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RESEARCH

Turkish adaptation of the Fall Prevention Knowledge Test

Düşmeyi Önleme Bilgi Testinin Türkçe'ye uyarlanması

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Abstract

Purpose: This study aims to test the Turkish validity and reliability of the Fall Prevention Knowledge Test assessing the knowledge level of nurses in the clinical setting regarding fall prevention.

Materials and Methods: This study was carried out with nurses working at a university hospital between 16 February and 31 March 2022. The study group consisted of 250 nurses, who had been working as nurses for at least six months and voluntarily agreed to participate in the study. The study data was collected by using The Nurse Information Form and Fall Prevention Knowledge Test. Content validity, item difficulty and item discrimination indices, KR-20 coefficient, and intra-class correlation coefficient were used in the data analyses.

Results: It was determined that 75.2% of the nurses participating in the study were female, 50.8% were married, and 75.6% had a bachelor's degree. The mean age of the nurses participating in the present study was 29.22±6.55 years, the mean work experience was 6.84±6.60 years, and the mean weekly working hours were 44.10±6.76 hours. It was found that 96.8% of the nurses knew about the risk of fall, and 96.0% knew about fall prevention practices. The content validity index of the test was found to be 0.836 and the KR-20 reliability coefficient for the scale was calculated to be 0.713.

Conclusions: The Fall Prevention Knowledge Test (11 items) is a valid and reliable test for measuring the knowledge level of nurses working in hospitals in Türkiye.

Keywords: Falls, fall prevention, knowledge, scale, nurses.

Öz

Amaç: Bu çalışma, klinik ortamda çalışan hemşirelerin düşmeyi önleme bilgi düzeylerini değerlendirmeye yönelik Düşmeyi Önleme Bilgi Testinin Türkçe geçerlilik ve güvenirliğini test etmeyi amaçlamaktadır.

Gereç ve Yöntem: Bu çalışma, 16 Şubat-31 Mart 2022 tarihleri arasında bir üniversite hastanesinde çalışan hemşireler ile metodolojik olarak gerçekleştirildi. Çalışma grubunu, en az altı aydır hemşire olarak çalışan ve araştırmaya katılmaya gönüllü olan 250 hemşire oluşturdu. Araştırmanın verileri Hemşire Bilgi Formu ve Düşmeyi Önleme Bilgi Testi kullanılarak toplandı. Verilerin analizinde çalışmanın amacı doğrultusunda kapsam geçerliği, madde güçlük indeksi ve madde ayırt edicilik indeksleri, KR-20 katsayısı, sınıf içi korelasyon katsayısı kullanıldı.

Bulgular: Araştırmaya katılan hemşirelerin %75,2'si kadın, %50,8'i evli ve %75,6'sı lisans mezunudur. Araştırmaya katılan hemşirelerin yaş ortalaması 29,22±6,55 yıl, ortalama iş tecrübesi 6,84±6,60 yıl, haftalık ortalama çalışma saati 44,10±6,76 saat idi. Hemşirelerin %96,8'inin düşme riskini bildiği, %96,0'sının ise düşmeyi önleme uygulamalarını bildiği belirlendi. Testin kapsam geçerlik indeksi 0,836 olarak bulundu. Ölçeğin KR-20 güvenirlik katsayısı 0,713 olarak hesaplandı.

Sonuç: Düşmeyi Önleme Bilgi Testi (11 madde) ülkemizdeki hastanelerde çalışan hemşirelerin bilgi düzeylerini ölçmeye yönelik geçerli ve güvenilir bir testtir.

Anahtar kelimeler: Düşme, düşmeyi önleme, bilgi, ölçek, hemşire.

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INTRODUCTION

Patient safety is one of the most significant indicators of quality healthcare services[1]. Patient safety refers to the absence of preventable harm to the patient during healthcare processes[2]. During the diagnosis and treatment process between admission and discharge, ensuring patient safety is very important for healthcare professionals and administrators. Patient falls are a significant patient safety issue, which is frequently encountered within the hospital setting, and cause substantial problems for patients and healthcare organisations[1, 3].

Falling is defined by the World Health Organization (WHO) as *"inadvertently coming to rest on the ground, floor, or other lower level, involving an unconscious change in position towards furniture, walls, or other objects"*[4]. It was reported that 37.3 million incidents of falls requiring medical intervention occur annually[5]. It was determined that there were 424,000 fatal falls in healthcare facilities in 2016, and falls ranked the second leading cause of unintended injuries or accidents resulting in death in the USA[6]. It was noted that approximately 15% of patients, who are hospitalized for an extended period, experience at least one fall, and almost 25% of those, who fall, sustain injuries[7]. In Türkiye, the data on falls generally cover the elderly population. In their study on the elderly, Telatar et al. (2020)[8] found that 36.4% of the elderly individuals, who participated in their study, stated that they had fallen at least once after the age of 65. It was stated that 60% of people aged 65 years and over, who experienced falls, fall at home, 30% in social areas, and 10% in health care institutions[9]. Güner et al., (2017) reported that 31.5% of elderly individuals had a low risk of fall, 31.4% had a medium risk of fall, and 37.1% had a high risk of fall[10].

