



Psychometric Properties of the Arabic version of the Esthetic of Nursing Care Scale (ENCS)

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Abstract

Introduction: The performance of nursing at the level of excellence in caring for the patient and family is formed based on the knowledge of aesthetics. This research was conducted to determine the psychometric properties of the Arabic version of the Esthetic of Nursing Care Scale (ENCS)

Methods: This research is a descriptive and methodological study. In this study, the aesthetic nursing care scale (ENCS) was translated using the Forward/Backward method. Face and content validity was done using a quantitative and qualitative method, using the opinions of 20 members of the nursing faculty, and the ratio and content validity index (CVI, CVR) were calculated. Reliability was checked with two methods of internal consistency (Cronbach's alpha) and test-retest. Also, the exploratory factor analysis method was used with a sample size of 260 hospitalized patients.

Results: In the present study, all items except one item obtained the necessary CVR and CVI points according to the experts. The total reliability of the scale was 0.951 and 0.98, respectively, using Cronbach's alpha and test-retest coefficients. The results of exploratory factor analysis showed that the Arabic version of the structure tool has 4 factors and that this tool has an acceptable fit in the Iraqi Arabic culture and has good construct validity.

Conclusion: The results showed that the ENCS after removing one item has the necessary validity and reliability in the Iraqi Arabic-speaking community and can be used as a tool to investigate the aesthetics of nursing care.

Keywords: Psychometrics, Esthetics of Nursing Care, Nurses

Introduction

Quality nursing care is an essential component of health care services (1). The quality of nursing care refers to meeting the needs of the patient and family through appropriate and safe care, empathy, appropriate communication, and respectful attitude (2). Providing patient care is an important part of nursing as the art of presentation, in which nurses provide individual, social, psychological, and emotional assistance to achieve a desirable and comprehensive result (3). Improving the quality of

health care can increase patient satisfaction, improve care efficiency, and reduce hospital costs (4). Usually, improving the quality of care is directly related to the patient's point of view (5). Clients will be satisfied with the service only if their demand is met (6). The evidence shows that there is a need for an important and accurate evaluation of this aspect of care in medical centers at the global level to check the efficiency of care and the empathic communication between nurses and clients (7-8). Aesthetics is derived from Latin and Greek words

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that refer to perception and deals with theoretical and philosophical views about its artistic value. For example, when we look at a painting, the meaning of our perception and feelings is described by analyzing the content inside the painting (9) Nursing profession is a combination of science and art (10). It is believed that art is a source of lived experience and artistic subjects are visual, tactile, auditory, and kinetic texts that have their own grammar (11).

Aesthetic knowledge in nursing care can include an attractive dimension in which nurses are required to participate in all moments and interpret the conditions and needs of patients and their families. By doing this, nurses engage in the nursing experience in terms of their ability to understand others' situations. (12)

Aesthetics of nursing care (ENC) consists of Valuing the patient and empathizing with the patient's experience, integrating the characteristics of nursing into a meaningful whole, and the capacity to creatively design a comprehensive care" (13). Despite the significant trend toward art and ENC, little attention has been paid to these concepts in nursing education, research, and practice. However, some quantitative and qualitative researches were able to explain the meaning of this concept to some extent (14-15).

Aesthetic dimensions in nursing, which are associated with critical questions, begin with creative processes, authentication, and integration in practice. Nurses begin to understand this issue for their practice by asking questions such as: what does aesthetics mean and what is its importance when faced with a nursing situation? Nurses often ask these questions not consciously in the moment of care, but often after care to gain a better understanding of what happened in that situation. These critical questions lead to a creative process that helps visualize a desirable outcome from the chosen possibilities and the iterated possibilities on the subject. (16).

The theory of nursing practice in beauty was presented by Chin and Kramer. This theory describes the practice of aesthetic nursing as a voluntary act of nursing during care by creating shared processes between the nurse and the person being cared for, in which unity is facilitated and realized. The theory of Aesthetic Practice Nursing (AesNURP) includes dynamic, continuous, and multiple stages of encounter, creating caring relationships and meaningful interaction in the aesthetic environment. The emergence of technology is one of the developments that has challenged the nursing profession. How will the practice of nursing be visible and realistic in the face of the traditional performance of care? (17).

