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Araştırma Makalesi/ Research Article

Turkish Validity and Reliability of the Scale for the Assessment of Pregnant Women's Knowledge, Attitude and Practices Related to Urinary Incontinence

Gebe Kadınların Üriner İnkontinans ile İlgili Bilgi, Tutum ve Davranışlarını Değerlendirme Ölçeği'nin Türkçe Geçerlik ve Güvenirliği

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ABSTRACT

Objective: This study was conducted to determine the reliability and validity of the Scale for the Assessment of Pregnant Women's Knowledge, Attitude and Practices Related to Urinary Incontinence to adapt it into Turkish.

Methods: The sample of the methodological type study consisted of 240 pregnant women. For the validity and reliability of the Scale, content and language validity, item analysis (item difficulty index and item discrimination index), independent sample t-test (whether the item discrimination index differs), scale item-total score analysis and Kuder-Richardson Coefficient were used.

Results: The Turkish adapted Scale has 18 items (knowledge-nine, attitude-five, practice-four). The Kuder-Richardson coefficient of the knowledge subscale was 0.85, the kuder-richardson coefficient of the attitude subscale was 0.79, and the kuder-richardson coefficient of the practice subscale was 0.92.

Conclusions: Five items (knowledge= item 5; attitude= items 12, 13, 15; practice= item 19) were removed from the Turkish version of the scale and it was determined that the final scale can be used to determine the knowledge, attitude and practices related to urinary incontinence in pregnant women.

Keywords: Knowledge, practice, pregnant women, attitude, urinary incontinence

ÖZ

Amaç: Bu çalışma, Gebe Kadınların Üriner İnkontinans ile İlgili Bilgi, Tutum ve Davranışlarını Değerlendirme Ölçeği'ni Türkçe'ye uyarlamak üzere geçerlik ve güvenirliğini test etmek amacıyla gerçekleştirildi.

Yöntem: Metodolojik tipteki araştırmanın örneklemini, 240 gebe kadın oluşturdu. Ölçeğin geçerlik ve güvenirliği için; kapsam ve dil geçerliği, madde analizi (madde güçlük indeksi ve madde ayırt edicilik indeksi), bağımsız örneklem t-testi (madde ayırt edicilik indeksinin farklılık gösterip göstermediği), ölçek madde toplam puan analizi ve Kuder-Richardson Katsayısı kullanıldı.

Bulgular: Türkçe'ye uyarlanan ölçek 18 maddeden (bilgi-dokuz, tutum-beş, davranış-dört) oluşmaktadır. Bilgi alt boyutunun Kuder-Richardson katsayısının 0.85, tutum alt boyutunun Kuder-Richardson katsayısının 0.79, davranış alt boyutunun Kuder-Richardson katsayısının ise 0.92 olduğu belirlendi.

Sonuç: Ölçeğin Türkçe versiyonundan 5 madde çıkarıldı (bilgi= madde 5; tutum= madde 12, 13, 15; davranış= madde 19) ve elde edilen nihai ölçeğin gebelerde üriner inkontinans ile ilgili bilgi, tutum ve uygulamaların belirlenmesinde kullanılabileceği belirlendi.

Anahtar Kelimeler: Bilgi, davranış, gebe kadınlar, tutum, üriner inkontinans

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Introduction

Urinary Incontinence (UI) is a common public health problem that affects women's lives physically, socially, psychologically, sexually and in many other ways; it may cause embarrassment and decreased self-confidence, lead to social isolation, and reduce their quality of life by creating an economic burden (Frigerio et al., 2022). The prevalence of UI, defined by the International Continence Society (ICS) as "involuntary urinary incontinence of any amount" (D'Ancona et al., 2019), is between 25% and 45% in women globally (Milsom and Gyhagen, 2019). This rate varies between 9% and 75% (mean=41.0%) during pregnancy (Moossdorff-Steinhauser et al., 2021a) and continues to affect an average of 31.0% of women in their postpartum life (Moossdorff-Steinhauser et al., 2021b). In studies conducted within our country, the prevalence of UI among women has been reported to range from 20.9% to 44.8% (Dursun et al., 2014; Terzi et al., 2013); similarly, among pregnant women, this rate has been documented to range from 21.7% to 42.4% (Balik et al., 2016; Dağdeviren et al., 2018; Demircan et al., 2016; Dinç, 2018; Kok et al., 2016).