Falling is an event that can occur at any age and in any situation involving walking and physical activity[11]. It is a risk factor, particularly for individuals admitted to the hospital and undergoing treatment. Various factors contribute to these risks, such as weakness, balance problems, age, cognitive problems, visual impairments, medications, acute diseases, and other environmental hazards[12]. One of the patient safety objectives published by the International Joint Commission is to prevent patient falls[13]. Ensuring that all hospital staff have sufficient knowledge about preventing falls is the first step to be taken regarding fall prevention[14]. During the delivery of healthcare services within hospitals, it is very important to ensure a safe healthcare environment to prevent falls that may result from errors. If falls occur, measures should be in place to protect patients from injuries and minimize negative outcomes. Falls can lead to injuries, disabilities, and functional impairments in individuals; therefore, they prolong hospital stays, necessitate long-term care, reduce quality of life, increase treatment costs, induce anxiety and fear in patients and their families, and, in severe cases, result in fatalities[13, 15]. Hence, due to the complications it causes and the healthcare costs associated with it, falls are considered a significant societal issue[13, 16].

Patient falls are typically categorized as preventable medical errors[17]. It was reported in a previous study that 92% of patient falls are preventable[18]. Factors leading to falls in clinical settings should be identified, modifiable factors should be addressed, and effective preventive measures should be taken to minimize falls, even though they may not be entirely preventable[19]. Ensuring patient safety in clinical settings is one of the fundamental responsibilities of nurses. Nurses, who are directly responsible for patient care, can prevent patient falls by implementing appropriate nursing interventions aiming to prevent those falls[13, 20, 21]. In the literature, a meta-analysis study examining interventions to reduce falls in hospitals revealed a positive effect of education on hospital fall rates and risk[22]. It was also noted that fall prevention programs tailored to individual patients and staff education have effectively reduced falls[23].

In hospitals, patient fall rates are essential indicators of the quality of nursing care[23]. The responsibilities of nurses, who play an important role in preventing falls, cover many factors such as assessing the risk of falls, making environmental adjustments, and providing education to both the individuals at risk and those responsible for their care[13, 25, 26]. It can be seen in the literature that there are many nursing interventions aiming to prevent falls[7, 18, 27, 28]. However, there seems to be a lack of measurement tools for assessing the knowledge level of nurses related explicitly to fall prevention. Considering the surveys investigating the measurement methods regarding falls in different countries[29,30] and Türkiye[31], there are scales aiming to assess the risk of falling. However, within this scholarly inquiry, no specific measurement tools that evaluate the extent of nurses' knowledge regarding fall prevention could be found. The Fall Prevention Knowledge Test was developed to assess the knowledge of nurses, who are

working in acute care settings, about fall prevention. Therefore, this study aims to test the Turkish validity and reliability of the Fall Prevention Knowledge Test assessing the knowledge level of nurses in the clinical setting regarding fall prevention.

MATERIALS AND METHODS

Study group

This methodological study was carried out with nurses employed at Meram Faculty of Medicine Hospital between 16 February and 31 March 2022. The study universe consisted of all nurses working at this hospital. To determine the sample size, ten times the number of scale items mentioned in the literature was considered[32]. Since there are 11 items in the 'Fall Prevention Knowledge Test,' it was planned to reach a minimum of 110 nurses for the validity and reliability study.

The survey was administered by the researchers through face-to-face interviews without disrupting the treatment when the nurses were available. The surveys were filled out in approximately 15 minutes. A total of 280 surveys were distributed to nurses. A total of 30 surveys were excluded from the study, 12 of which contained missing data and 18 of which only filled out the Nurse Information Form.

Moreover, in order to determine the sample size, power analysis was performed by using the g power program, as explained in the study carried out by Duckworth et al. (2019)[33]. Accordingly, it was determined that there should be 220 observations in the sample with a statistical power level of 80% and a significance level of 5% for the (d=0.19) effect size[34]. The study was completed with a total of 250 nurses. Nurses, who had been working as nurses for at least six months and voluntarily agreed to participate in the present study, were included, whereas nurses with less than six months of nursing experience and those working in administrative units and units not directly involved in patient care were excluded from the study.