The present study was conducted to investigate the psychometric properties of the Arabic version of the Aesthetics of Nursing Care Scale (ENCS) due to several reasons including the fact that excellent nursing performance is formed based on the knowledge of aesthetics in care, it is necessary to evaluate this dimension for professional development and growth, and that no valid scale was found in Iraq to evaluate it.

Materials and Methods:

This study is a descriptive and methodological research. The translation and cultural adaptation of the tool was done according to the internationally recommended method for psychometric quality of life tool after obtaining permission from the tool designers. The forward/backward method was used for translation so that the Persian version was first translated into Arabic by two translators. Then, the translated version was independently translated into Farsi by two other translators who are proficient in both languages and with the approval of the tool manufacturer, finally, the final version was prepared in Arabic by making the necessary corrections.

In this study, data collection was done in two stages. In the first stage, based on the purposeful sampling of 20 experts and faculty members with Ph.D and

Master's degrees in nursing, they judged the scale in terms of face validity and qualitative and quantitative content validity.

For the exploratory factor analysis according to the number of 37 questions, the minimum sample size is 185 people. Based on the opinion of the statistical consultant and the consultant professor, a sample of 260 people was selected by non-probable availability and quota sampling method for more generalizability. The samples were patients hospitalized in 4 educational hospitals in the center of Babol province, including Imam Sadiq (a.s.) Educational Hospital, Marjan Educational Hospital, Babol Educational Hospital, and Al-Hillah Educational Hospital. The inclusion criteria were being over 18 years old, fully awake, and willing to participate in the study. In this method, each hospital was considered as a floor, and according to the volume of each floor, quota sampling was done.

Content validity:

The experts were all faculty members and the questionnaires were emailed to them separately for content validity. At first, their opinions were collected for the validity of qualitative content, and suggestions were applied. In quantitative content validity, the quantitative index of content validity ratio (CVR = Content Validity Ratio) was used. At this stage, the experts rated the statements based on a 3-point Likert scale: it is necessary (3), it is useful but not necessary (2) and it is not necessary. 1) were judged. After analyzing the answers and according to the Laawshe table, according to the presence of 20 experts in the panel, the statement with a validity ratio of less than 0.42 was removed.

The Content Validity Index (CVI) was calculated by examining "relevance" by experts using the content validity index formula (Waltz and Bausel). The minimum content validity index value was 0.79 at the 5% significance level.

Construct validity: exploratory factor analysis

In the assumptions of the exploratory factor analysis, the non-response rate of the respondents, as well as

the KMO index and the "normality of multivariate distribution" were checked and these assumptions were evaluated through Bartlett's test of sphericity. In other assumptions of implementing factor analysis, the correlation of each question with the whole test was evaluated. In the process of extracting factors, with emphasis on 40 questions, the minimum explained variance was 0.4. In the explained variance of more than 0.8, there were favorable psychometric conditions in the field of extracting factors, and the reduction process of 40 questions to basic factors was carried out carefully.

Tool reliability

Cronbach's alpha, two halves method, and test-retest method were used to determine reliability. In this way, 20 patients with the same inclusion criteria for exploratory factor analysis answered the questions of the scale in two stages with an interval of two weeks. Data analysis was done in two parts: descriptive statistics and exploratory factor analysis (KMO and Bartlett), Smirnov-Kolmogorov test, and Pearson correlation test using SPSS version 24 software.

Ethical considerations: After the approval of the Ethics Committee by Islamic Azad University, Isfahan (Khorasgan) Branch, Isfahan, Iran, and receiving the code of ethics under license number IR.IAU.KHUISF.REC.1401.361, the researchers started sampling and conducting research after making the necessary arrangements with the officials of medical centers in Iraq. The objectives of the study were explained to all patients who were willing to participate. The patients were assured that their personal information would remain confidential with the researcher. All patients completed the informed consent form of the questionnaire.

