Turk J Intensive Care 2021;19:76-81
DOI: 10.4274/tybd.galenos.2020.81300

ORIGINAL RESEARCH / *ÖZGÜN ARAŞTIRMA*

Özlem İbrahimoğlu,
Sevinç Mersin,
Eda Akyol

The Turkish Adaptation, Validity and Reliability Study of the Intensive Care Unit-RESPECT Scale

Yoğun Bakım Ünitesi-Saygı Ölçeği'nin Türkçeye Uyarlama, Geçerlik ve Güvenirlik Çalışması

Received/Geliş Tarihi : 15.03.2020
Accepted/Kabul Tarihi : 22.06.2020

©Copyright 2021 by Turkish Society of Intensive Care
Turkish Journal of Intensive Care published by Galenos Publishing House.

Özlem İbrahimoğlu, Eda Akyol
İstanbul Medeniyet University Faculty of Health Sciences, Department of Surgical Diseases Nursing, İstanbul, Turkey

Sevinç Mersin
Bilecik Şeyh Edebali University Faculty of Health Sciences, Department of Psychiatric Nursing, Bilecik, Turkey

Özlem İbrahimoğlu PhD, (✉),
İstanbul Medeniyet University Faculty of Health Sciences, Department of Surgical Diseases Nursing, İstanbul, Turkey

E-mail : oogutlu@gmail.com
Phone : +90 216 280 41 62
ORCID ID : orcid.org/0000-0002-0925-0378

ABSTRACT *Objective:* Intensive care units (ICUs) present patients and families with many challenges. Therefore, respecting them may contribute positively to their recovery. This study aims to determine the psychometric properties of the Turkish version of the ICU-RESPECT scale.
Materials and Methods: A methodological, cross-sectional study design was used. It was conducted in different types of ICUs between April and September 2019 with a hundred patients and family members. Data were collected with a socio-demographic form, The ICU-RESPECT scale, the Family Satisfaction in the ICU Survey, and The Newcastle Satisfaction with Nursing scales. The adaptation of the scale, language validity and content validity were studied. The construct validity of the scale was analysed by factor analysis. The reliability of the scale was evaluated with the reliability coefficient, and the scale was tested with similar measurement tools.
Results: The Kaiser-Meyer-Olkin coefficient and Bartlett's sphericity test results determined that the data were suitable for factor analysis. A single factor that had 73.56% of the total variance was found. The reliability coefficient for the scale was 0.95. A strong positive correlation between scales was determined.
Conclusion: The ICU-RESPECT scale is a valid and reliable instrument for the Turkish population.
Keywords: Intensive care units, patient, respect for life, reliability, validity

ÖZ *Amaç:* Yoğun bakım üniteleri (YBÜ), hastalar ve aileleri için birçok zorluk içermekte olup, hastalara ve ailelerine saygı duyulması iyileşmeye olumlu katkıda bulunabilir. Bu çalışmanın amacı YBÜ-SAYGI ölçeğini Türkçeye uyarlayarak psikometrik özelliklerini belirlemektir.
Gereç ve Yöntem: Çalışma, metodolojik ve kesitsel bir tasarım kullanılarak Nisan-Eylül 2019 tarihleri arasında bir eğitim ve araştırma hastanesinin farklı YBÜ'lerinde toplam yüz hasta ve aile üyesi ile gerçekleştirilmiştir. Veriler; Sosyo-Demografik Form, YBÜ-SAYGI ölçeği, Yoğun Bakım Ünitesi Memnuniyet Anketi ve Newcastle Hemşirelik Bakım Memnuniyet ölçeği ile toplanmıştır. Ölçeğin uyumuna ilişkin olarak, dil geçerliliği ve içerik geçerliliği çalışılmıştır. Ölçeğin yapı geçerliği faktör analizi ile analiz edilmiştir. Ölçeğin güvenirliği güvenirlik katsayısı ile değerlendirilmiş ve ölçek benzer ölçüm araçları ile test edilmiştir.
Bulgular: Kaiser-Meyer-Olkin katsayısı ve Bartlett'in küresellik testi sonuçları verilerin faktör analizi için uygun olduğunu belirlemiş olup toplam varyansın %73,56'sına sahip olan tek bir faktör bulunmuştur. Ölçeğin iç tutarlılık güvenirlik katsayısı 0,95 olarak hesaplanmıştır. Ölçekler arasında güçlü pozitif korelasyon saptanmıştır.
Sonuç: Bu çalışma YBÜ-SAYGI ölçeğinin Türk popülasyonu için geçerli ve güvenilir bir araç olduğunu göstermektedir.
Anahtar Kelimeler: Yoğun bakım üniteleri, hasta, yaşama saygı, geçerlik, güvenirlik

