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Reliability and Validity Study of Rational Drug Use Scale: Methodological Study

Akılcı İlaç Kullanımı Ölçeği'nin Geçerlik ve Güvenirlik Çalışması: Metodolojik Çalışma

Şemsinnur GÖÇER[a], Gözde SIRGANCI[b], Osman GÜNAY[c]

[a]Department of Physical Therapy and Rehabilitation, Yozgat Bozok University Sarıkaya Vocational of Physical Therapy and Rehabilitation, Yozgat, Türkiye
[b]Department of Mathematics and Science Education, Yozgat Bozok University Faculty of Education, Yozgat, Türkiye
[c]Department of Public Health, Erciyes University Faculty of Medicine, Kayseri, Türkiye

ABSTRACT Objective: This study aimed to develop the Rational Drug Use Scale for the Turkish public. **Material and Methods:** The online scale surveyed 367 individuals from the general population of Turkey who completed the scale via social networks from May 1 to June 15, 2020. The construct validity was tested via exploratory factor analysis and confirmatory factor analysis based on two different samples. The factor loading of the indicator, composite reliability and the average variance extracted have to be considered to establish convergent validity. Measurement invariance testing was conducted based on gender groups. Internal consistency reliability of the Rational Drug Use Scale has been examined with Cronbach alpha and composite reliability. **Results:** The confirmatory factor analysis results showed that it had been revealed that the three-factor construct of the Rational Drug Use Scale ensures a perfectly model-data fit. The convergent validity of the scale was examined through item loadings, composite reliability, and average variance extracted values. The scale's reliability was examined with Cronbach's alpha and composite reliability. Both reliability coefficients show that the Rational Drug Use Scale is reliable at a reasonable level. **Conclusion:** It was concluded that the Rational Drug Use Scale is a valid and reliable tool for assessing attitudes towards drug use in the Turkish population.

Keywords: Rational drug use; scale; reliability; validity

ÖZET Amaç: Bu çalışma, Türk kamuoyuna yönelik Akılcı İlaç Kullanım Ölçeğini geliştirmeyi amaçlamaktadır. **Gereç ve Yöntemler:** 1 Mayıs-15 Haziran 2020 tarihleri arasında Türkiye genelinde sosyal ağlar üzerinden 367 kişiye çevrimiçi ölçek uygulandı. Yapı geçerliliği, açımlayıcı faktör analizi ve doğrulayıcı faktör analizi ile test edildi. Yakınsak geçerliliği sağlamak için göstergenin faktör yüklemesi, bileşik güvenilirlik ve çıkarılan ortalama varyans dikkate alındı. Cinsiyet gruplarına göre ölçme değişmezliği testi yapıldı. Akılcı İlaç Kullanımı Ölçeği'nin iç tutarlılık güvenirliği Cronbach alfa ve bileşik güvenirliği ile incelendi. **Bulgular:** Öz yeterlik, duyarlılık ve algılanan ciddiyet olmak üzere 3 faktörden ve 17 maddeden oluşan Akılcı İlaç Kullanımı Ölçeğinin, akılcı ilaç kullanımını ölçebildiği görülmüştür. Akılcı İlaç Kullanımı Ölçeğinin açımlayıcı faktör analizi ile ortaya konan yapı geçerliliği uygulanan doğrulayıcı faktör analizi ile test edilmiştir. Buna göre Akılcı İlaç Kullanımı Ölçeğinin 3 faktörlü yapısının mükemmel bir model-veri uyumunu sağladığı ortaya çıkmıştır. Ölçeğin yakınsak geçerliliği madde yüklemeleri, bileşik güvenirlik ve ortalama varyans değerleri ile incelenmiştir. Ölçeğin güvenirliği, Cronbach alfa ve bileşik güvenirliği ile incelenmiş- tir. Her iki güvenirlik katsayısı da Akılcı İlaç Kullanımı Ölçeğinin iyi düzeyde güvenilir olduğunu göstermektedir. **Sonuç:** Akılcı İlaç Kullanımı Ölçeğinin Türk toplumunda akılcı ilaç kullanımına yönelik tutumları değerlendirmede geçerli ve güvenilir bir araç olduğu sonucuna varılmıştır.

