Sexual Health Practices Evaluation Scale: A Methodological Study

Cinsel Sağlık Bakım Uygulamaları Değerlendirme Ölçeği: Metodolojik Bir Çalışma

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ABSTRACT

Objective: In this study, the Sexual Health Care Practices Assessment Scale (SHCP-AS) was developed to create a valid and reliable measurement tool to evaluate nurses' sexual health care practices.

Methods: Cross-sectional and methodological research methods were used in the study. The study population consisted of nurses working in hospitals in the Central Black Sea Region, and the sample consisted of 309 nurses who were selected using a random sampling method. Data were collected using a descriptive information form and SHCP-AS. Content validity and factor analysis were used to determine the scale's validity, two-half test reliability was used to determine the reliability, and the Cronbach Alpha reliability coefficient was calculated.

Results: According to the results of the exploratory factor analysis of the scale, Kaiser-Meyer-Olkin test value was 0.98, Barlett's test χ^2 = 13275.67, df = 703, P<.000. The SCHP-AS consisted of two sub-dimensions titled "Initiating and Maintaining Communication" and "Sexual Health Care Practices" and 30 items. Cronbach's Alpha values were 0.98 for the overall scale, 0.96, and 0.94 for the subgroups. McDonald's Omega Coefficient values were 0.98 for the overall scale, 0.98, and 0.94 for subgroups. Two-half test reliability was calculated with the Spearman-Brown formula after the scale was divided into two equivalent halves, and the result was found to be 0.98.

Conclusion: In the study, it was found that the SHCP-AS is a valid and reliable measurement tool in determining the sexual health care practices of nurses. It is recommended that the psychometric structure of the scale should be evaluated with more comprehensive studies on different samples.

Keywords: Sexuality, sexual health care, nursing, practices, scale development.

ÖZ

Amaç : Bu çalışmada, hemşirelerin cinsel sağlık bakım uygulamalarını değerlendirmede kullanılacak geçerli ve güvenilir bir ölçüm aracı oluşturma amacıyla Cinsel Sağlık Bakım Uygulamaları Değerlendirme Ölçeği (CSBU-DÖ) geliştirilmiştir.

Yöntemler : Araştırmada kesitsel ve metodololojik araştırma yöntemleri kullanılmıştır. Araştırmanın evrenini Orta Karadeniz Bölgesi'ndeki hastanelerde çalışan hemşireler, örneklemini ise gelişigüzel örneklem yöntemi ile seçilen 309 hemşireden oluşmuştur. Veriler, tanıtıcı bilgi formu ve CSBU-DÖ kullanılarak toplanmıştır. Ölçeğin geçerliğinin saptanmasında kapsam geçerliği ve faktör analizi, güvenilirliğinin saptanmasında iki yarım test güvenirliliği kullanılmış, Cronbach Alpha güvenilirlik katsayısı hesaplanmıştır.

Bulgular : Ölçeğin açıklayıcı faktör analizi sonuçlarına göre Kaiser-Meyer-Olkin test değeri 0,98, Barlett testi χ^2 = 13275,67, df = 703, P <,000 olarak bulunmuştur. CSBU-DÖ "İletişimi Başlatma ve Sürdürme" ve "Cinsel Sağlık Bakım Uygulamaları" başlıklı iki alt boyut ve 30 maddeden oluşmuştur. Ölçeğin tüm alt boyutlarında Cronbach Alpha değerleri ölçek geneli için 0,98, alt gruplar için 0,96 ve 0,94 olarak bulunmuştur. McDonald's Omega Katsayısı değerleri ölçek geneli için 0,98, alt gruplar için 0,98 ve 0,94 olarak bulunmuştur. İki yarım test güvenirliliği ölçek eşdeğer iki yarıya bölündükten sonra Spearman Brown formülü ile hesaplanmış ve sonuç 0,98 olarak bulunmuştur.

Sonuç : Araştırmada CSBU-DÖ'nün hemşirelerin cinsel sağlık bakım uygulamalarını belirlemede geçerli ve güvenilir bir ölçme aracı olduğu saptanmıştır. Ölçeğin psikometrik yapısının daha kapsamlı ve farklı örneklemler üzerinde yapılacak çalışmalarla değerlendirilmesi önerilmektedir.

Anahtar Kelimeler: Cinsellik, cinsel sağlık bakım, hemşirelik, uygulamalar, ölçek geliştirme.