Results:

After collecting experts' opinions regarding face validity and qualitative content validity, slight changes in the text of 37 phrases in the questionnaire

were applied. All the items received CVI points from experts' opinions and remained in the questionnaire. Statement 33 obtained a CVR score below 0.42 and did not have adequate validity So it was deleted. Finally, 36 out of 37 expressions entered the construct validity stage. The sample size for exploratory factor analysis was determined by the quota method of 260 patients from hospitals in the departments of general surgery, plastic surgery, and burns.

According to the findings in the construct validity study, 51.2% of patients were male and 48.8% were

female. 43.5% of patients were aged 20-29 years. The average age of the patients was 32.76 ± 7.69 years. Also, 64.6% of married people and 88.5% of patients lived in the village.

The KMO coefficient obtained in this study was equal to 0.934, which showed that the number of samples used in the factor analysis was satisfactory. Also, Bartlett's test of sphericity was significant at the five percent error level ($p < 0.001$, $\chi^2 = 10456.6$), which indicates the appropriateness of factor analysis to identify the factor structure in the data. Table (1).

Table 1: Keyser-Meyer-Olkin index and results of Bartlett's sphericity test

Kaiser-Meyer-Olkin		0.934
Bartlett's sphericity test	Chi-square approximation	10456.607
	df	630
	p-value	<0/001

The main axis factorization method was used to analyze the factors of this questionnaire. The share value of the variables with the final solution showed that each variable contributed to the final solution to an appropriate extent, and variables with a low share rate were not observed in this study. By using the retention criterion and considering the presence of factors whose eigenvalues were greater than 1, the 4-factor solution provided the clearest extraction in this study. After the factor rotation, the factors

extracted using the Varimax method were found to explain 72.1% of the total variance.

The screen diagram related to the values of eigenvalues and the number of components is shown in Figure 1. In this diagram, the horizontal axis represents the number of factors and the vertical axis represents the value of the eigenvalue. According to the diagram, there are four factors with an eigenvalue higher than one.

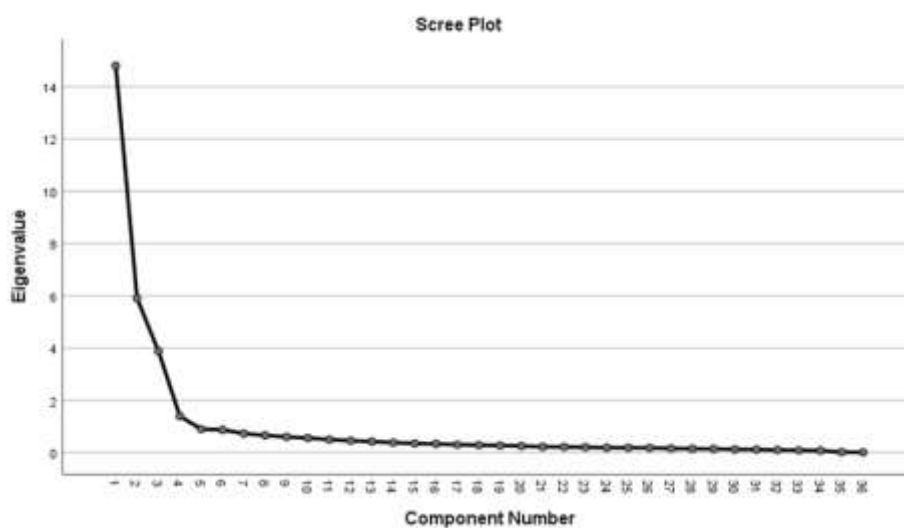


Figure 1: Pebble diagram to determine the number of suitable factors that can be extracted

In this study, a minimum factor loading of 0.4 was considered and the items with a higher correlation than this value were included in one factor (Table 2). According to the content and meaning of each factor, four factors were extracted with the same main names in the Persian version of the questionnaire, namely: 1- admirable and compassionate commitment and competence 2-

satisfaction and peace of the patient 3- attention to the patient with humanitarian behaviors 4- care was defined without tension. The number of items in each factor, the eigenvalue and percentage of variance explained for each factor, and the cumulative percentage of variance explained by four items are reported in Table (3).