Pregnancy and childbirth are risk factors for UI development (Gyhagen et al., 2019). UI during pregnancy is associated with anatomical, physiologic and endocrine changes (Mørkved & Bø, 2014), and other pre-existing factors, such as obesity, may increase the risk and severity (Wang et al., 2022). While there are straightforward and efficient methods for preventing and treating UI, the most effective way to manage this condition is for individuals to seek professional care (practicing). This practice is influenced by the possession of sufficient knowledge and the right attitude (Kara et al., 2018).

Understanding the level of knowledge within the target group regarding any disease or health issue (knowledge), their corresponding beliefs (attitude), and the preventive measures they embrace for self-protection (practice) is essential. These three dimensions are intricately linked, with knowledge and attitudes directly influencing practice (Rav-Marathe et al., 2016). It is necessary to use valid and reliable tools to explain or assess UI in pregnant women adequately, and increasing the effectiveness of interventions. In this respect, there is no valid and reliable scale specific to pregnant women in our country. There is a comprehensive and valid scale developed by Ribeiro et al. (2021). This study aimed to determine the suitability and usability of the aforementioned "Scale for the Assessment of Pregnant Women's Knowledge, Attitude and Practices Related to Urinary Incontinence (KAP-UI)" for the Turkish population.

Method

Type of Study

The study was conducted methodologically to assess the Turkish validity and reliability of the KAP-UI.

Location and Date of the Study

The study was conducted in the gynecology and obstetrics outpatient clinics of a training and research hospital in Şanlıurfa city center between March 1 and June 31, 2022. The reason for choosing this hospital for the study is that the highest number of births are performed throughout the province, and it is a hospital to which people from all socio-economic levels apply. According to the data obtained from the hospital, the total number of births in this hospital in 2021 was 26.714.

Population and Sample of the Study

The study population comprised pregnant women attending the Obstetrics and Gynecology Outpatient Clinics of the hospital where the research took place. Women aged 18 or above, who could be contacted and consented to participate, were included in the sample. For scale studies, it is advised that the sample size be at least 5-10 times the number of scale items (Zamanzadeh et al., 2014). The study's sample size was calculated as 230 women, ten times the number of 23 questions in the KAP-UI. However, the study was completed with 240 women, considering possible data losses.

Data Collection

The data for the study were gathered via face-to-face interviews utilizing the Personal Information Form, which was developed by the researchers based on relevant literatüre (Moossdorff-Steinhauser et al., 2021a; Sangsawang and Sangsawang, 2013; Ting and Cesar, 2020) and the KAP-UI. Each interview lasted approximately 15-20 minutes.

The Personal Information Form; consists of a total of 14 questions, including six questions about women's socio-demographic characteristics (age, educational status, employment status, income status, family type, place of residence); 6 questions about their characteristics related to pregnancy and delivery (gestational week, number of pregnancies, number of visits to health care providers for pregnancy follow-up and type of health care provider, number of deliveries, type of health care

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provider, number of deliveries, type of termination of the previous pregnancy); and two questions about their characteristics related to UI (presence of urinary incontinence, in which situations urinary incontinence is experienced).

Draft KAP-UI Scale; The Scale, which was developed by Ribeiro et al. (2021) in Brazil in the Portuguese language, includes three sub-dimensions (Knowledge-10 items; Attitude-8 items; Practice-5 items) and consists of 23 items in total. Scale The items are dichotomous Likert (1=Yes, 2=No), trichotomous Likert (1= Female, 2= Male, 3= Do not know; 1=Not at all comfortable, 2=Not comfortable, 3=Very comfortable) and open-ended.