INTRODUCTION

The World Health Organization defines sexual health as "the physical, emotional, and social well-being of individuals about their sexuality and related physical, emotional, and social well-being."[1] Sexual health is affected by many factors, such as genetics, cultural and social values, previous sexual experiences, sexual identity, sexual myths, chronic diseases, and treatment processes. For example, psychological stress, peripheral neuropathy, or medications used in individuals diagnosed with diabetes significantly affect sexual desire. Sexual desire and function may also be impaired in individuals diagnosed with cancer or receiving chemotherapy treatment, and individuals may be negatively affected emotionally, physically, and psychologically.[2] In general, sexual health may be ignored in nursing care. However, nurses must provide holistic care to individuals, including sexual health care. Due to the effect of deviations from health on sexual life, individuals' concerns and problems related to sexual health should be the focus of nursing care. Promotion and support of sexual health is one of the essential elements of nursing care and should be considered as a priority approach together with other health needs. The provision of sexual health services is an integral part of holistic care aimed at improving the overall health and quality of life of individuals. In this context, nurses have a critical role in raising awareness about sexual health issues, providing counselling, and organizing appropriate care services.[3] Although nurses generally agree that sexual problems of individuals should be addressed and discussed as part of health services, they hesitate to take an active role in clinical practice. Factors such as nurses thinking that patients will feel uncomfortable during sexual health care[4], not having enough preparation, knowledge, and skills to address a unique subject that is seen as taboo in society, and sexual health care practices not being part of the clinical culture[5] are among the barriers to providing sexual health care. Studies have revealed that health professionals experience inadequacy in sexual health care practices and that special education is necessary in this field. However, the majority of nursing education programs do not offer comprehensive training to develop teaching or counselling skills related to sexual health care practices. This situation necessitates the restructuring of education programs to overcome the knowledge and skill deficiencies in sexual health. Annerstedt and Glasdam[6] point out that the deferral and neglect of sexual health care is a consequence of existing ideas and discourses about sexual health in society that drive actions and attitudes towards care. The authors describe nurses' initiation of conversations about sexual health care as "moving beyond the implicit agenda," where nurses address sexual health quickly and briefly and then immediately shift the conversation to another aspect.[6]

All these factors emphasize the complexity of the problems encountered in sexual health care and the importance of an appropriate model to help individuals receiving nursing care cope with sexual health problems. In the relevant literature, many models are guiding the provision of sexual health care. These models include ALARM (A: Activity, L: Libido, A: Arousal, R: Resolution, M: Medical History), PLISSIT (P: Permission, LI: Limited Information, SS: Specific Suggestion, IT: Intensive Therapy), BETTER (B: Bring up, E: Explain, T: Tell, T: Time, E: Educate, R: Record) and IMB (I: Information, M: Motivation, B: Behavioural Skills) models. The PLISSIT model, which provides a systematic approach to sexual health care and consists of permission, limited information, unique recommendations, and intensive therapy steps, is the most widely known and used among these models.[7] The PLISSIT model provides nurses and other health professionals with a short framework for sexual health care practices in order to identify the individual's needs for sexual health care and plan practices, and allows the individual's concerns about sexuality to be evaluated at the earliest stage.[8] It is recommended that practices based on the PLISSIT model be used effectively in the evaluation of sexual health care practices of individuals living with a stoma, patients with chronic disease, or those receiving care after hysterectomy. This model provides a structured framework for determining the sexual health needs of individuals and planning appropriate interventions.[9] Although various scales have been developed to evaluate nurses' attitudes and beliefs about sexual health care[10] and to measure the effectiveness of sexual health education, a measurement tool based on the PLISSIT model to evaluate nursing practices in sexual health care has not yet been developed. This deficiency constitutes an important gap in the systematic evaluation and improvement of nursing practices. Clarifying nurses' attitudes and practices towards sexual health care practices in each of the steps of the PLISSIT model will help to identify barriers to sexual health care. This study was conducted to develop the Sexual Health Care Practices Assessment Scale (SHCP-AS) to determine nurses' tendencies to provide sexual health care to individuals based on the PLISSIT model.

METHODS

Design

In this study, a cross-sectional and methodological research design was used to conduct the validity and reliability of the SHCP-AS. In developing the scale, the steps of creating the item pool and content validity, validity, and reliability

analyses were followed. The process for the development of the SHCP-AS is shown in Figure 1.