Introduction

Intensive care unit (ICU) provides a collaborative treatment and care with the participation of health professionals in problems related to a single organ of the patient or multiple organ failure (1,2). Although ICU is vital to the patient, critical care has many challenges for patients and their family members (3-6). These difficulties are different experiences such as prolonged bed rest, sedation, inactivity, loss of muscle tone, depression, delirium, poor quality of life, inadequate self-care, sleep disturbances, fatigue, anxiety and fear of death among ICU patients (6,7). Therefore, patients and their family members may experience stress in ICU. In addition to the traumatic experience of the patient and their families, there are difficulties in making decisions about patient-related issues (4).

As a result of developments in human rights and the protection of individual rights by law, respect for the patient's autonomy is accepted as an important patient right today (8,9). Ethical principles also emphasize respect for the protection of the integrity of the individual and prevent the physical and psychological harm of the individual by taking into consideration the individual characteristics of them (8). Autonomy is the capacity to make objective or rational decisions with ethical certainty (9). Since human beings are capable of making decisions and making judgments due to their intelligence, they have the right and ability to act with their emotions, attitudes, and desires. People are autonomous because they have autonomy, and it may be interpreted as an object that deserves respect (8). In ICU, patients are unable to speak due to illnesses, treatment interventions such as intubation, medications, etc., or do not have the ability to understand and make decisions when they are unconscious. The decisions of the patient's family members are important in patient-related decisions when a patient is not capable of making decisions (10). When deciding on behalf of the patient, in cases where the patients are inadequate to make decisions about themselves or are incapable of making this decision, it is important that the decision be as similar to the original decisions the patient can make while at will, or that the decision about the patient has been taken with due consideration of their superior benefit. Therefore, it is important to respect the ICU patient and family in this process.

There are not any studies on evaluating respect in ICU, and there is a need for further studies. Although it is important to protect the privacy of the patient, to create environments for the patient and their family members to feel safe, and to provide uninterrupted and understandable information for health institutions, there is no valid and reliable ICU-RESPECT scale for measuring the respect of the patient and their family members in ICU in Turkey.

Materials and Methods

Aim

This study was aimed to determine the psychometric properties of the Turkish version of the ICU-RESPECT scale which was developed by Geller et al. (11).

Study Design

This is a methodological and cross-sectional study.

Participants

This study was conducted with a total of 100 participants (50 patients and 50 patient's family members) for the 10-item scale by considering the number of scale items. The sample size for each scale item should be 5-10 people for validity and reliability studies (12). Inclusion criteria for patients were treated in the ICU, over 18, conscious, not sedated, not intubated and willing to participate in the study. Inclusion criteria for patients' family members were the family members of the patient who treated in the ICU, intubated, under sedation, unconscious and to be willing to participate in the study. Either the patient or one of the family members of the patient who were hospitalized in the ICU were included in the study.

Data Collection

The data were collected from patients or family members in different types of ICUs of an education and research hospital in Turkey between April-September 2019. For collecting data, the Socio-demographic form, The ICU-RESPECT scale, The Newcastle Satisfaction with Nursing scale, and The Family Satisfaction in The ICU Survey were used.

Socio-demographic Form: This form consists of the personal information of the patient and family member.

The ICU-RESPECT Scale: The scale was developed to purpose a brief index of patient and family member experiences of respect in the ICU by Geller et al. (11). The validity and reliability of the items of the scale were tested by Geller et al. (13). It is a 10-item and 4-point Likert-type (never-rarely/occasionally/most of the time/all of the time) self-reported index to assess patient and family perceptions of

respect in the ICU setting. Raw total scores ranged from 10 to 40 but, because of skewness, the original scale was ranged from 1 to 10 (13). High scores show high respect level. Factor analysis resulted in a unidimensional scale consisting of 10 items with an α of 0.85 and an eigenvalue of 11.3. Factor loadings ranged from 0.54 to 0.84, and item-test correlations ranged from 0.47 to 0.71 (11). The ICU-RESPECT scale covers "Introductions" (members of the care team introduce themselves to the patient/loved one when they first meet), "Courtesy" (members of the care team treat the patient/loved one with courtesy), "Understanding" (members of the care team make an effort to understand what matters to the patient/loved one most), "Responsiveness" (members of the care team are attentive to the patient/loved one's requests), "Engagement" (patient/loved one feel that the care team really listen to him or her), "Selfhood" (members of the care team make efforts to know patient/loved one as a unique individual), "Privacy" (members of the care team keep patient/loved one's body covered as best they could), "Equal" (members of the care team treat patient/loved one as their equal), "Comfort" (members of the care team do everything they could to manage patient/loved one's pain) and "Treated as human being" (members of the care team treat patient/loved one the way they would like to be treated if they were the patient). Cronbach's alpha for the scale in this study was 0.95.