The ethical appropriateness of the study was evaluated and approved by the Ethical Committee for Scientific Research of a university (Date: 03.11.2021 no: 2021/15-93). Permission from the institution (E-14567952-900-155848) and written consent from the participants were obtained for the implementation of the research. Moreover, permission was also obtained via email from the authors of the scale.

Measures

The data collection process was performed by using the Nurse Information Form, which was developed by the researchers upon the literature review,[18, 19] and the Fall Prevention Knowledge Test.

The Nurse Information Form

The Nurse Information Form, which consists of 13 questions related to the socio-demographic and work characteristics of the nurses, includes two sections. The section related to socio-demographic characteristics includes questions about gender, age, marital status, and educational background. In the section addressing their professional lives, there are items about years of work experience, job satisfaction status, current position, employment type, weekly working hours, knowledge related to the risk of falls, and history of receiving education on this subject.

Fall Prevention Knowledge Test

The test developed by Dykes et al. (2019) is a "true and false" test and it consists of 11 items[14]. This test was developed to evaluate the nurse's knowledge of fall prevention for hospitalized individuals and was designed to form the basis for necessary educational interventions. The test comprises 8 false (F) and 3 true (T) statements. Each item is scored as 1 point for a true response and 0 points for a false response. It is expected that nurses should provide answers with an accuracy rate of 80% or higher. Nurses, who provide correct answers at or above 80%, are considered to have good knowledge of fall prevention, whereas those who score below this threshold need to improve their knowledge on this topic[14].

Data collection

Linguistic equivalence

The initial translation should always be conducted independently by at least two individuals working separately[35]. One should be informed about the subject, while the other should remain uninformed. The informed translator should be provided with information about the topic, purpose, and intended outcome, whereas the other translator should translate naturally and impartially[36]. Accordingly, the test was translated from English to Turkish by two independent translators and evaluated by five academicians working in the nursing field.

The initial Turkish translation of the scale was presented to an expert in Turkish Language and

Literature for evaluation of linguistic appropriateness to the Turkish language structure, and the content validity of the test was examined.

Content validity

Content validity requires that all observed and measurable characteristics of the quality to be measured should be present in the measurement tool[37]. Content validity aims to evaluate whether the scale and its sub-dimensions measure the intended domain and whether they include concepts other than the area to be measured[32]. Expert opinions were sought in order to determine whether the items in the scale were appropriate for the measurement purpose, whether they represented the intended domain, and whether they included concepts other than the area to be measured[38]. For content validity, it is necessary to obtain opinions of a minimum of 3 and a maximum of 20 literature experts[39]. In this study, the opinions of 10 nurse faculty members were sought for content validity. In the research, the expert ratings were considered, including the average scores for the test items and their evaluations regarding the content. The scale was revised in accordance with the feedback. The total score should be 0.80 or higher for content validity[39].

After finalizing the scale, a pilot study was conducted with 10 nurses to assess the clarity of the data collection form, and these individuals were not included in the actual sample. The data were collected in a clinical setting through face-to-face interviews with nurses during their spare time after patient treatment and follow-up. The participating nurses were informed about the study, and their informed consent was obtained by using an informed consent form.

Reliability

When a measurement instrument is used to measure any group or individual, it is expected to yield consistent and stable results with each application of the instrument. If the measurement instrument produces different results when applied to the same individuals under the same conditions, it can be said that the measurement instrument has a low reliability[40].

The reliability of a scale can be tested by using methods such as test-retest reliability, parallel-form reliability, interrater reliability, split-half method, Cronbach's Alpha, and Kuder-Richardson 20 reliability coefficient[39]. In this study, the scale's reliability was assessed by using the 'Test-Retest' method (the test was administered to 30 nurses, and then the same test was re-administered to them 2 weeks later). The Kuder-Richardson 20 Reliability Coefficient was used to assess the internal consistency.

Statistical analysis

Demographic data are presented with descriptive statistics (number-percentage, mean, standard deviation, minimum, maximum). G power analysis was performed for the sample size. After the completion of translation and expert opinions for language validity, the content validity index and content validity ratio of the scale were calculated to assess the content validity. Item difficulty index and item discrimination indices were calculated to measure the validity of the test. The reliability of the scale was evaluated by calculating the KR-20 coefficient. The stability of the test (test-retest reliability) was assessed by using the intra-class correlation coefficient (ICC).