Anahtar Kelimeler: Akılcı ilaç kullanımı; ölçek; güvenirlik; geçerlik

The World Health Organization defines drug as "A substance or product that is used or intended to be used to modify or explore physiological systems and pathological states in the benefit of recipient".[1] The drugs are required for diagnosis and treatment of diseases and prevention against some diseases. Although treatment is surgical in some disorders, drugs are needed as supportive therapy. Given the fact that drugs also have adverse effects and comprise an important burden in healthcare expenses in addition to

Correspondence: Şemsinnur GÖÇER
Yozgat Bozok University Sarıkaya Vocational of Physical Therapy and Rehabilitation, Yozgat, Türkiye
E-mail: semsinnurgocer@gmail.com

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their preventive and therapeutic effects, drug use has become increasingly important.[2,3] Use of unnecessary, high cost drugs is associated with substantial economical burden to our country.[3]

Rational drug use is the patient's receiving the right treatment that corresponds to his clinical needs, in the dose appropriate for his individual needs, for an adequate period of time, at the lowest cost for himself or the society.[1] Rationale drug use is to determine most effective (pharmacodynamics and pharmokinetics), most reliable (toxicity, undesired effects), most suitable (individualized drug; contraindications and conditions requiring dose adjustment, hepatic failure, renal failure, pregnancy, geriatric and pediatric drug use, polypharmacy, diabetes mellitus etc.) and cost-effective drug by accurate diagnostic and therapeutic method.[4] Currently, rapid increase in the number of commercially available drugs, increased risks related to drug use, higher drug expenses and non-rationale use of drugs by enhanced autonomy of individuals are important issues to be addressed. Many factors including social, cultural and economical characteristics, administrative and regulative mechanisms, and educational factors can affect inappropriate drug use. Given these facts, it is needed to enhance levels of rational drug use by caring attention to conscious and prescribed drug use.[3,5] It has been found that the different authors developed scale for rational drug use in 2018 and 2019.[6,7] However, our study differs from other studies on scales for rational drug use is the fact that our scale is based on health belief model. According to this model, individuals' health behaviors are associated with perceiving severity of disease or condition and benefit from taking action in order to diminish threat. If the attitudes towards health behaviors, health-related intervention can be developed to alter attitudes and form desired health behaviors.[8] The model explains the association between individuals belief and behaviors and effect of individual motivation on health behaviors at level of decision-making. In addition, the model also defines what motivates to adopt or not to adopt health-related actions and conditions involved in health behaviors in particular.[9,10] A new scale development based on the model is needed. This model includes variables which influence on individual perception, factors leading alterations and anticipated behaviors. It can be suggested that the model relies on individual perception that affects individual's health behaviors. The model defines these perceptions assumed to be effective on health behaviors.[9,11] These include perceived susceptibility, perceived severity, health motivation, perceived benefit, perceived barrier and self-efficacy, which were primarily used during development process of the scale.

MATERIAL AND METHODS

STUDY DESIGN AND PARTICIPANTS

This research is a methodological research type study. This research was conducted with the 367 individuals via online Rational Drug Use Scale (RDUS) using Google Forms. Convenience sampling method was used. The study was approved by Ethics Committee of Yozgat Bozok University (date: April 15, 2020, no: 08/03). All procedures performed in the study involving human participants were in accordance with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

Two different samples were used in this study. In the first step, 243 data were collected for exploratory factor analysis (EFA). In the second step, 124 data were collected for confirmatory factor analysis (CFA). Mean age was 43.57±16.3 years in the study population. Of the subjects, 52.3% were women and 61.6% were married while 66.2% were graduate.

PROCEDURE

During the development of the RDUS, the items in the "Conscious Drug Use Behavior Form" developed by Göçer and Günay to determine the behaviors of individuals about aware in 2018 drug use were used.[5] The items of the form were revised in line with the literature on rational drug use, and then a pre-form with 23 items was written.[11-17] The pre-form was examined by 2 experts for the domain and 1 expert for the item written criteria. In the draft scale, which was finalized, there are 23 items regarding the rational use of drugs, which are thought to reflect all the dimensions that aim to determine the use of drugs, the method of use, dose, duration, storage form, and using except

doctor's advice. The items of Likert type scale are graded as "never-1", "rarely-2", "mostly-3", and "always-4". The pre-form of the RDUS was used for 5 people which are reflected the property of samples. Items were evaluated for intelligibility. Pre-form was run to 27 people. Item total correlations are over acceptable value which is around 0.20.[18]