Population and Sample of the Study

The population of the SHCP-AS development study consisted of nurses working in hospitals in the Central Black Sea Region of Turkey, and the sample consisted of 309 nurses who were included in the study by random sampling method. The literature recommends that the sample in scale development studies should be 5-10 times the number of items[11-13], and at least 200 participants[14] should be reached to create an appropriate structural equation model. In this study, 8.13 times the number of items (38 items) was reached with 309 participants.
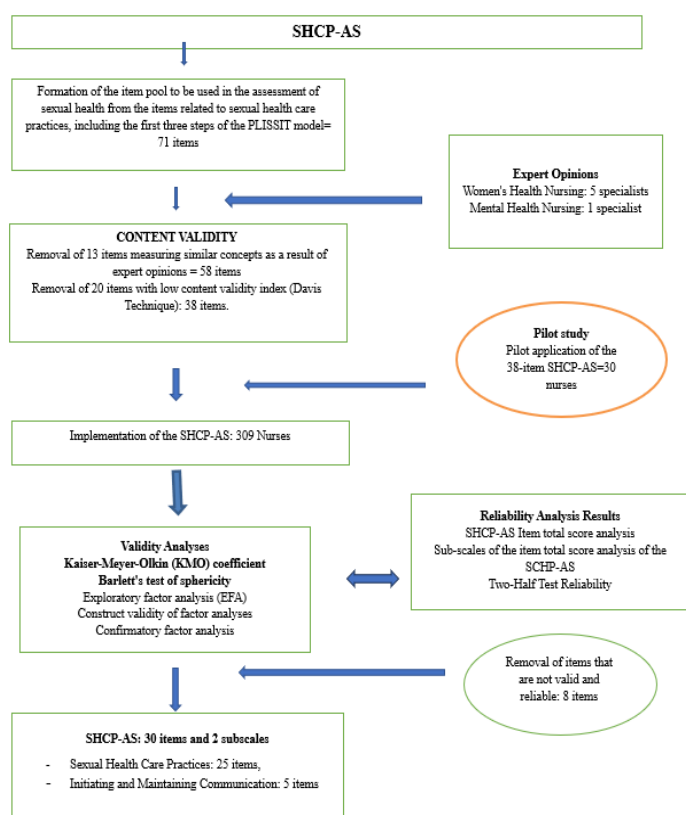

Figure 1. Summary of the Study Methodology

Inclusion and Exclusion Criteria

The inclusion criteria were working as a nurse and agreeing to participate in the study. Failure to complete the SHCP-AS entirely was determined as an exclusion criterion.

Data Collection

The data were collected using an introductory information form and the SCHP-AS. In the study, the data were collected face-to-face in one of the hospitals and through an online form created using Google Free Online Form Builder in the other two hospitals. IP limitation was introduced through the Google Forms site to eliminate the possibility of repeated filling of data collection forms online.

Introductory Information Form

The descriptive information form consisted of 7 questions about the general characteristics of the participants, such as age, gender, educational status, marital status, service and position, duration of employment, and number of patients cared for daily.

Creating a SCHP-AS Item Pool

In creating the item pool of the scale, articles on the PLISSIT model,[4,15,16] observations and experiences of the researchers, and the results of quantitative[2,17] and qualitative[18,19] studies on sexual health care practices were examined. The draft scale included 71 items about sexual health care practices related to the permitting, limited information, and unique recommendations sections of the PLISSIT model. A 5-point Likert scale (ranging from "Never-1" to "Always-5") was used for scoring the SCHP-AS.

Content Validity

Expert opinions were consulted to evaluate the language and content validity of the items in the item pool. The expert group consisted of 6 people, five women's health and obstetrics nursing and one mental health nursing faculty member. In the selection of the expert group, the criteria of having at least a doctorate, having previous publications on the scale development process, and working on sexual health issues were taken into consideration. Davis's technique was used to evaluate the expert opinions. Experts evaluated the relevance and comprehensibility of the items using a four-point Likert scale (1- Appropriate, 2 - Item should be slightly revised, 3-Item should be seriously revised, 4 - Item is not appropriate). After all expert opinions were obtained, the number of experts who marked options (1) and (2) on the scale items were divided by the total number of experts, and the Content Validity Index (CVI) was obtained. It was found that the CGI value of the SHCP-AS was 0.96. According to the Davis technique, items with a CGI ≥ 0.80 in the draft scale are considered adequate regarding content validity, while items with a CGI value lower than 0.80 should be removed from the scale. (20 this context, 18 items with a CGI score of 0.66, 2 items with a CGI score of 0.50, and 13 items with the same meaning in line with expert opinions were removed from the scale.[20] As a result, a 38-item draft SHCP-AS was made ready for pilot application.