The Newcastle Satisfaction with Nursing Scale: The scale was developed by Thomas et al. (14) and tested for validity and reliability in the Turkish language by Akin and Erdogan (15). It is a 19-item and 5-point Likert-type scale. The scale anchored from 1 (strongly disagree) to 5 (strongly agree). It is measured patients' experiences of and satisfaction with nursing, based on their perspective. Cronbach's alpha for the scale in this study was 0.85.

The Family Satisfaction in The Intensive Care Unit Survey: The survey was developed by Heyland and Tranmer (16) and tested for validity and reliability in the Turkish language by Tastan et al. (17). The survey consisted of 24 items-5 point Likert-type scale and two categories: satisfaction with care (14 items) and satisfaction with decision making (10 items). High scores show high satisfaction. Cronbach's alpha for the scale in this study was 0.90.

Ethical Considerations

Before starting the study, permission was obtained from the developer of the ICU-RESPECT scale. This study received necessary ethics approval from Bilecik Şeyh Edebali University's Ethics Committee (decision no: 7, date: 20.02.2019). In addition, permission was received from the study hospitals. The participating patients and family members were informed about the purpose of the study. The study was performed in accordance with the Declaration of Helsinki.

Statistical Analysis

SSPS 22.0 and Lisrel 8.8 statistical programs were used to analyze the data. Number, percentage, mean and standard deviation values were calculated in the definition of the data. In the adaptation process, language and content validity were studied. Skewness was measured. In the validation process, the suitability of the data for explanatory factor analysis was evaluated with Kaiser-Meyer-Olkin (KMO) and Bartlett's sphericity test and the reliability of the scale was evaluated with Cronbach's alpha. In addition, the Spearman-Rho correlation test was used to determine the relationship between the scale and the other scales. For statistical significance, $p<0.05$ was accepted. After the confirmatory factor analysis (CFA), normal theory weighted least squares chi-square (ΔX^2), degrees of freedom (df), root mean square error of approximation (RMSEA), normed fit index (NFI) and comparative fit index (CFI) were calculated. Structural Equation Modelling was also applied.

Results

Participant Characteristics

The socio-demographic characteristics of the participants are shown in Table 1. Fifty percent of the participants were patients, and most of them (85%) were hospitalized in surgical ICUs. The scores of the patients and family

Table 1. Socio-demographic characteristics of the participants

	Patient (n=50)		Patient's family members (n=50)	
	n	%	n	%
Gender of patient				
Male	29	58	18	36
Female	21	42	32	64
ICU of patient				
Medical ICU	11	22	4	8
Surgical ICU	39	78	46	92
Age of patients	59.70±15.86 (24-87)		63.88±21.11 (18-93)	

ICU: Intensive care unit

members on the ICU-RESPECT scale were 33.72±5.61 (13-40) and 33.20±6.60 (12-40), respectively, and there was no statistically significant difference between the scale mean scores (t=0.42, p≥0.05).

Adaptation Process

Language and Content Validity

ICU-RESPECT's language validity was determined according to the method proposed by the World Health Organization for translating and adapting instruments developed in different languages (18). The scale was translated from English to Turkish and then translated back from Turkish to English by five experts who live in Turkey and had a good command of English and Turkish to ensure the integrity of meaning. Then, the scale was administered to five ICU nurses, two ICU patients, two ICU patient's family members, and three experts to test the intelligibility and content validity of the items. These patients and the patient's family members were not included in the study.

Validation Process

Explanatory Factor Analysis

In the scale applied to patients and family members (n=100), the KMO coefficient was determined as 0.919 and Bartlett's sphericity test was determined as 1,047.379 in order to determine the suitability of the data for factor analysis (p<0.001). KMO coefficient indicating whether the sample size is sufficient varies between 0-1 and the lower limit is accepted as 0.50. The Bartlett's sphericity test shows whether there is a sufficient correlation between the data and being less than 0.05 of the p-value of this test means that there is a sufficient relationship between the data to perform factor analysis (19). KMO coefficient and Bartlett's sphericity test results determined in this study show that the data are suitable for factor analysis. As a result of the factor analysis of the data obtained from the scale, the only single factor was found that had 73.56% of the total variance and whose eigenvalue was higher than 1. Factor loads of the items on the scale ranged from 0.70 to 0.92 (Table 2).