The knowledge sub-dimension of the Scale includes knowledge about the symptoms, risk factors, severity, prevention and treatment of UI; the attitude sub-dimension includes attitudes towards coping with/seeking support for UI, prevention and treatment; and the practice sub-dimension includes statements to measure practices towards prevention and treatment of UI. The scores of the items in the Scale are different from each other in order to put more emphasis on certain aspects of knowledge, attitude and practices related to urinary incontinence. The maximum score that can be obtained from each dimension in the Scale is 100. Cut-off points were established to evaluate knowledge, attitude and practices as adequate and inadequate. Accordingly, women without UI should score above 75 on the knowledge sub-dimension, above 60 on the attitude sub-dimension, and above 50 on the practice sub-dimension. In contrast, women with UI should score 80 and above (Ribeiro et al., 2021).

Ethical Considerations

First, permission to use the Scale was obtained from the authors who developed the original form of the KAP-UI scale by contacting them via e-mail. After the permission, written permissions were obtained from the hospital where the study was conducted, the Harran University Clinic Research Ethics Committee (number HRU/21.21.07 and dated 29.11.2021) and Şanlıurfa Provincial Health Directorate. Throughout all phases of the study, adherence to the principles outlined in the Declaration of Helsinki was maintained. Prior to participation, all women were briefed on the study's objectives, methodology, and anticipated advantages, and their verbal consent was obtained.

Statistical Analysis

Statistical data analysis was conducted using the Statistical Package for the Social Sciences-PC Version (SPSS) 25.0 software package. Categorical data were presented using frequency distributions and percentages, while numerical data were summarized using measures such as mean, standard deviation, and minimum and maximum values. For the validity of the Scale, item analysis (item difficulty index and item discrimination index) and independent sample t-test (whether the item discrimination index differs or not), for the reliability of the Scale, item-total score analysis and KR-20 Coefficient were used.

Since the KAP-UI scale does not have a standardized scale structure (all Likert-structured), during the data evaluation, those who marked the correct option in the relevant scale item were distinguished as those who received points and those who marked the wrong option as those who did not receive points. Thus, All scale items were evaluated on a 2-point scale (1 point for those who correctly marked the relevant scale item; 0 points for those who marked the wrong option). Research results were interpreted by accepting $p<0.05$ as significant at a 95% confidence interval.

Implementation of the Research

Language validity and content validity

The bidirectional translation method, one of the scale translation techniques, was used for language adaptation. First, two linguists translated the KAP-UI from the original language into Turkish. Then, the translations were checked, the translations thought to best represent the original item were selected, and the Turkish form of the Scale was prepared.

The content validity of the obtained KAP-UI scale, which was conducted to evaluate item appropriateness, was ensured by evaluating the opinions of six experts. In this context, the Davis technique determined the Content Validity Index (CVI) of the scale items. The scale items, for which the necessary arrangements were made after the Davis technique, were translated into the original language and sent to the scale authors via e-mail. Their opinions on the translation were requested. Necessary arrangements were made in line with the feedback of the scale authors, and a pilot study was conducted with 30 people selected from the population but not included in the sample. With the pilot application, the comprehensibility and language appropriateness of the questions were evaluated, the incomprehensible items were revised, and the data were collected in the sample group with the Scale obtained.

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Item Validity

For the validity of the scale items, a 27% lower - 27% upper group comparison (the item difficulty and item discrimination indices). Also, an independent sample t-test (whether the item discrimination index differed) was conducted.

Reliability Study

Item total score analysis and KR-20 Coefficient were used to determine whether the Scale was error-free.

Results

Identifying characteristics of women

The mean age of the women was 29.25±5.71 years (range, 18-42). 52.5% of the women did not complete any level of education, 87.1% were not employed, and 88.8% perceived their income level as medium. In addition, 85.4% of women have a nuclear family type, 63.3% lived in the city center (Table 1).

The mean gestational week was 30.33±7.25 (range, 10-40), and the mean number of pregnancies was 3.95±2.12 (range, 1-11). The mean number of visits to the health institution for pregnancy control was 9.64±4.70 (range, 1-26), and the mean number of total births was 2.59±1.91 (range, 0-9). The place of application to the health institution for pregnancy control was mostly the state hospital (39.5%) and the Family Health Center (FHC) (38.9%). In addition, most (48.5%) of those with childbirth experience had an intervention delivery (Table 1).