Table2: Rotated component matrix

Question number	Items	load factor 1	load factor 2	load factor 3	load factor3
29	Nurses in this unit provide care to patients with great interest and pleasure	0.903			
28	They try to pursue patients' problems until they are completely overcome	0.899			
27	When necessary, they can be good listeners for patients	0.887			
21	Meeting the essential needs of patients is a priority for him over other issue	0.883			
30	They try to give the best care following patients' physical and psychological conditions	0.880			
31	They are ready to sacrifice their comfort for the patient	0.870			
25	They frequently visit patients and spend less time at the nurses' station	0.869			
36	Their help to the patient is admirable and cannot be explained in words	0.868			
34	I think their care provision is beautiful	0.866			
20	When necessary, they are the best guide for patients	0.862			
8	f they face problems during the delivery of care services (such as injections or dressing etc.), they humbly ask their colleagues for help	0.859			
24	Provides compassionate care	0.858			
23	The patient can easily express his needs and wishes to them	0.856			
22	Nurses in this unit provide care to patients as if they do to their own close relatives.	0.851			
32	Their patience and tolerance are beyond expectations	0.849			
35	I enjoy their caring	0.849			
17	In all situations, they attempt to provide patients with comfort	0.828			
18	Their conduct causes patients to think less about their discomforts		0.872		
19	Nurses in this unit peacefully and skillfully attempt to help patients experience slighter pain during painful procedures (such as injections)		0.852		
11	Their conduct makes the hospital environment tolerable		0.843		
12	Their relationships with patients lead to happiness and smile for patients		0.841		
16	Their conduct during care delivery encourages patients for faster recovery		0.829		
14	They prevent patients from experiencing despair and frustration		0.828		
15	They help patients feel better about themselves and their illnesses		0.828		
10	They can communicate with the patients of different psychological conditions (such as elderly, depressed, and nervous patients		0.818		
13	Some of their care services, such as talking and		0.817		

	listening to patients, are more effective than painkillers	
6	They show patients their human affection and feelings in their words and behavior	0.845
4	They respect the cultural traditions and rituals of patients	0.838
7	The nurses of this unit are kind.	0.837
5	The importance of human health is quite evident in their conduct	0.809
3	They volunteer to help patients.	0.773
1	While providing care to patients, nurses in this unit pay attention to patients' religious beliefs	0.763
2	Besides providing physical care, they pay attention to patients' psychological state	0.743
37	The memories of their care are unpleasant for me	0.767
26	They react to patient aggression negatively and sharply	0.635
9	Their conduct during care delivery causes patient suffering and annoyance	0.589

Table 3: Prepared factors along with percentage of variance and percentage of explained variance by aggregation items.

Factor	Title	Number of questions	Percentage of variance	The cumulative percentage
1	Admirable and compassionate commitment and competence	17	36.518	36.518
2	Satisfaction and peace of the patient	9	18.021	54.538
3	Attention to the patient with humanitarian behavior	7	12.538	68.076
4	Stress-free care	3	4.059	72.135

The value of Cronbach's alpha coefficient for the factors of admirable and compassionate commitment and competence, patient satisfaction and comfort, attention to the patient with humanitarian behaviors, and the entire scale of nursing care aesthetics were more than 0.9, which indicates very good reliability of the tool in this It has been parts. For the stress-free care subscale, the value of the alpha coefficient was between 0.8 and 0.9. The Pearson correlation coefficient was calculated between the scores obtained from the two stages of the retest and it was obtained as $p=0.98$, which was significant at the five percent error level ($p<0.001$).