RESULTS

As seen in Table 1, it was determined that the mean age of the nurses participating in the study was 29.22±6.55 years, the mean work experience was 6.84±6.60 years, and the mean weekly working hours were 44.10±6.76 hours. It was also found that 75.2% of the nurses were female, 50.8% were married, and 75.6% had a bachelor's degree. Moreover, 78.8% of them were satisfied with nursing job, with the majority working as clinical nurses (80.4%) on shift schedules (86.8%). Additionally, it was found that 96.8% of the nurses knew about the risk of falls, and 96.0% knew about fall prevention practices. Furthermore, 35.2% of the nurses had not received any training on fall prevention, whereas 34.4% had received such training at the university.

Table 2 contains the opinions of the experts regarding the items. Accordingly, the content validity ratio was calculated for each item, and no value was found to be zero or negative for the content validity ratio. The content validity index of the test was found to be 0.836.

Table 3 provides the item analysis results for the Fall Prevention Knowledge Test. The discrimination index for the entire Fall Prevention Knowledge Test was calculated as 0.350, and the difficulty index was calculated as 0.813.

Table 1. Demographic characteristics of nurses (n=250)

Variable	**Mean±SD Median(min-max)**
Age (*year*)	
Mean±SD	29.22±6.55
Median(min-max)	27 (21-50)
Work Experience *(year)*	
Mean±SD	6.84±6.60
Median(min-max)	4 (1-30)
Working Hours (*weekly*)	
Mean±SD	44.10±6.76
Median(min-max)	40 (21-72)
Gender, *n* (%)	
Female	188 (%75.2)
Male	62 (%24.8)
Marital Status, *n* (%)	
Single	121 (%48.4)
Married	127 (%50.8)
Divorced	2 (%0.8)
Educational Status, *n* (%)	
High School	36 (%14.4)
Bachelor's Degree	189 (%75.6)
Postgraduate Degree	25 (%10)
Job Satisfaction Status, *n* (%)	
Satisfied	197 (%78.8)
Not-satisfied	53 (%21.2)
Current Position, *n* (%)	
Clinical Nurse	201 (%80.4)
Intensive Care Nurse	49 (%19.6)
Employment Type, *n* (%)	
Shift Work	217 (%86.8)
Day Shift Only	33 (%13.2)
Knowledge Related to Fall Risk, *n* (%)	
Yes	242 (%96.8)
No	8 (%3.2)
Knowledge of Fall Prevention Practices, *n* (%)	
Yes	240 (%96.0)
No	10 (%4.0)
Institution Where Fall Prevention Training Was Received, *n* (%)	
I did not receive	88 (%35.2)
University	86 (%34.4)
Hospital (Education Unit, Quality Unit)	73 (%29.2)
Other*	3 (%1.2)

*(Online Training 2, ICU Nursing Certification Program 1)

Table 4 presents the reliability results of the Fall Prevention Knowledge Test. The Fall Prevention Knowledge Test was administered at two different times (at a two-week interval), and the test's stability was tested. According to these results, ICC values were found to be above 0.20. The KR-20 reliability coefficient for the scale was calculated as 0.713.

Table 2. Evaluation of expert opinion results

Item No	**Content Validity Ratio (CVR)**
Item 1	0.800
Item 2	0.800
Item 3	0.800
Item 4	0.800
Item 5	0.800
Item 6	0.600
Item 7	1.000
Item 8	1.000
Item 9	0.800
Item 10	1.000
Item 11	0.800
Number of Experts=10	
Content Validity Criterion (Critical Point = 0.800)	
Content Validity Index = 0.836	

Table 3. Results of Fall Prevention Knowledge Test item analysis (test validity)

		True	**False**	**Item Difficulty Index**	**Item Discrimination Index**
Item 1	Lower	51	17	0.875	0,250
	Upper	68	0		
Item 2	Lower	45	23	0.831	0,338
	Upper	68	0		
Item 3	Lower	49	19	0.860	0,279
	Upper	68	0		
Item 4	Lower	48	20	0.846	0,279
	Upper	67	1		
Item 5	Lower	44	24	0.816	0,338
	Upper	67	1		
Item 6	Lower	47	21	0.846	0,309
	Upper	68	0		
Item 7	Lower	19	49	0.603	0,647
	Upper	63	5		
Item 8	Lower	37	31	0.757	0,426
	Upper	66	2		
Item 9	Lower	48	20	0.853	0,294
	Upper	68	0		
Item 10	Lower	44	24	0.824	0,353
	Upper	68	0		
Item 11	Lower	45	23	0.831	0,338
	Upper	68	0		
Mean				0.813	0.350