STATISTICAL ANALYSIS

Within the scope of the validity study of the RDUS, EFA was applied to reveal the factor construct of the scale. The principal component analysis was used for factor extraction, and because dimensions of the scale were thought to be related, the oblique rotation method was preferred. Then, the accuracy of this construct was tested with CFA. Before that, the second data set was tested in terms of assumptions of CFA. CFA was performed based on the marginal maximum likelihood estimation method with the covariance matrix calculated.[19] Following recommendations of model fit indices were considered in this study: absolute fit (chi-square goodness-of-fit (χ^2), standardized root mean square residual (SRMR), parsimony-corrected fit root mean square error of approximation (RMSEA), Tucker-Lewis Index (TLI), Comparative Fit Index (CFI). The following cut-off values were used to indicate model fit: $0<\chi^2/df<3$, it shows a perfect consistency; TLI and CFI≥0.90 RMSEA and its upper 90% confidence limit ≤0.08, RMSEA's close fit $p>0.05$, and SRMR≤0.08.[20-23] To establish convergent validity, the factor loading of the indicator, composite reliability (CR) and the average variance extracted (AVE) have to be considered. Convergent validity was indicated by an item factor loading ≥0.5 and $p<0.05$, AVE≥0.5, and CR≥0.7.[24,25] The discriminant validity is evaluated by using Fornell and Larcker criterion.[25] This method compares the square root of the AVE with the correlation of latent constructs.[26] Therefore, the square root of each construct's AVE should have a greater value than the correlations with other latent constructs. Internal consistency reliability of the scale was examined by Cronbach alpha and CR. Cronbach alpha and CR is between 0.60-0.70 the scale reveals to be reliable.[26]

RESULTS

CONSTRUCT VALIDITY RESULTS OF RDUS

EFA

Previous to the application of the EFA, the data set had been tested in terms of the assumptions of the factor analysis. Univariate outliers values were examined by converting the item scores of the scale to the standard z score, and 10 observations with all standard scores outside the ±4 z score range were excluded from the data set.[18,27] Mahalanobis distances (MD) were calculated for the multivariate outliers examination and 5 observations with MD values exceeding α=0.001 and critical=49.73 at 23 degrees of freedom were removed from the data set.[18] The skewness coefficients of the items varied between 0.049 and -2.981 inside the acceptable range which is, |3| and the kurtosis coefficients between 0.043 and 8.745 inside the acceptable range which is |10|.[21,28] Since more than half of the squared MD values (57%) are less than the value of $\chi^2 p,(0,5)=22.337$, that is, it falls on or within the contour of 50%, multivariate normality assumption is provided. For multicollinearity, the binary correlations of the items were examined and no correlation value exceeding the critical value of r=0.85 has been found.[21] As a result of testing the assumptions, 15 observations were extracted from the first sample consisting of 243 data, and EFA was applied to a data set of 243 individuals consisting of 23 items. It is suggested that 200 people are sufficient for factor analysis.[21] The suitability of the data set of the RDUS for EFA was examined using Kaiser-Meyer-Olkin (KMO) and Bartlett tests. In factor analysis studies in social sciences, it is considered sufficient to have a KMO value of 0.60 and above.[21] In this study, KMO value was calculated as 0.85. When Bartlett test results are examined $\chi^2=1864.063$; df=253 ($p=0.000$), it is seen that the value is significant at the 0.01 level. Therefore, it was concluded that the correlation matrix was different from the identity matrix. According to the KMO value and Bartlett test results, it was concluded that the data matrix of the RDUS consisting of 23 items was suitable for factor analysis. The factor analysis was repeated by removing 3 items which are "*I do not use drug other than the doctor's recommendation (item 20)*", "*If I feel*

good, I stop the using drug before the specified time (item 11)" and "*I take the drug with drinks other than water (item 12)*" with a factor load value below 0.40, loaded under more than one factor and the difference between load values was less than 0.10 from the scale. Considering that there are similar items that had the same expressions on the scale and the factor loadings of those items are also high, it was found appropriate to remove these items from the scale. As a result of the repeated factor analysis, 5 dimensions with an eigenvalue above 1.00 were observed. Considering the eigenvalues of the first three factors (3.391, 2.595, 2.307) and the screen plot, it was decided that the factor number of the 20-item scale should be 3 (Figure 1).