Discussion:

There are different definitions for the aesthetics of nursing care, which need to be examined according

to the social and professional conditions in each society. The items of themes of attention to the patient with philanthropic behaviors, patient satisfaction and relaxation, stress-free care, and admirable, compassionate commitment and competence of the ENCS scale in this study had appropriate psychometric characteristics in the research population. Batriana et al. (2022) in their research pointed to the factor of attention to the patient with humanitarian behaviors and stated that aesthetics in nursing practice is understood and experienced by Indonesian nurses in different ways and is not limited to visual beauty, cleanliness, or neatness of nursing intervention, but refers to other methods in care, including providing care with compassion, using the art of communication with the patient and family, relieving pain, and using

innovation in care. These findings can be used to inform nurses in performing aesthetic nursing to improve the quality of care (18). In Iran, Karimullahi et al. (1400) pointed out in their research that the three main themes of the experiences of patients undergoing open heart surgery regarding the concept of art in nursing care include: a) "Maternal-angelic care" with the sub-themes of compassion, empathy, intimacy, giving hope and spirit and caring beyond expectation, b) "Professional care" with the sub-themes of technical competence and moral competence and c) "Permanent presence" with the sub-themes physical presence and mental presence (19). In their study, Khademi et al concluded that effective care not only requires performance based on professional knowledge but also requires love, emotion, and human attitude (20). Monte et al. and Lafferty also considered empathy and compassion to be part of the art of nursing care (21). All these concepts confirm the localized items of ENCS scale themes in the present study.

Carper emphasized a lot in defining the aesthetics of care in nursing as a concept synonymous with the art of nursing. In fact, compassion and empathy are a response to the suffering of a human being and respect for his inner suffering, and why society expects compassion from nurses is probably related to the religious and professional roots of nursing (22).

Having an intimate, close, and emotional relationship and its related items in this scale in providing nursing care between nurse and patient and even family was confirmed in this study to evaluate the aesthetics of nursing care. In Gramlink's research, the theme of "intimacy" showed the art of nursing in patients' experiences (23).

Jasmin In her study, also considered the intimate relationship between nurse and patient as an example of nursing art, which confirms the intimacy and the need to use it in artistic nursing care. Camp said an effective caregiver always hopes and gives

hope to both the patient and Family members who take care of him, She also believes that this hope is not only the hope of survival and continuation of the patient's life but the hope of gaining the meaning of the goal and less suffering for the patient and the family (24).

Plato believed that art is something that leads to the acquisition or production of skills, which is a mixture of science and technology, a representation of life and a result of nature (19). According to Jasmin, professional nurses work to create and maintain an independent nursing environment, and an independent nursing environment includes a space where nursing contributions are valued and lead to patient safety) (24). Doran in his study with the aim of nursing students' opinions about the art of nursing, found three themes of interaction, professional value, and use of professional knowledge, which emphasized having science and technology, skill, and providing informed care along with interaction (25).

These concepts confirm the psychometric items of the "commitment and admirable and compassionate competence" theme of the ENCS scale in the present study.

Radmehr and Ashk Tarab (2017) showed in their research that Cronbach's coefficients for the whole ENCS scale was 0.96 and each of the four subscales (0.95, 0.91, 0.86, and 0.72). Their results showed that this tool has good reliability (26).

In explaining the obtained results, it can be stated that the reliability coefficients obtained in this research are close to the original research coefficients, and this indicates that this scale has adequate and appropriate internal consistency. In other words, these results indicate high accuracy due to factors related to the examinee, factors related to the test and holding conditions, as well as factors related to this measurement tool.

In this study, only the exploratory factor analysis method was used, which suggests that confirmatory factor analysis and concurrent and convergent

construct validity should be used in future studies to investigate the psychometric properties of this scale with a larger sample size.

Conclusion:

Examining the aesthetics of nursing care both in the care of the patient and his family requires valid and standardized tools. The purpose of this research was to determine the psychometric characteristics of the Nursing Care Aesthetics Scale (ENCS) in Iraq.

The obtained results showed that this scale has good validity and reliability by removing one phrase and this scale is able to significantly explain the aesthetic status of nursing care (ENCS) in the researched nursing community in Iraq and can be used by researchers to measure the aesthetic status of nursing care; Therefore, it is suggested to use this valid and reliable scale in Iraq to measure the aesthetics of nursing care, which is excellent care for the patient and even her family.

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Conflict of interest:

The authors declare that there is no conflict of interest in the present study.

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