Table 4. Reliability results of the Fall Prevention Knowledge Test

	Test	Re-test	t (p)	*ICC* (%95 GA)
Item 1	0.88±0.33	0.95±0.22	t=-1.778 p=0.083	0.716 (0.463-0.850)
Item 2	0.95±0.22	0.95±0.22	t=0.001 p=0.999	0.533 (0.218-0.753)
Item 3	0.90±0.30	0.75±0.44	t=1.923 p=0.052	0.530 (0.211-0.751)
Item 4	0.90±0.30	0.90±0.30	t=0.001 p=0.999	0.547 (0.243-0.760)
Item 5	0.95±0.22	0.95±0.22	t=0.001 p=0.999	0.643 (0.325-0.811)
Item 6	0.93±0.27	0.83±0.38	t=1.433 p=0.160	0.468 (0.217-0.718)
Item 7	0.58±0.50	0.78±0.42	t=-1.982 p=0.054	0.446 (0.247-0.707)
Item 8	0.70±0.46	0.83±0.38	t=-1.403 p=0.168	0.423 (0.291-0.695)
Item 9	0.95±0.22	0.95±0.22	t=0.001 p=0.999	0.643 (0.325-0.811)
Item 10	0.08±0.27	0.18±0.38	t=-1.275 p=0.210	0.513 (0.379-0.742)
Item 11	0.98±0.16	0.93±0.27	t=1.000 p=0.323	0.661 (0.359-0.821)
KR-20=0.713				

ICC: Intraclass Correlation Coefficient

DISCUSSION

Preventing falls requires a multidisciplinary team approach[41]. Nurses in this team have essential responsibilities in preventing falls. These responsibilities include assessing the risk of falls, monitoring changes in the patient's medical condition and vital signs, taking into account multiple medication use, organizing the environment, implementing fall prevention procedures, applying measures tailored to the individual, and educating the patient and their family about fall prevention[5, 41, 42]. Therefore, this scale is important for nurses to evaluate patients for falls during the period between admission to hospital to discharge, to observe them, and to determine the level of knowledge of precautions taken for this purpose. For nurses to be able to take preventive measures against falls, they must have sufficient knowledge in this regard, as intervention can be made before a fall occurs. Therefore, it is believed that this study, which aims to adapt the Fall Prevention Knowledge Test into Turkish, will contribute to the literature by determining nurses' knowledge levels regarding falls.

In the process of scale adaptation, it is recommended to conduct group translation and back-translation by at least two individuals, seek expert opinions, and conduct a pilot study[43]. In this study, after the translation and back-translation of the items, the items were finalized, and content validity was examined by obtaining expert opinions. Content validity is a method used to determine whether the items in the question pool are appropriate. The Lawshe technique is one of the commonly used methods for content validity. For each item, experts provided their opinions as "(1) inappropriate", "(2) needs to be revised", "(3) appropriate, but minor changes needed", or "(4) highly appropriate" [44]. If the content validity index is higher than the content validity criterion, it statistically indicates that the content validity of the scale items is significant[45,46]. The critical values for the content validity criterion[47] are presented in Table 2. The content validity criterion for 10 experts participating in the study was determined to be 0.800. The content validity ratio for each of the 11 items in the scale was found to be higher than the content validity criterion value. The content validity index of the scale was calculated to be 0.836, which is higher than the content validity criterion. Therefore, the content validity of the scale is statistically significant.

In the next step, an item analysis of the test was conducted to calculate the test validity. An item's quality is determined based on the item's discrimination index and difficulty level. The item difficulty index shows the percentage of correct answers to the questions. As the difficulty index approaches 0, the item becomes more difficult; the values closer to 1 indicate a higher level of ease. In achievement tests, item difficulty index values between 0.20 and 0.80 are considered adequate[48]. The item discrimination index ranges between -1 and +1. Items with an item discrimination index lower than 0.20 are considered very weak and should be

removed[49, 50]. The average item difficulty index of 0.813 in the Fall Prevention Knowledge Test indicates that the test is relatively easy. The average item discrimination index of 0.350 shows that the items have sufficient discrimination. Therefore, there is no need for item removal. The test is a valid measurement tool.

Test-retest reliability was examined to assess the stability of the test, and this examination was conducted by using the intra-class correlation coefficient (ICC) within the class. An ICC value higher than 0.20 for the test indicates the item's importance for the question. The reliability of the scale was assessed using the KR-20 coefficient. The KR-20 coefficient, which is a derivative of Cronbach's alpha, can determine internal consistency in binary data[51]. KR-20 coefficient ranges between 0 and 1, and it is expected to be higher than 0.70 for the reliability of a test[52]. The KR-20 value obtained in this study indicates that the scale is a reliable measurement tool.