EFA results are summarized in Table 1. The three-factor solution displays that the eigenvalues of the first three-dimension are 3.885, 3.275, and 2.896 respectively.

After oblique rotation, factor loads for three-factor model of RDUS ranged from 0.340 to 0.825. In addition, items and factors in the scale explained 50.23% of total variance >40%.[21]

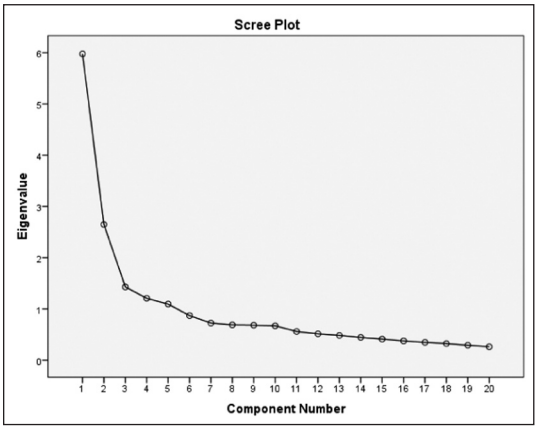

FIGURE 1: Rational Drug Use Scale scree plot.

TABLE 1: Rational Drug Use Scale, item factor load, eigenvalue explained by factor and variance.

Code	Item	Self-efficacy	Factor 2	Factor 3
I9	I use drug in accordance to mode of delivery (chewing, oral, topical etc.)	0.825		
I2	I use drug in accordance to dose recommended	0.814		
I3	I pay attention to frequency of use of drug	0.779		
I7	I pay attention to postprandial or pre-prandial use of drug	0.661		
I1	I pay attention to purpose of drug	0.648		
I4	I control expiry date of drug	0.512		
I10	I continue to use drug throughout recommended duration	0.476		
I21	I use drug given or recommended by other people		0.796	
I14	I give drug to people with similar complaints		0.756	
I13	I recommend drug to people with similar complaints		0.710	
I23	I buy drug from pharmacy on my own		0.709	
I22	I use drug on contrary to doctor's advice		0.657	
I5	I use drug beyond expiry date		0.517	
I16	I know adverse effects of drug			0.746
I19	I attend to control visit after completion of drug			0.598
I15	I obtain sufficient information about drug (doctor, pharmacist)			0.596
I6	I pay attention to storage conditions of drug			0.582
I18	I attend to doctor if I encounter a side effect			0.542
I8	I read product information before drug use			0.515
I17	I discontinue drug if I encounter a side effect			0.340
	Self-value	3.885	3.275	2.896
	Variance explained	19.43	16.34	14.48
	Total variance			50.23

As shown in Table 1, 7 items coded as I1, I2, I3, I4, I7, I9 and I10 in factor I quantify self-efficacy in rational drug use; thus, factor I was termed as "self-efficacy". The factor II includes 6 items coded as I5, I13, I14, I21, I22 and I23 which quantify sensitivity of individuals regarding drug use; thus, the factor II was termed as "sensitivity". Factor III includes 7 items coded as I6, I8, I16, I17, I18 and I19 which quantify seriousness regarding drug use process; thus, factor III was termed as "perceived severity".

In Table 1, it was found that the factor loads of items comprising self-efficacy factor ranged from 0.476 to 0.825, contributing to variance explained by 19% while factor loads of items comprising sensitivity factor ranged from 0.796 to 0.517, contributing to variance explained by 16%. Again, the factor loads of items comprising perceived severity factor ranged from 0.746 to 0.340, contributing to explained variance by 14%. When correlations among factors were assessed, it was found that self-efficacy showed a moderate, positive correlation with sensitivity (0.249; p=0.000) and perceived severity (0.586; p=0.000) and that there was a moderate, positive correlation between sensitivity and perceived severity (0.373; p=0.000).