Pilot implementation

The pilot study of the SHCP-AS, which was developed in line with expert opinions and consisted of 38 items, was conducted with the participation of 30 nurses. Within the content of this pilot study, the readability,

comprehensibility, and response time of the scale were evaluated. The participants completed the scale within 10-15 minutes and gave no negative feedback about the scale's readability, comprehensibility, or response time. It was decided to apply the SHCP-AS as it was prepared for the pilot application. The data obtained from the pilot application were not included in the sample.

Data Analysis

The data were analysed using Statistical Package for the Social Science (IBM SPSS Corp., Armonk, NY, USA) 24 and SPSS Analysis of Moment Structures (AMOS) programs. Content validity and factor analysis were conducted within the content validity analyses. Cronbach Alpha reliability coefficient and two-half test reliability analyses were conducted within the scope of reliability analyses. The methods used in data analysis are shown in Table 1.

Table 1. Statistical methods used in the SHCP-AS

		Statistical Method
Validity Analysis		
Interpretive validity	Content validity	Davis Technique Pilot implementation
Construct validity	Factor analysis	Kaiser-Meyer-Olkin (KMO) coefficient Barlett's test of sphericity Exploratory factor analysis (EFA) Confirmatory factor analysis (CFA)
Reliability Analysis		
Internal Consistency	Cronbach Alpha Reliability Coefficient	Cronbach Alpha Coefficient McDonald's Omega Coefficient
Scale Stability	Two-Half Test Reliability	Spearman Brown Correlation Coefficients

Ethical Dimension of the Research

Ethics committee approval for the study was obtained from Ondokuz Mayıs University Social and Human Sciences Research and Publication Ethics Committee (Date: 31.05.2024, Number: 2024-578). Before starting to collect the data, the researcher informed the participants about the purpose of the study, that participation in the study was voluntary, that they could leave the study at any time, and that the information was confidential. The researcher also obtained their verbal consent. In the online forms, participants could access the items after marking the phrase 'I accept the research' before data collection.

RESULTS

The findings obtained from the data analysis are presented under the headings exploratory factor analysis, determination of factor pattern, confirmatory factor analysis, and reliability analysis.

Characteristics of Participants

Of the nurses who participated in this study, 96.8% (n=299) were female, 60.8% (n=188) were married, and the mean age was 32.16±8.00. The nurses' mean number of years of employment was 9.84±8.5; 80.6% were undergraduate (n=249), and 13.3% were postgraduate (n=41). 93.5% of the participants worked as clinical nurses (n=289), and 56% worked in internal units (n=173). While 44.7% of the nurses' care for 1-10 patients daily (n=138) in the clinic, the others care for 11 or more patients.

Assessing the Suitability of Data for Factor Analysis

In order to conduct factor analysis, KMO and Barlett tests are recommended to determine the suitability of the data structure formed by the variables obtained from a particular sample for factor analysis.[13] A high KMO value indicates that the other items can explain each item in the scale to a very high degree.[21] The KMO value of the SHCP-AS was found to be 0.98, and the Barlett Sphericity Test value was statistically significant (χ^2=13275.66; df = 703, P<.001). This value indicates that the sample size is "perfect" for factor analysis.[11,22]

Determination of Factor Design

Principal components analysis and the Direct Oblimin method, one of the oblique rotation methods used in cases where the data set is large, were used to determine the factor pattern of SHCP-AS.[11,12]

Determination of the number of factors

In order to determine the number of factors in the scale, slope accumulation, eigenvalue, and variance percentages were used.[22] The table (Table 2) and slope accumulation graph (Figure 2) for eigenvalues and variance percentages are below.

Table 2. SHCP-AS Factor Structures (Unrotated Variance Values)

Factors	Eigenvalues	Explained Variance (%)	Total Variance (%)
Factor 1	20.02	66.74	66.74
Factor 2	1.21	4.05	70.79

