments was carried out using cultural adaptation, which was used to measure variables from previous studies, namely nurses' knowledge of on the patient's sexual behavior problems.

Table.4 Explanation Test the validity and reliability of the knowledge questionnaire

Question item type	Items before tested	Valid items
Basic information on sexuality & sexual behavior	1,2,3,4,5,6,7,8,9,10,11,12,13,14, 20,21,23,26,28,29	4,5,6,8,10,11,12,13,14,20, 21,26,28,29
Treatment (side effect)	24,25	24,25
Sexual harassment and sexual offense	15,16,17,18,19,22,27,30,31	15,16,17,18,27

The process was performed along with adaptation by designing a draft questionnaire to measure the communication skill variable on sexual behavior using seven steps [20]. The development was carried out through cross-cultural adaptation of nurses' knowledge, attitudes, and self-efficacy questionnaires [9]–[11]. The adaptation method is very important when carrying out similar studies on different cultures, as well as studying the rules, social norms, customs, and language of the new culture [18], [19]. The outline in the guide for the method consists of five stages.

- Stage I: Translation was carried out by translating all questions or statements from the previous instrument at two English language institutions, namely English-Indonesian.
- Stage II: Synthesis was performed by giving Indonesian language drafts to Indonesian language experts at the University of PGRI Palembang to conduct a synthesis or mixed blend by referring to the correct sentence structure.
- Stage III: Back translation involves carrying out re-translation at two different English language institutions in Stage I. The synthesis results from Indonesian language experts were translated to the Indonesian-English version.
- Stage IV: Expert committee review was carried out by inviting five experts (expert judgment) to assess the draft designed at Stage III, namely practitioners and academics in

the scope of mental health and nursing. The results of corrections and input from experts were used to improve the instrument draft.

- Stage V: Instrument trial test (pre-testing) was performed by testing the instrument on samples (Epstein et al., 2015; Sousa & Rojjanasrirat, 2011).

Previous studies carried out questionnaire development and validation on a group of nurses in a Taiwan general hospital. Their knowledge was measured with a structured questionnaire by testing the SEM (structural equation modeling) hypothesis known as the Knowledge of Sexual Healthcare Scale (KSHC), which consists of 31 items [10]–[12]. The KSHC was designed to test nurses' sexual health knowledge using 31 items related to the effects of medical treatment, disability, as well as physical and mental illness on sexual function. A two-point scale ranging from 0 (false or unknown) to 1 (true) was used with the total score ranging from 0-31. In a previous study, the Chinese version of the scale showed a content validity index of 0.83, while the retest-test reliability based on the intra-class correlation coefficient at a two-week interval was 0.73.

The content validity index obtained in this study was 0.81. The development and validation of the nurse's knowledge questionnaire about sexual behavior problem of mental disorder patients in Indonesia was carried out with a cultural adaptation approach using five stages. Nurses' knowledge is their ability to provide appropriate information related to sexual behavior problems of mental disorder patients. Furthermore, it consists of four domains, namely general information, treatment (side effects and medical care), health care assessment, namely history and evaluation of sexual health problems as well as sexual violence/harassment. Data analysis was carried out to determine the content validity of the instrument with expert assessment using Aiken's V formula, CVR, and CVI. The result showed that nurses' knowledge questionnaire is representative, clear, essential, and has a high coefficient.

This method is different from previous studies where the content of the instrument was not validated through the results of expert assessments. The content validity was carried out as a first step to determine the suitability, clarity, understanding, and completeness of the questionnaire. The five experts (expert judgment) used were practitioners and academics in the scope of mental health and nursing who have more than 10 years of experience in their respective fields.

Expert judgment assessed the extent to which the item represented the construct that was measured based on the needs and abilities of the nurse. Several inputs in terms of the essence of sexuality information, specifically the side effects of treatment for mental disorders, were given to achieve a thorough understanding of nurses. Basic skills in sexual health services,

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specifically self-comfort and knowledge of basic sexuality as well as intervention must be possessed by a nurse [7], [8]. This was reinforced by the four domains related to knowledge, including the concept of sexuality, side effects and treatment, as well as sexual health care assessment, harassment, and violence [7], [8]. The development process using a cultural adaptation was in accordance with the four domains. Several validation stages were also carried out, hence, this questionnaire can be used as a standard for measuring the knowledge of nurses on sexual behavior problems of mental health patients in the room.

Conclusion

The validity test results based on 31 questions from nurses' knowledge questionnaire showed that there are 21 valid items with r count or correlated item values greater than the r table, while the invalid items were not used. The reliability test obtained a Cronbach's Alpha value of 0.66 > 0.60, hence, the questionnaire is reliable.

Basic skills in sexual health services, specifically in aspects of knowledge and self-comfort of sexuality as well as knowledge of basic sexuality and interventions, need to be possessed by nurses. This was reinforced by the four domains of sexuality knowledge, namely the concept, side effects and treatment, sexual health care assessment and harassment, as well as violence. The development was carried out using cultural adaptation on nurses' knowledge questionnaire in accordance with the four sexuality domains, followed by several stages of validation. Therefore, it can be used as a standard for measuring nurses' knowledge on the sexual behavior problems of mental disorder patients in the room.

Ethics

The ethical approval for this research was accepted and processed by the board of ethical review by Medical and Health Research Ethics Committee (MHREC) Faculty pf Medicine, Publich Health and Nursing Gadjah Mada University- DR. Sardjito General Hospital (REF Number : KE/FK/1470/EC/2019)

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Conflict of Interest

We declare that there is no conflict of interest.

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Authors

Dr. Suzanna is an educator and lecturer of Institut Ilmu Kesehatan dan Teknologi Muhammadiyah Palembang. Her doctorate degree is from Universitas Gadjah Mada. Her disciplines is in Mental Nursing Sciences especially in Psychosocial and Psychosexual (email: suzanna.stikesmp@gmail.com).

Intansari Nurjannah, SKp., MNSc., PhD. is an educator and lecturer of The Faculty of Medicine, Public Health, and Nursing (FK-KMK), Universitas Gadjah Mada, Indonesia. UGM. She has published her research in many reputable journals. Her disciplines is in Medical Science Nursing which the skills and expertise in Nursing Care, Nursing Assessment, Nursing Diagnosis, and Nursing Theory and Management. (email: intansarin@ugm.ac.id).

Sri Hartini, S.Kep., Ns., M.Kes., PhD is an educator and lecturer of Faculty of Medicine, Public Health, and Nursing (FK-KMK), Universitas Gadjah Mada Indonesia. Her doctorate degree is from Kobe University, Japan in Community Health Science. She got many research grants from Indonesian government and published the result in many reputable journals. (email: srihartini.psik@ugm.ac.id).