While 60.5% of the women stated that they did not experience urinary incontinence, 39.5% stated that they experienced urinary incontinence. The majority of those who had urinary incontinence (38.3%) reported urinary incontinence 2-3 times a week, 61.7% reported urinary incontinence with little severity, and 56.25% reported urinary incontinence with much severity stated that they leak urine when they are stuck (Table 1).

Content validity

In accordance with the Davis technique, the scale items were reviewed by six faculty members specializing in Obstetrics and Gynecology Nursing, who were requested to assess the relevance and comprehensibility of each item. Based on the evaluations provided by the experts, it was established that the CVI of the scale items was 1.00.

Table 1. Distribution of descriptive characteristics of women (n=240)

Variable	X±SD (min- max)
Age	29.25±5.71 (18-42)
Week of pregnancy	30.33±7.25 (10-40)
Number of pregnancies	3.95±2.12 (1-11)
Number of health check-ups	9.64±4.70 (1-26)
Number of births	2.59±1.91 (0-9)
	n (%)
Education	
Illiterate	100 (41.7)
Literate	26 (10.8)
Elementary education	83 (34.6)
Secondary education	16 (6.7)
University and above	15 (6.3)
Employment	
Yes	31 (12.9)
No	209 (87.1)
Economic status	
Good	5 (2.1)
Middle	213 (88.8)
Not good	22 (9.2)
Family type	
Nuclear family	205 (85.4)
Extended family	35 (14.6)
Place of residence	
City center	152 (63.3)
County	35 (14.6)
Village	53 (22.1)
Place of health check-ups during pregnancy*	
FHC	236 (38.9)
State hospital	240 (39.5)
University hospital	3 (0.5)
Private hospital - clinic	128 (21.1)
Total	607 (100.0)
Mode of delivery for previous births*	
Vaginal	84 (27.7)
Interventive delivery	147 (48.5)
C-section	72 (23.8)
Total	303 (100.0)
Urinary incontinence	
Yes	94 (39.5)
No	146 (60.5)
Frequency of urinary incontinence	
Once a day	5 (5.3)
2-3 times a day	15 (16.0)
Four or more times a day	9 (9.6)
Once a week	19 (20.2)
2-3 times a week	36 (38.3)
Four or more times a week	1 (1.1)
Once every two weeks	8 (8.5)
Every two to three days and two to three times a day	1 (1.1)
Amount of urinary incontinence	
Little	58 (61.7)
Middle	29 (30.9)
Much	7 (7.4)
Total	94 (100.0)
Incontinence conditions*	
In times of being so stuck	81 (56.25)
Under stress	60 (41.67)
When dressing	2 (1.39)
When there is no urge to urinate	1 (0.69)
Total	144 (100.0)

**Since there are multiple responses, the number of respondents n may exceed the total number of respondents; FHC= Family Health Center.*

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Item validity

It was aimed to test the adequacy of the items in the scale in terms of measuring the participants' knowledge, attitude and practices regarding UI, and in this context, the difficulty of the items was first calculated. According to this calculation, it was determined that the difficulty index of item number 5 in the knowledge dimension and item number 19 in the practice dimension was below 0.30, while the other items were above 0.30 (Table 2).

After the item difficulty index calculations, the discrimination indices of the items in each dimension were calculated. According to this calculation, it was determined that the discrimination indices of item 5 in the knowledge dimension, items 16 and 17 in the attitude dimension, and item 19 in the practice dimension were below 0.30, while the discrimination indices of the other items were above 0.30 (Table 2).

Table 2. Item difficulty indices of the scale items

Dimension/items	Number of people scoring in the lower+upper group	Total number of participants in sub+upper group	Item difficulty index	Item evaluation
Knowledge dimension				
I-1	115	130	0.88	Very easy
I-2	96	130	0.74	Very easy
I-3	118	130	0.91	Very easy
I-4	92	130	0.71	Very easy
I-5	23	130	0.18	Difficult
I-6	122	130	0.94	Very easy
I-7	108	130	0.83	Very easy
I-8	95	130	0.73	Very easy
I-9	125	130	0.96	Very easy
I-10	94	130	0.72	Very easy
Attitude dimension				
I-11	118	130	0.908	Very easy
I-12	128	130	0.985	Very easy
I-13	128	130	0.985	Very easy
I-14	105	130	0.808	Very easy
I-15	128	130	0.985	Very easy
I-16	71	130	0.546	Easy
I-17	80	130	0.615	Easy
I-18	126	130	0.969	Very easy
Practice dimension				
I-19*	3	64	0.05	Difficult
I-20*	46	64	0.72	Very easy
I-21*	27	54	0.50	Easy
I-22*	27	54	0.50	Easy
I-23*	24	54	0.44	Middle