As a result of EFA, two factors with an eigenvalue of 1 and above were identified for 38 items. This is also clearly seen

in the scree plot. When the scree plot with factors on the vertical axis is examined, it is seen that the sharp decline decreases after the third point. Each interval with an eigenvalue greater than 1 means one factor.[11,22] This information revealed the two-factor structure of the SHCP-AS.
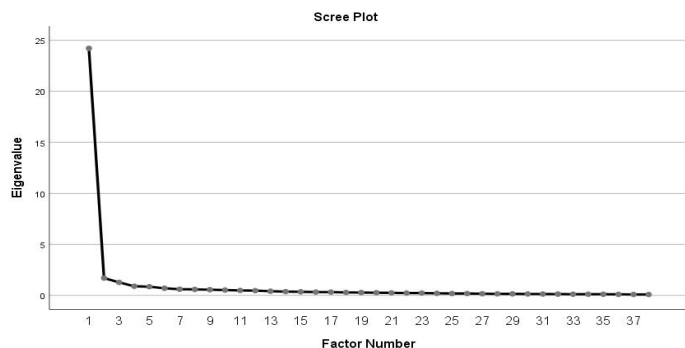

Figure 2. Scree Plot

Determination of factor items

After determining the number of factors of the scale, the items in the factors were examined. The rotated component matrix was examined to determine which factor the items were more concentrated, and overlapping items and factor loading values were examined. No overlapping items were detected in the EFA analysis of the SHCP-AS. Regarding scale validity, the factor loadings of the items should be above 0.40.[12] Accordingly, eight items with factor loadings less than 0.40 were removed from the SHCP-AS. With removing these items, there were no items with factor loadings below 50%. As a result, a 30-item SHCP-AS with two factors explaining 70% of the total variance was obtained. The factors were named (1) Sexual Health Care Practices (SHCP) and (2) Initiating and Maintaining Communication (IMC) in line with their content. It is recommended that the total variance value should be between 40-60% (at least 50%) in multidimensional scales. 11-13 Factor 1 in the SHCP-AS consists of 25 items explaining 66.7% of the variance, while Factor 2 consists of 5 items explaining 4.05% of the variance, and the total variance explained by the scale is 70.8 (Table 3).

When the items in the scale are examined, the 2nd sub-dimension, "Initiating and Maintaining Communication," corresponds to the practices in the five-item permission (P) step, the first step of the PLISSIT model. Items 23, 31, 32, 36, 34, 33, 24, 22, 16, 19, 21, 14, 18, 26, 37, 20, 9 and 11 in the sexual care practices sub-dimension correspond to the Limited Information (LI) domain of the PLISSIT model, while items 30, 28, 35, 29, 13, 15 and 38 correspond to the Specific Suggestions (SS) domain. The increase in the usage

rates in the items created according to the PLISSIT model shows that the practices in the specified steps are frequently used.

Confirmatory Factor Analysis

The construct validity of SHCP-AS was tested with confirmatory factor analysis in the AMOS program by looking at χ^2/sd (Chi-square/Degree of Freedom), RMSEA (Root Mean Square Error of Approximation), GFI (Goodness of Fit Index), NFI (Normed Fit Index), TLI (Tucker-Lewis Index) and CFI (Comparative Fit Index) fit criteria. The fit indices of the model: χ^2=,000, CMIN/DF = 2.75, RMSEA = 0.075, GFI = 0.80, NFI = 0.90, TLI = 0.93 and CFI index=0.93. As seen in Table 4, the fit indices of the SCHP-AS show that the model shows a good or excellent fit.[12] The regression-weighted AMOS Model of the SCHP-AS is presented in Figure 3. As a result of the data obtained as a result of confirmatory factor analysis, it was confirmed that the SHCP-AS, which consists of two factors, is a valid model (Figure 3).

Reliability Analyses

In this study, item statistics, Cronbach's Alpha reliability analysis, and the two-half test reliability method, which measures the scale's stability, were used to determine the reliability of the SCHP-AS, and the results are presented below.

Internal consistency analysis

The internal consistency of the SHCP-AS was evaluated by Cronbach Alpha reliability analysis, and the reliability coefficient of the whole scale was found to be α=0.96 (Table 5). The reliability coefficients of the scale sub-factors were, respectively, SHCP: α=0.98 and IMC: α= 0.94. Omega estimates are based on confirmatory factor analysis (CFA). Alpha and Omega produce different results when there is a difference between factor loadings, and the magnitude of this difference increases. However, when the average factor loadings are 0.7 or higher, and the difference between the loadings is 0.2 in absolute values, the difference between alpha and Omega is not expected to be very large.[23,24] For this reason, both Cronbach's alpha and McDonald's Omega coefficients are shown in the table to show that the internal consistency analysis between the total scale and sub-dimensions in the study has a similar structure, and the consistency is found to be strong (Table 5). The minimum score to be obtained from the SHCP-AS, which consists of 30 items in total, is 30 (30x1), and the maximum score is 150 (30x5). While the score that can be obtained from the scale's SHCP sub-dimension is 25-125, the total score that can be obtained from the second factor, the IMC sub-dimension, varies between[5-25]. There are no reverse-coded items in the scale. A high score on the scale

Table 3. Factor loadings of the items in the SHCP-AS draft scale (n=309).