One of the limitations of the present study is that it was carried out in a single hospital, and it restricts the generalizability of the results achieved in this study. Responses to the survey are limited to the statements of the participants. The strength of this study is that, unlike other measurement tools addressing falls in Türkiye, it was developed for nurses and measures knowledge levels, not the risk of falls.

In conclusion, the Fall Prevention Knowledge Test (11 items) is a valid and reliable test to measure the knowledge level of nurses working in hospitals in Türkiye. Responses to test items are expected to be 80% or higher. Nurses, who answer correctly 80% or more, have good knowledge of fall prevention, whereas those who score lower than this threshold may require improvement in their knowledge on this subject. Nurses' lack of knowledge about fall prevention may be a factor that increases patients' likelihood of falling. For this reason, it is recommended to continuously evaluate patients' risk of falls between admission to hospital and discharge, determine the knowledge level of nurses on this subject, and organize training programs accordingly.

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REFERENCES

1. Mert T, Özkan Y. Bir üniversite hastanesinde düşmelerin sıklığı ve düşme önleme uygulamalarının değerlendirilmesi. Türkiye Sağlık Enstitüleri Başkanlığı Dergisi. 2023;6:79-85.
2. Özlü ZK, Yayla A, Özer N, Gümüş K, Erdağı S, Kaya Z. Risks of falling in surgical patients. Kafkas J Med Sci. 2015;5:94-9.
3. Mitchell D, Raymond M, Jellett J, Webb-St Mart M, Boyd L, Botti M et al. Where are falls prevention resources allocated by hospitals and what do they cost? A cross sectional survey using semi-structured interviews of key informants at six Australian health services. Int J Nurs Stud. 2018;86:52-9.
4. WHO. Falls. Geneva, World Health Organization, 2012.
5. WHO. World Health Organization. Falls-key facts. Geneva, World Health Organization, 2021.
6. Ramsey County Community Health Assessment. Data and Trend Analysis Injury 2018.
7. Rutledge D, Schub T. Evidence-based care sheet: Fall prevention in hospitalized patients. Cinahl Information Systems. 2016:1-5.
8. Telatar T, Üner S, Özcebe L, Küçük BiçerB, Yavuz S. Defining falls and associated risk factors in elderly among age groups and sex. Selçuk Med J. 2020;36:101-8.
9. Şencan İ, Canbal M, Tekin O, Işık B. Fall injuries in elderly people as a public health problem. Yeni Tıp Dergisi. 2011;28:79-82.
10. Güner SG, Nural N, Erden A. Evde yaşayan genç yaşlıların ilaç yönetimi, ev içi düzenlemeleri, egzersiz alışkanlıkları ve yaşam kalitesi ile düşme risk düzeylerinin belirlenmesi: Pilot Çalışma. İzmir Katip Çelebi Üniversitesi Sağlık Bilimleri Fakültesi Dergisi. 2017;2:13-9.
11. Montero-Odasso M, van der Velde N, Martin FC, Petrovic M, Tan MP, Ryg J et al. World guidelines for falls prevention and management for older adults: a global initiative. Age Ageing. 2022;51:afac205.
12. Jin J. Prevention of falls in older adults. JAMA. 2018;319:1734.
13. de Moura Sá GG, da Silva Júnior LG, Bezerra MAR, de Carvalho KM, dos Santos AMR, Nunes BMVT et al. Nursing care for the prevention of falls in the elderly: an integrative review. Int Arch Med. 2017;10.
14. Dykes PC, Bogaisky M, Carter EJ, Duckworth M, Hurley AC, Jackson EM et al. Development and validation of a fall prevention knowledge test. J Am Geriatr Soc. 2019;67:133-8.
15. Uz Tunçay S, Özdinçler AR, Erdinçler DS. The effect of risk factors for falls on activities of daily living and