Confirmatory Factor Analysis

The scale was confirmed using CFA. The ICU-RESPECT scale is 10 items totally and consisting of a single dimension. The confirmatory fit indexes obtained from the CFA were determined as $\Delta X^2/df=3.43$, RMSEA=0.15, NFI=0.95 and CFI=0.96 (Table 3). It is recommended as $2 \leq X^2/df \leq 3$; $0.05 \leq$ RMSEA≤ 1.0; $0.90 \leq$NFI≤ 0.95 and $0.90 \leq$CFI≤ 0.95 (19,20). These results show that the scale is well adapted to Turkish culture (Figure 1).

Internal Consistency Coefficient and Correlations Between Scales

For the reliability of the scale, internal consistency was evaluated with Cronbach's alpha coefficient. Cronbach's alpha for the scale in this study was 0.95. When the inter-item and item-total correlations of the scale were examined, the inter-item correlations were between 0.45-0.86, and the item-total correlations were between 0.65-0.91. The ICU-RESPECT scale was applied to patients with the Newcastle Satisfaction with Nursing scales, and the ICU-RESPECT scale was applied to families with the Family Satisfaction in the ICU Survey, and a strong positive correlation between scales was determined (r=0.64, r=0.64; p≤0.05).

Discussion

This study was conducted to determine the validity and reliability of the ICU-RESPECT scale which was developed to evaluate the perception of respect of ICU patients and family members.

Before performing factor analysis, evaluating KMO and Bartlett's test is recommended in the literature (19). In this study, the explanatory factor analysis was determined

Table 2. Exploratory factor analysis results of ICU-RESPECT

Factor	Item	Factor load values
ICU-RESPECT	1	0.92
	2	0. 91
	3	0. 91
	4	0. 90
	5	0. 90
	6	0. 86
	7	0. 83
	8	0. 81
	9	0. 77
	10	0. 70

Explained total variance =73.56%. ICU: intensive care unit

Table 3. Confirmatory factor analysis results

Scale	ΔX^2	df	$\Delta X^2/df$	RMSEA	NFI	CFI
ICU-RESPECT	116.27	35	3.43	0.15	0.95	0.96

ΔX^2: Normal theory weighted least squares chi-square, df: degrees of freedom, RMSEA: root mean square error of approximation, NFI: normed fit index, CFI: comparative fit index (p<0.001)

using KMO and Barlett's test. When the explanatory factor analysis results of the ICU-RESPECT scale were examined, the factor loads of the items were determined between 0.70-0.92. Geller et al. (13) found the factor loadings of the scale to be 0.50-0.86 in their study. The factor load value is the coefficient explaining the relationship of the items in the scale with the factors. It is stated in the literature that the scale item loads are above 0.30 (19). According to the data obtained from this study, it can be said that the factor load values of the scale are high for both patients and family members. In this study, as a result of factor analysis, a single factor structure was obtained similar to the original on the ICU-RESPECT scale. The items applied to patients and family members cover 73.56% of the total variance.

In the validity and reliability analysis, the most common method used in order to test the construct validity is factor analysis. It is associated with what the scale measures accurately (21). CFA was conducted to examine the validity of the scale's single-factor structure on the Turkish sample, and it was found that the single-factor structure of the scale was confirmed in Turkish culture.