PLISSIT	No	ITEMS	Factor Loadings		Variance Ratio
			Factor 1	Factor 2	
		Factor 1: SHCP			
SS	30	Provide sexual health care considering the age of the individual.	0.98		
LI	31	Knows sexual health care is specific to the individual's situation.	0.92		
LI	23	Evaluates the effect of the individual's sexual health problems on his/her emotional state.	0.89		
LI	32	Gives information to the individual about sexual functions.	0.89		
LI	36	When providing information to the individual, aim to give realistic information about sexual performance.	0.89		
LI	34	Evaluates an individual's sexual health according to age/treatment/illness. Collects data to obtain information on sexual health specific to the individual's situation.	0.89		
LI	33	Collects data to obtain information on sexual health specific to the individual's situation	0.89		
SS	28	Talk to the individual about false beliefs (myths) about sexuality.	0.87		
LI	24	Inform the individual about the relationship between sexuality and hormones.	0.87		
LI	22	Teaches gender-specific differences and similarities in sexual health.	0.87		
LI	16	Evaluates the individual's knowledge of sexual health.	0.86		
SS	35	Provides orientation-specific sexual health care to LGBTI+ individuals.	0.84		
LI	19	Clarifies the individual's values and beliefs about sexuality.	0.79		34.78%
SS	29	Knows false beliefs (myths) about sexuality.	0.78		
SS	13	Plans sexual health care specific to the individual's disease/treatment.	0.77		
LI	21	Informs the individual about the physiology of sexuality.	0.76		
LI	14	Evaluates the effects of the individual's disease/treatment on his/her sexual health.	0.75		
LI	18	Discusses the effect of changes in body image on the sexual health of the individual.	0.75		
LI	26	Evaluates the satisfaction of the individual with the frequency of sexual intercourse.	0.70		
LI	37	Discusses sexual health problems such as arousal, erection, ejaculation, orgasm, and painful intercourse with the individual.	0.66		
SS	15	Assesses the individual's knowledge of situation-specific sexual positions.	0.61		
SS	38	Presents unique suggestions specific to sexual problems with training material.	0.59		
LI	20	Uses words related to sexual health (erection, sexual intercourse, masturbation, orgasm, etc.) as they are.	0.57		
LI	9	Tells the individual that he/she has the right to terminate sexual health care at any time.	0.56		
LI	11	Includes the individual's partner in the sexual health care process.	0.53		
		Factor 2: IMC			
P	2	Enables the individual to express his/her feelings about sexuality.		0.86	
P	1	Encourages the individual to talk about sexual health.		0.85	
P	3	Evaluates the changes in the sexual life of the individual.		0.72	4.05
P	4	Teaches individuals different ways of expressing sexuality.		0.68	
P	5	Talk to individuals about issues related to sexual health.		0.55	
		TOTAL SCALE			68.15

SHCP; Sexual Health Care Practice, IMC; Initiating and Maintaining Communication, P; Permission, LI; Limited Information, SS; Spesific Suggestions

Table 4. Fit indices for the SHCP-AS model

Fit index	Fit indices of the SHCP-AS	Reference	Conclusion
χ^2/df	2.75	< 5	Perfect fit
RMSEA	0.075	< 0.08	Good fit
GFI	0.80	> 0.90	Perfect fit
NFI	0.90	> 0.90	Perfect fit
TLI	0.93	> 0.90	Perfect fit
CFI	0.93	> 0.90	Perfect fit

SHCP-AS; Sexual Health Practices Evaluation Scale, χ^2 ;Ki-kare; df; degree of freedom , RMSEA; Root Mean Square Error of Approximation, GFI; Goodness of Fit Index, NFI; Normed Fit Index, TLI; Tucker-Lewis Index, CFI; Comparative Fit Index

Table 5. Total scale and sub-dimensions score ranges and Cronbach's alpha coefficients

Scale and subgroups	Number of items	Lower and upper score possible	Mean score ($\bar{x}\pm$ SD)	Cronbach alfa (α)	McDonald's Omega coefficient (ω)
SHCP	25	25-125	69.43± 26.19	0.95	0.98
IMC	5	5-25	13.34± 5.00	0.93	0.94
Total Scale	30	30-150	82.78± 30.45	0.98	0.98

SCHP; Sexual Health Practices, $\bar{x}$; Mean, SD;standard deviation, IMC; Initiating and Maintaining Communication

indicates that the participants have a positive attitude towards evaluating sexual health care practices.