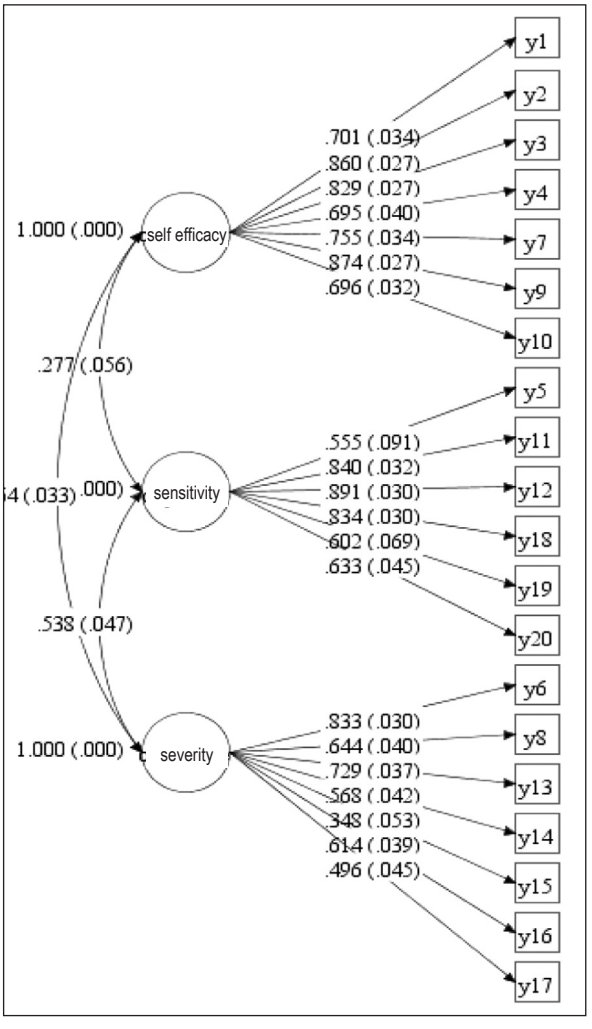

FIGURE 2: Results of Rational Drug Use Scale confirmatory factor analysis.

CFA

To test validity of 3-factors construct including 20 items of RDUS, CFA was performed on a dataset from a second sample. CFA assumptions were analyzed and 5 observations falling outside score range of ±4 z for one-tailed outlier and 2 observations with MD values exceeding α=0.001 and χ^2=45.32 values at 20 degrees of freedom in multi-tailed outlier were excluded from data set.[18,27] Univariate normality was provided since skewness coefficients for items ranged from -1.459 to 3.091 and coefficient of kurtosis ranged from -0.852 to 9.315.[21,28] Multivariate normality assumption was provided since more than half of squared MD values (89%) are less than the value of χ^2 *p*,(0,5)=31.41. Multicollinearity and singularity assumptions were also provided as binary correlations did not exceed the critical value of -r=0.85.[21] Figure 2 shows standardized factor loads from CFA. Item loads ranged from 0.69 to 0.87 for self-efficacy factor, from 0.55 to 0.89 for sensitivity factor and from 0.35 to 0.83 for perceived severity factor; item loads for all items other than item were >0.4 which is recommended as acceptable factor load.[26]

χ^2/df ratio was calculated as 261.051/167=1.56 based on goodness of fit values; the χ^2/df ratio (1.56)<3.0 indicated high goodness of fit.[21] Other goodness of fit indices include RMSEA, CFI and TLI values. For three-factor construct of scale, RMSEA, CFI and TLI were calculated as 0.73, 0.92 and 0.91. The recommended lower and upper limits of RMSEA value are 0 and 0.08, respectively.[22] While recommended range for CFI and TLI values is 0.90-1.00.[29] Thus, it was demonstrated that three-factor construct of RDUS including 20 items was highly valid.