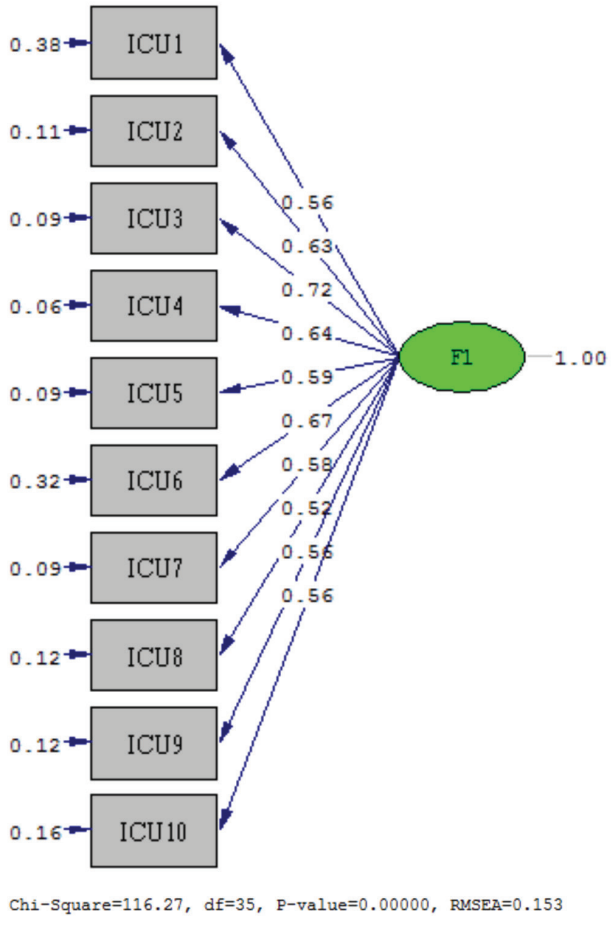


Figure 1. The standardized estimates of CFA
CFA: Confirmatory factor analysis, ICU: intensive care unit, RMSEA: root mean square error of approximation, df: degrees of freedom

The internal consistency of items was evaluated with Cronbach's alpha coefficient in scale development studies. A coefficient of '0.80-1.00' indicates that the scale is highly reliable (21). The Cronbach's alpha value of the scale was determined as 0.95. While Geller et al. (11) found the Cronbach's alpha value of the original scale as 0.85, Geller et al. (13) determined it as 0.90 in the validation study.

Although it was suggested in the literature to evaluate the time invariance of a scale with the same group at two-four week intervals (22), in this study, re-test was not performed because of the emotional and physical instability of the patients and family members in the ICU (23). This problem was solved using similar scales. The Newcastle Satisfaction with Nursing scale was used for patients and the Family Satisfaction in The ICU Survey was used for family members. As a result, the correlation between these scales was calculated and the accuracy of the scale was tested. When the relationship between the ICU-RESPECT and the Newcastle Satisfaction with Nursing scale of patients and between the ICU-RESPECT and the Family Satisfaction in the ICU Survey of patient's family members were examined, it was found that there was a statistically significant strong relationship between the ICU-RESPECT-the Newcastle Satisfaction with Nursing scale, the ICU-RESPECT- the Family Satisfaction in the ICU Survey ($r=0.64$, $r=0.64$; $p\leq0.05$). The correlation values were evaluated as 0-0.2= very week, 0.2-0.4= week, 0.4-0.6= moderate and 0.6-0.8= strong (19). Therefore, it can be said that the scale measures the respect perceived by ICU patients and family members.

The study was conducted at a single hospital in Turkey and the results of this study have social, cultural, religious and psychological dimensions. Therefore, it cannot be generalized for other regions and cultures. In addition, the study was conducted with patients and family members who agreed to participate in the study, and not all ICU patients and family members could be reached.

Conclusion

As a result of the validity and reliability analysis conducted in this study, it can be said that the Turkish version of the ICU-RESPECT scale is a valid and reliable tool that can be used to evaluate the level of respect perceived by ICU patients and family members. Especially in the accreditation of health institutions, ICUs are important indicators. Measuring the satisfaction of patients and family members from ICU and respectability which is one of the important factors affecting patient recovery will contribute to the solution of problems in the relations between patients and nurses. Demonstrating the applicability of the Turkish version of the ICU-RESPECT scale with this study may allow further studies to determine the level of respect that plays an important role in relationships with the ICU patient and family and can lead to problems when high or low. In addition, it can be an important measurement tool to evaluate the quality of nursing care in ICUs. It can also be compared with the results of other international studies.

Ethics

Ethics Committee Approval: This study received necessary ethics approval from Bilecik Şeyh Edebali University's Ethics Committee (decision no: 7, date: 20.02.2019).

Informed Consent: The participating patients and family members were informed about the purpose of the study.

Peer-review: Externally peer-reviewed.

Authorship Contributions

Concept: Ö.İ., S.M., E.A., Design: Ö.İ., S.M., E.A., Data Collection and Process: Ö.İ., S.M., E.A., Analysis or Interpretation: Ö.İ., S.M., E.A., Literature Search: Ö.İ., S.M., E.A., Writing: Ö.İ., S.M., E.A.

Conflict of Interest: No conflict of interest was declared by the authors.