** The reason why the number of participants in the Lower Upper groups is different for each question is that there are conditional responses; I= Item*

In order to make a more accurate decision on item discrimination levels, it was examined whether the differences between the lower and upper groups of the items were significant or not, and an independent sample t-test was conducted for this purpose. Accordingly, it was determined that all of the items in the knowledge dimension and the differences between the lower and upper groups were statistically significant at 99% and 95% confidence levels ($p= 0.001$ and $p= 0.003$; $p<0.05$). The differences between items 12, 13, and 15 in the attitude dimension and item 19 in the practice dimension and the lower-upper groups were not statistically significant at a 95% confidence level ($p>0.05$), while the remaining items were statistically significant at 99% and 95% confidence levels ($p= 0.001$; $p= 0.045$) (Table 3).

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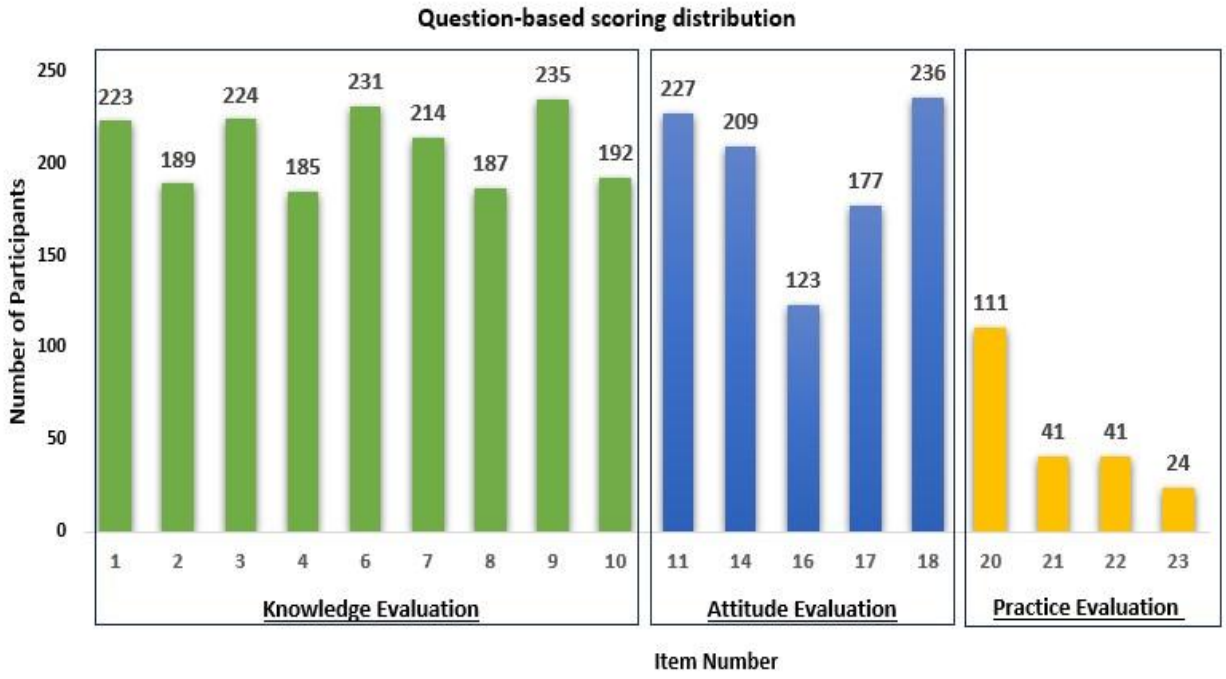

Figure 1. Distribution of women's scores in each dimensi

Reliability of the scale

Item total score analysis and the KR-20 test were used to determine the reliability of the KAP-UI scale. Accordingly, it was determined that the item averages ranged between 0.24 and 0.98, the mean overall score of the knowledge assessment dimension was 7.83±1.44, and the mean difficulty was 0.870; the mean overall score of the attitude assessment dimension was 4.05±1.01, and the mean difficulty was 0.810; the mean overall score of the practice assessment dimension was 3.48±0.91, and the mean difficulty was 0.870 (Table 4).