As shown in Table 2, item-total correlations was 0.48-0.53 in self-efficacy dimension whereas

0.24-0.66 for sensitivity dimension and 0.30-0.58 in perceived severity dimension. When item-test correlations were assessed for the whole scale, it was found that the lowest correlation value was 0.24 while the highest correlation value was 0.66. Each item showed a significant, positive correlation with the scale ($p<0.001$). Total correlations for item was approximately 0.20, that is acceptable.[30] Since there was no significant increase in alpha reliability when items with the lowest correlation values were excluded from the scale, it was decided to retain these items in the scale. The coefficients obtained were validity coefficients for discriminant of all items, indicating their consistency with both factor they belonged and whole scale. For the lowest and the highest groups of 27% presented in the last column, it was seen that the differences between mean scores obtained from dimensions were statistically significant for each dimension. Thus, RDUS can discriminate groups with or without desired features.

MEASUREMENT INVARIANCE

Table 3 includes the findings of the multi-group (MG)-CFA. Sokolov stated that CFI values of measurement invariance with MG-CFA should be taken into account, and to ensure metric invariance and scaler invariance as relative goodness of fit cut-off values it should be as $\Delta CFI<-0.01$.[31] Accordingly, when Table 4 is examined, it can be observed that the scaler invariance was hold for the self-efficacy and sensitivity dimensions. On the other hand, metric invariance was hold for the severity dimension. Metric invariance assumes that the factor loadings of the across groups are equal. In this way, factor variances across groups and structural relations can be comparable. Scalar invariance assumes that both the factor loadings and the measurement intercept are invariant among the groups, and only in this way, it becomes possible to compare factor means and variances among the groups.[32,33] Consequently, it can be stated that the factor loads are equal between gender groups

TABLE 2: Item total correlations at level of dimensions and scale.

	Item	Item subscale correlation	Item total correlation	Lowest and highest groups of 27% t
I1(y1)	I pay attention to purpose of drug.	0.530	0.365	43.124**
I2(y2)	I use drug in accordance to dose recommended.	0.689	0.488	
I3(y3)	I pay attention to frequency of use of drug.	0.703	0.533	
I4(y4)	I control expiry date of drug.	0.478	0.533	
I7(y7)	I pay attention to postprandial or pre-prandial use of drug.	0.541	0.260	
I9(y9)	I use drug in accordance to mode of delivery (chewing, oral, topical etc.).	0.670	0.662	
I10(y10)	I continue to use drug throughout recommended duration	0.477	0.553	
I5(y5)	I use drug beyond expiry date.	0.245	0.483	28.553**
I13(y11)	I recommend drug to people with similar complaints.	0.610	0.507	
I14(y12)	I give drug to people with similar complaints for use.	0.665	0.515	
I16(y18)	I use drug given or recommended by other people.	0.632	0.408	
I22(y19)	I use drug on contrary to doctor's advice.	0.411	0.422	
I23(y20)	I buy drug from pharmacy on my own.	0.500	0.555	
I6(y6)	I pay attention to storage conditions of drug.	0.579	0.458	35.493**
I8(y8)	I read product information before drug use.	0.461	0.254	
I15(y13)	I obtain sufficient information about drug (doctor, pharmacist).	0.530	0.506	
I16(y14)	I know adverse effects of drug.	0.535	0.417	
I17(y15)	I discontinue drug if I encounter a side effect	0.296	0.477	
I18(y16)	I attend to doctor if I encounter a side effect.	0.490	0.271	
I19(y17)	I attend to control visit after completion of drug	0.362	0.319	

**p<0.01.

TABLE 3: Cronbach alpha, average variance and composite reliability for the scale.

	Cronbach alpha reliability	Average variance extracted	Composite reliability
Self-efficacy	0.85	0.60	0.91
Sensitivity	0.80	0.54	0.87
Perceived severity	0.75	0.39	0.81
Whole scale	0.86	0.51	0.95

TABLE 4: Multi-group-confirmatory factor analysis results.

		Model	χ^2	df	p value	Comparative Fit Index
	Self-efficacy	Configural	58.161	28	0.0007	0.943
		Metric	64.630	34	0.0012	0.942
		Scaler	73.330	40	0.0010	0.937
		Metric-configural	5.822	6	0.4434	-0.001
		Scaler-metric	8.009	6	0.2374	-0.005
Rational drug use	Sensitivity	Configural	110.331	18	0.0000	0.930
		Metric	136.764	23	0.0000	0.917
		Scaler	149.424	28	0.0000	0.907
		Metric-configural	24.358	5	0.0002	-0.013
		Scaler-metric	6.771	5	0.2382	-0.01
	Perceived severity	Configural	71.073	28	0.0000	0.884
		Metric	72.891	34	0.0001	0.895
		Scaler	84.144	40	0.0001	0.881
		Metric-configural	2.094	6	0.9108	0.011
		Scaler-metric	11.061	6	0.0865	-0.014

for the severity dimension. The factor loads and intercepts are equal between gender groups for the self-efficacy and sensitivity dimensions.