Item Statistics

Item-total correlations were examined in line with the item statistics in the SCHP-AS, and items with a correlation value below 0.40 were removed from the scale. After these items were removed, the item-total correlations of the 30-item scale were recalculated. The item with the highest item-total correlation was item 32 (I provide information to the individual about sexual functions) with 0.90, while the item with the lowest item-total correlation was item 11 (I include the individual's partner in the sexual health care process) with 0.62.

Two-Half Test Reliability

Two halves or equivalent halves test reliability is a method in which the items of a scale are divided into two and considered as two different scales. The relationship between these two scales is interpreted.[25] In this study, the items of the scale were divided into two equivalent halves by assigning odd and even items to separate halves. After the scale was divided into two equivalent halves, the Spearman-Brown formula was used to calculate the relationship between these two halves, and the result was

found to be 0.98. This result shows that the items in one half of the scale exemplify the same behaviour as those in the other half, and the internal consistency is high.[26]
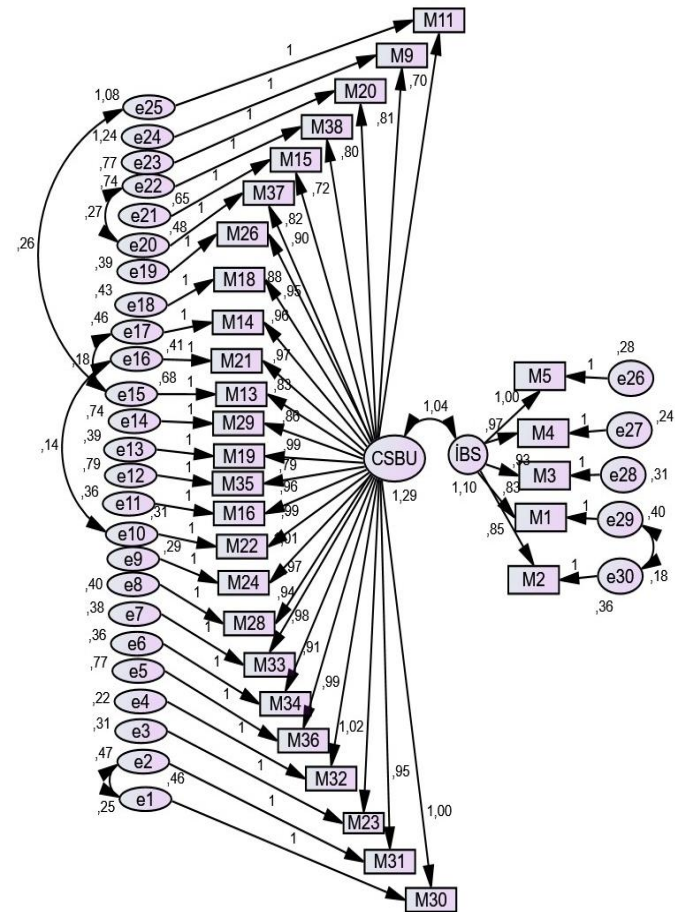

Figure 3: Regression Weighted AMOS Model of SHCP-AS (n=309)

DISCUSSION

In this article, the psychometric properties of SHCP-AS, which was developed as a scale to evaluate the practices that nurses plan and realize during sexual health care, were presented. This study revealed that the SHCP-AS is a valid and reliable tool for evaluating sexual health care practices. Since the Cronbach Alpha values of the total and sub-factors of the scale were more significant than 0.70[22,25,26], the SHCP-AS was considered a reliable measurement tool.

In this study, the content and construct validity analyses of the SHCP-AS, which was created based on the studies in the national and international literature[27-30], were conducted. Content validity evaluates whether each item in the scale serves the purpose to be measured. It is stated that at least five experts should be consulted in evaluating content validity.[31,32] 6 experts were consulted in the evaluation of the content of the SHCP-AS. The experts gave the items a score between 1 and 4. In evaluating these scores using the

Davis technique; it was decided to keep the 38 items with a content validity index of 0.8 and above 20 on the trial scale.

In scale development studies, it is recommended that a trial study be conducted before the actual implementation.[11] Thus, it can be evaluated whether the questions in the trial questionnaire are understandable and answerable by the participants. The trial study of the SHCP-AS was conducted with 30 nurses, and it was found that the scale items were understandable and answerable.