quality of life in geriatric patients. Turkish Journal of Geriatrics. 2011;14:245-52.
16. Dykes PC, Curtin-Bowen M, Lipsitz S, Franz C, Adelman J, Adkison L et al. editors. Cost of inpatient falls and cost-benefit analysis of implementation of an evidence-based fall prevention program. JAMA Health Forum. 2023;4:e225125..
17. Ishikuro M, Ubeda SRG, Obara T, Saga T, Tanaka N, Oikawa C et al. Exploring risk factors of patient falls: a retrospective hospital record study in Japan. Tohoku J Exp Med. 2017;243:195-203.
18. Bayraktar E, Türk G. Hasta düşmelerini önleyici hemşirelik girişimlerinin uygulanma durumu ve etkileyen faktörler. Acıbadem Üniversitesi Sağlık Bilimleri Dergisi. 2021;12:401-10.
19. Oksel E. Falls: Nursing approach and evaluation. Aegean J Med Sci. 2018;1:140-2.
20. Duman S, Kitiş Y. Determining awareness of nurses who work in ıntensive care units about patient falls. Turkish Journal of Intensive Care. 2013;11:72-9.
21. Yaşar G, Türk G. Determination of risk factors in patient falls. J Nurs Sci. 2018;1:15-20.
22. Morris ME, Webster K, Jones C, Hill A-M, Haines T, McPhail S et al. Interventions to reduce falls in hospitals: a systematic review and meta-analysis. Age Ageing. 2022;51:afac077.
23. Hill AM, McPhail SM, Waldron N, Etherton-Beer C, Ingram K, Flicker L et al. Fall rates in hospital rehabilitation units after individualised patient and staff education programmes: a pragmatic, stepped-wedge, cluster-randomised controlled trial. The Lancet. 2015;385:2592-9.
24. Kılıç Ü, Güdük Ö, Güdük Ö, Okut G. Investigation of patient falls in hospitals as a nursing care indicator. ERÜ J Faculty of Health Sci. 2021;8:1-9.
25. Mollaoğlu M, Fertelli T, Özkan Tuncay F. Investigation of the measures taken and the risk of falling in hospitalized patients in internal medical clinics. TAF Prev Med Bull. 2013;12.
26. Ueda T, Higuchi Y, Imaoka M, Todo E, Kitagawa T, Ando S. Tailored education program using home floor plans for falls prevention in discharged older patients: A pilot randomized controlled trial. Arch Gerontol Geriatr. 2017;71:9-13.
27. Oyur Çelik G, Zıngal H. The determination of falling risk of patients and precautions taken in neurosurgery clinic. İKÇÜSBFD. 2016;1:7-11.
28. Rowan L, Veenema TG. Decreasing falls in acute care medical patients: An integrative review. J Nurs Care Qual. 2017;32:340-7.
29. Kim KS, Kim JA, Choi YK, Kim YJ, Park MH, Kim HY et al. A comparative study on the validity of fall risk assessment scales in Korean hospitals. Asian Nurs Res. 2011;5:28-37.
30. Vassallo M, Stockdale R, Sharma JC, Briggs R, Allen S. A comparative study of the use of four fall risk assessment tools on acute medical wards. J Am Geriatr Soc. 2005;53:1034-8.
31. Tezcan B, Karabacak BG. Fall risk assessment scales which are frequently used in clinical practice. JAREN. 2021;7:105-12.
32. Gözüm S, Aksayan S. Guide to cross-cultural scale adaptation II: scale adaptation stages and language adaptation. Journal of Research and Development in Nursing. 2002;4:9-14.
33. Duckworth M, Adelman J, Belategui K, Feliciano Z, Jackson E, Khasnabish S et al. Assessing the effectiveness of engaging patients and their families in the three-step fall prevention process across modalities of an evidence-based fall prevention toolkit: an implementation science study. JMIR. 2019;21:e10008.
34. Cohen J. Statistical Power Analysis for the Behavioral Sciences. New York, Academic Press, 2013.
35. Coster WJ, Mancini MC. Recommendations for translation and cross-cultural adaptation of instruments for occupational therapy research and practice. Rev Ter Ocup Univ São Paulo. 2015;26:50-7.
36. Beaton D, Bombardier C, Guillemin F, Ferraz MB. Recommendations for the cross-cultural adaptation of the DASH & QuickDASH outcome measures. Toronto, CA, Institute for Work & Health. 2007.
37. Sönmez V, Alacapınar F. Exemplified Scientific Research Methods. Ankara, Anı publishing, 2014.
38. Çapık C, Gözüm S, Aksayan S. Interculturalscale adaptation stages, language and culture adaptation: Updated guideline. Florence Nightingale J Nurs. 2018;26:199-210.
39. Erdoğan S, Nahcivan N, Esin MN. Research in Nursing: Process, Practice and Criticism. İstamnul, Nobel Medical Bookstore, 2015.
40. Aker S, Dündar C, Pekşen Y. Two vitaly consept of measurement instruments: Validity and reliability. Ondokuz Mayıs Üniversitesi Tıp Dergisi. 2005;22:50-60.
41. Chu RZ. Preventing in-patient falls: The nurse's pivotal role. Nursing. 2022. 2017;47:24-30.
42. Australian Commission on Safety and Quality in Health Care. Falls Facts for Nurses, Preventing Falls and Harm from Falls in Older People: Best Practice Guidelines For Australian Hospitals. Australia, Australian Commission on Safety and Quality in Health Care, 2009.
43. Karaçam Z. Adaptation of scales to Turkish. Journal of Midwifery and Health Sciences. 2019;2:28-37.
44. Esin MN. Data collection methods and tools & reliability and validity of data collection tools. In Research in Nursing: Process, Practice and Criticism (Eds SN Erdoğan, MN Esin):. İstanbul, Nobel Medical Bookstore, 2014.
45. Lawshe CH. A quantitative approach to content validity. Pers Psychol. 1975;28:563-75.
46. Öngöz S. Development of an electronic textbook evaluation form: Validity and reliability study 11th