CONVERGENT VALIDITY

It is seen that item factor loads (presented in Figure 2) were above cut-off value of 0.5.[24] AVE and CR values are presented in Table 3. AVE was 0.9 for the whole scale, 0.6 for self-efficacy dimension and 0.54 for sensitivity dimension, all of which was above 0.5. In perceived severity dimension, AVE was found as 0.39. It was suggested that convergent validity is still sufficient in case of CR is over 0.6 and AVE<0.5.[26] Thus, it can be suggested that convergent validity was also provided for perceived severity dimension. In addition, it was seen that construct reliability values (CR and Cronbach alpha) for all dimensions and whole scale was above 0.7.[26] As a result, convergent validity was provided for RDUS.

RELIABILITY

As shown in Table 3, Cronbach alpha value was calculated as 0.85 for self-efficacy dimension, 0.80 for sensitivity dimension and 0.75 for perceived severity dimension. It was found as 0.86 for the whole scale. Composite reliabilities were above the threshold value (0.70) for each dimension and the whole scale.[26] When assessed together, it was seen that reliability was provided for RDUS.

With the test-retest reliability, it was aimed to determine the invariance of the RDUS in time. To calculate the test-retest reliability coefficients, the scale was administered to 10 participants twice, with an interval of 2 weeks, and the correlations between the 2 applications were calculated. Reliability coefficients calculated by the test-retest method; 0.82 for the "self-efficacy" dimension; 0.80 for the "sensitivity" dimension, and 0.86 for the severity dimension. In general, scales with a reliability co-

efficient of 0.70 and above are considered reliable.[34]

DISCUSSION

In this research, the objective was to to investigate its factor construct of RDUS. Given the 5-points Likert scale was used to rate items, EFA was performed with ordinal data for this purpose. Twenty-three items were formulated to develop the RDUS. Of these, 17 were assigned into 3 factors. Factor 1 assesses self-efficacy using 7 items which measures individual's adherence to drug use regarding mode of delivery, dose and duration among others. Factor 2 assesses sensitivity using 6 items which measures individual's behaviors regarding drug use. Factor 3 assesses perceived severity using 7 items which measures individual's responses to situations occurring during drug use. The scale construct with 3 factors was also subjected to confirmatory analysis. Based on the results from validity and reliability study including explatory and confirmatory analyses, 3 factors and 17 items in this scale were found to be capable to measure rational drug use.

LIMITATION OF STUDY

Our study has no limitations.

CONCLUSION

As a result, it has been determined that the RDUS is a valid and reliable tool for assessment of attitudes towards drug use in Turkish population. RDUS was developed for use in the population aged ≥18 years. This is a validated and reliable scale based on health belief model, which will be used to measure knowledge about rational drug use.

Source of Finance

During this study, no financial or spiritual support was received neither from any pharmaceutical company that has a direct connection with the research subject, nor from a company that provides or produces medical instruments and materials which may negatively affect the evaluation process of this study.

Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: *Şemsinnur Göçer, Gözde Sırgancı;* ***Design:*** *Şemsinnur Göçer, Gözde Sırgancı;* ***Control/Supervision:*** *Şemsinnur Göçer, Gözde Sırgancı, Osman Günay;* ***Data Collection and/or Processing:*** *Şemsinnur Göçer, Gözde Sırgancı;* ***Analysis and/or Interpretation:*** *Şemsinnur Göçer, Gözde Sırgancı, Osman Günay;* ***Literature Review:*** *Şemsinnur Göçer, Gözde Sırgancı;* ***Writing the Article:*** *Şemsinnur Göçer, Gözde Sırgancı;* ***Critical Review:*** *Şemsinnur Göçer, Gözde Sırgancı, Osman Günay;* ***References and Fundings:*** *Şemsinnur Göçer, Gözde Sırgancı.*

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