EFA allows examining the relationships between the variables that make up a concept, bringing together variables related to each other and explaining the concept with factors.[33] Thus, the structure consisting of many complex variables can be explained concisely with a few conceptually meaningful new variables (factors). The fact that the total variance explained by the factors is at least 50%[11-13] and the factor eigenvalues are more significant than one means that 50-75% of the total variance is explained.[21,34] With the EFA conducted to evaluate the construct validity and factors of the SHCP-AS, a structure with two sub-dimensions with eigenvalues ≥ 1.0 and explaining 68.7% of the total variance of the scale was obtained. This result points to the structural validity of the two-factor structure of the SHCP-AS in measuring sexual healthcare practices in nurses.[11]

In this study, CFA was conducted to test the accuracy of the factor design of the SHCP-AS. CFA is used to determine whether the items in the scale adequately represent and explain the determined sub-factors. The model's fit is determined in CFA by examining the fit indices and factor loadings. χ^2/df, GFI, AGFI, CFI, IFI, and RMSEA are used to test the model's fit.[11,21,25] The two-subdimensional design of the SHCP-AS, which emerged after EFA, shows that the data fit the model and confirm the two-factor structure; the scale items and sub-factors are related to the scale. The items in each subscale explain their factors. GFI, CFI, and NFI>0.90 and RMSEA<0.080 in the scale. The good fit of the data indicates that the SHCP-AS is an appropriate measurement tool for assessing nurses' attitudes toward the barriers, they encounter during sexual health care.

The reliability of the SHCP-AS was assessed using two-half test reliability and internal consistency reliability. Reliability indicates the consistency exhibited when a measurement is repeated under the same conditions. Cronbach's alpha value, which is one of the methods used to evaluate the reliability of a scale and is an internal consistency coefficient, evaluates the internal consistency of the scale items, that is, the extent to which the set of items in the scale shows common variation according to their total scores. A value above 0.70 is generally accepted as an acceptable threshold in terms of reliability.[11] Within the content validity of the reliability analysis of the SHCP-AS, firstly, the internal consistency coefficient was examined, and the total Cronbach Alpha value of the scale was found to be 0.95. The Cronbach Alpha values of the subgroups were found to be 0.95 for SHCP and 0.93 for IMC. This result shows that the scale is highly reliable and can adequately measure the concepts. The items in the scale measure the same conceptual structure compatible with each other and the consistency of the items.[11,25]

Another stage of the scale development process is to evaluate whether the items obtained from EFA and CFA are simple, functional, and internally consistent. In this context, inter-item and item-total correlation analyses examine the existing relationships between items and the extent to which items assess the same content. It is recommended that items with very low correlation values (P<.30) should not be included in the scale.[11,35] When the correlation values were examined in the SHCP-AS and its subgroups, they were statistically significant and above 0.40. These results indicate that the items of the SHCP-AS have a sufficient correlation with the subgroup and other items of the scale and that the scale is reliable.[12,25,32] It is thought that the SHCP-AS, whose validity and reliability were determined in this study, will be a helpful measurement tool to evaluate nurses' sexual healthcare practices based on the steps of the PLISSIT model. The SHCP-AS is suitable for determining nurses' needs for improving sexual health care services in sexual health care practices based on the PLISSIT model. The scale can be used to develop an awareness of nurses' sexual health care practices, to investigate the frequency of practices, to discover neglected aspects of sexual health care practices, and to evaluate the effectiveness of different training programs and interventions to improve sexual health care competence.

Limitations

The SHCP-AS is a measurement tool whose validity and reliability have been validated to assess nurses' sexual health practices. Despite its strengths, the main limitation of the SHCP-AS is that the EFA and CFA were applied to the same sample group due to the low motivation of nurses to participate in the studies during the data collection process.

In this study, the SHCP-AS was a consistent and valid measurement tool for evaluating sexual health care practices in nurses. It is thought that SHCP-AS is a valuable measurement tool for evaluating nurses' attitudes towards sexual health care practices and planning in-service training

to include these care practices. It is recommended that psychometric validity and reliability studies of SHCP-AS be conducted in other countries to evaluate and compare cultural practices regarding sexual health care practices. In addition, it is thought that using SHCP-AS in mixed design studies will contribute to the field since it will clarify the findings obtained with SHCP-AS and allow obtaining holistic data on sexual health care practices in the research group.

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