internatıonal educatıonal technology conference, IETC Proceedings Book; İstanbul. 2011;1481-5.
47. Ayre C, Scally AJ. Critical values for Lawshe's content validity ratio: revisiting the original methods of calculation. Meas Eval Couns Dev. 2014;47:79-86.
48. İlhan N, Hoşgören G. Developing of context based achievement test towards science: Acids and bases. Fen Bilimleri Öğretimi Dergisi. 2017;5:87-110.
49. Karslı F, Ayas A. A study on the development of a test about measurement of science and technology teachers' science process skills. TUSED. 2013;10:66-84.
50. Tosun C, Taşkesenligil Y. Development of an achievement test about solutions and their physical properties based on Bloom's revised taxonomy: validity and reliability. Kastamonu Education Journal. 2011;19:499-522.
51. Şencan H. Reliability and Validity. Ankara, Seçkin Publishing, 2005.
52. Metin M. Quantitative data collection tools. In Scientific Research Methods in Education from Theory to Practice:161-214.. Ankara, Pegem Akademi, 2015.

ADDENDUM

Düşmeyi Önleme Bilgi Testi Düşmeyi Önleme Bilgi Testi, hemşirelerin düşmeyi önleme konusundaki bilgisini ölçen 11 ifadeden oluşan bir testtir. Aşağıda yer alan ifadeleri okuyarak doğru (D) veya yanlış (Y) olarak cevaplandırınız.		Doğru (D)	Yanlış (Y)
1.	Hastaya bakım veren hemşireler hastalarını tanırlar ve düşme olasılığı olan hastaları belirlemede düşme riski değerlendirme ölçeğinden daha iyidirler.		
2.	Üç aşamalı düşmeyi önleme süreci şunları içerir. 1) Düşme riskini değerlendirme, 2) Bireyselleştirilmiş düşme önleme planı 3) Düşmeyi önleme ile ilgili belgeleri tamamlama		
3.	Yakın zamanda düşme ve osteoporoz öyküsü olan 75 yaşında erkek hasta, şiddetli karın ağrısı şikâyetiyle hastaneye yatırılmıştır. Bu hastanın yaralanma riski, yaşından dolayı daha fazladır.		
4.	Hastanede yatan bireylerde düşmenin en yaygın nedenlerinden biri, düşmeyi önleme planlarına uyulmamasıdır.		
5.	Fizyolojik problemleri nedeniyle düşme riski olan hastaların düşmesi, güvenli bir çevre (banyoya giden yolun açık olması, düzenli bir oda, uygun ayakkabılar) oluşturulması ile önlenebilir.		
6.	Düşmeyi önlemede hastanın plana dahil edilmesi; hemşirenin düşme riski değerlendirme ve önleme planını tamamlaması, ardından hastaya düşmeye ilişkin kişisel risk faktörleri ve düşmeyi önleme planı hakkında bilgi vermesi anlamına gelir.		
7.	Bütün hastaneler birbirinden farklıdır, o yüzden her hastane kendi düşme riski değerlendirme formlarını geliştirmelidir.		
8.	Düşme riski değerlendirme ölçeği, bir ya da birden fazla fizyolojik sorun nedeniyle düşme olasılığı olan bireyleri tanımlar.		
9.	Hemşirelerin hastalarla düşme riskleri hakkında iletişim kurmaları, hastaların bireyselleştirilmiş düşme önleme planlarını takip etme olasılığını artırır.		
10.	Düşme riski düşük olan hastalar için düşmeyi önleme planına ihtiyaç yoktur.		
11.	Değerlendirmede düşme riski yüksek olduğu belirlenen tüm_hastaların yatak ve sandalye alarmları aktif hale getirilmelidir.		

Her madde doğru yanıta 1 puan, yanlış yanıta 0 puan şeklinde puanlanmaktadır. İdeal olarak hemşirelerin %80 ve üzerinde doğru cevaplar vermiş olması beklenir. %80 ve üzerinde doğru cevap veren hemşirelerin düşmeyi önleme konusunda iyi düzeyde bilgi sahibi olduğu kabul edilirken, bu eşiğin altında puan alan hemşirelerin bu konudaki bilgilerinin geliştirilmesi gerekir.