Financial Disclosure: The authors declared that this study received no financial support.

References

1. Alasad JA, Abu Tabar N, Ahmad MM. Patients' experience of being in intensive care units. J Crit Care 2015;30:859.e7-11.
2. de la Oliva P, Cambra-Lasaosa FJ, Quintana-Díaz M, Rey-Galán C, Sánchez-Díaz JI, Martín-Delgado MC, et al. Admission, discharge and triage guidelines for paediatric intensive care units in Spain. Med Intensiva 2018;42:235-46.
3. Altman MT, Pulaski C, Mburu F, Pisani MA, Knauert MP. Non-circadian signals in the intensive care unit: Point prevalence morning, noon and night. Heart Lung 2018;47:610-5.
4. Chang PY, Wang HP, Chang TH, Yu JM, Lee SY. Stress, stress-related symptoms and social support among Taiwanese primary family caregivers in intensive care units. Intensive Crit Care Nurs 2018;49:37-43.
5. Park S, Na SH, Oh J, Lee JS, Oh ST, Kim JJ, et al. Pain and anxiety and their relationship with medication doses in the intensive care unit. J Crit Care 2018;47:65-9.
6. Phelan S, Lin F, Mitchell M, Chaboyer W. Implementing early mobilisation in the intensive care unit: An integrative review. Int J Nurs Stud 2018 ;77:91-105.
7. Day A, Haj-Bakri S, Lubchansky S, Mehta S. Sleep, anxiety and fatigue in family members of patients admitted to the intensive care unit: a questionnaire study. Crit Care 2013;17:R91.
8. Matthews E. Respect for personhood in medical and psychiatric ethics. Ethics Med Public Health 2016;2:490-8.
9. Schwab AP. The epistemic responsibilities in medicine of beneficence and respect for patient autonomy. Ethics Med Public Health 2017;3:233-40.
10. Akpir K. Yoğun Bakım Etiği. Journal of the Turkish Society of Intensive Care 2010;8:77-84.
11. Geller G, Branyon ED, Forbes LK, Topazian RJ, Weir BW, Carrese JA, et al. ICU-RESPECT: An index to assess patient and family experiences of respect in the intensive care unit. J Crit Care 2016;36:54-9.
12. Tavşancıl E. Tutumların ölçülmesi ve SPSS ile veri analizi. 5th ed. Ankara: Nobel Yayıncılık; 2014.
13. Geller G, Schell-Chaple H, Turner K, Anderson WG, Beach MC. Measuring patient respect in the intensive care unit: Validation of the ICU-RESPECT instrument. J Crit Care 2018;46:63-6.
14. Thomas LH, McColl E, Priest J, Bond S, Boys RJ. Newcastle satisfaction with nursing scales: an instrument for quality assessments of nursing care. Qual Health Care 1996;5:67-72.
15. Akin S, Erdogan S. The Turkish version of the Newcastle Satisfaction with Nursing Care Scale used on medical and surgical patients. J Clin Nurs 2007;16:646-53.
16. Heyland DK, Tranmer JE; Kingston General Hospital ICU Research Working Group. Measuring family satisfaction with care in the intensive care unit: the development of a questionnaire and preliminary results. J Crit Care 2001;16:142-9.
17. Tastan S, Iyigun E, Ayhan H, Kılıckaya O, Yılmaz AA, Kurt E. Validity and reliability of Turkish version of family satisfaction in the intensive care unit. Int J Nurs Pract 2014;20:320-6.
18. World Health Organization (2008). Process of translation and adaptation of instruments. Retrieved from http://www.who.int/substance_abuse/research_tools/translation/en/
19. Karagöz Y. SPSS ve AMOS 23 uygulamalı istatistiksel analizler. Ankara: Nobel Yayıncılık; 2016.
20. Çokluk Ö, Şekercioğlu G, Büyüköztürk Ş. Sosyal bilimler için çok değişkenli istatistik: SPSS ve LISREL uygulamaları. Ankara: Pegem Akademi Yayıncılık; 2010.
21. Büyüköztürk Ş. Manual of data analysis for social sciences. 15th ed. Ankara: Pegem Academy; 2011.
22. Polit FD, Beck CT. Customes who viewed Nursing Research: principles and method, 6th ed. Philadelphia: Lippincott Williams & Wilkins; 2012.
23. Zaal IJ, Devlin JW, Peelen LM, Slooter AJ. A systematic review of risk factors for delirium in the ICU. Crit Care Med 2015;43:40-7.