Shown in Figure 1, on the knowledge assessment dimension, it was determined that the item with the lowest score among the remaining items was item number 4, with 185 points out of 240 participants. In comparison, the item with the highest score was item number 9, with 235 points. The attitude assessment dimension it was determined that the item with the lowest score among the remaining items was item number 16, with 123 points out of 240 participants. In comparison, the item with the highest score was item number 18, with 236 points. In the practice, assessment dimension, it was determined that the item with the lowest score among the remaining items was item number 23, with 24 points out of 99 participants. In comparison, the item with the highest score was item number 20, with 111 points out of 141 participants.

According to the KR-20 test conducted to determine the reliability of the scale sub-dimensions, the KR-20 = 0.852 for the knowledge sub-dimension, KR-20 = 0.790 for the attitude sub-dimension, and KR-20 = 0.917 for the practice sub-dimension (Table 4).

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Table 3. Item discrimination indices and item discrimination analysis results of the scale items

Dimension /items	Number of people scoring in the upper group-lower group	Total number of participants in the subgroup	Item discrimination index	Item evaluation	t	*p*-value
Knowledge dimension						
I-1	50	65	0.77	Very good discrimination	-4.382	0.001**
I-2	31	65	0.48	Very good discrimination	-8.378	0.001**
I-3	53	65	0.82	Very good discrimination	-3.807	0.001**
I-4	28	65	0.43	Very good discrimination	-8.684	0.001**
I-5	7	65	0.11	Very bad discrimination	-2.087	0.039*
I-6	57	65	0.88	Very good discrimination	-2.997	0.003**
I-7	43	65	0.66	Very good discrimination	-5.722	0.001**
I-8	30	65	0.46	Very good discrimination	-8.641	0.001**
I-9	60	65	0.92	Very good discrimination	-2.309	0.023*
I-10	29	65	0.45	Very good discrimination	-8.913	0.001**
Attitude dimension						
I-11	53	65	0.815	Good discrimination	-3.807	0.001**
I-12	63	65	0.969	Good discrimination	-1.425	0.159
I-13	63	65	0.969	Good discrimination	-1.425	0.159
I-14	40	65	0.615	Medium discrimination	-6.325	0.001**
I-15	62	65	0.954	Good discrimination	-1.760	0.083
I-16	6	65	0.092	Very bad discrimination	-25.087	0.001**
I-17	16	65	0.246	Bad discrimination	-14.000	0.001**
I-18	61	65	0.938	Good discrimination	-2.049	0.045*
Practice dimension						
I-19	3	38	0.079	Very bad discrimination	-1.781	0.079
I-20	30	38	0.789	Very good discrimination	-11.779	0.001**
I-21	27	27	1.000	Very good discrimination	-13.212	0.001**
I-22	27	27	1.000	Very good discrimination	-14.121	0.001**
I-23	24	27	0.889	Very good discrimination	-14.422	0.001**

***p<0.01; *p<0.05; I= Item.*

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Table 4. Mean, standard deviation and variance values of scale items and dimensions

Dimension/Items (I)	*n*	$\bar{X}$	SD	Variance	Dimension overall average	Dimension average difficulty	KR-20
Knowledge dimension							
I-1	240	0.929	0,257	0.066			
I-2	240	0.788	0,410	0.168			
I-3	240	0.933	0,250	0.062			
I-4	240	0.771	0,421	0.177			
I-6	240	0.963	0,190	0.036	7.83±1.44	0.870	0.852
I-7	240	0.892	0,311	0.097			
I-8	240	0.779	0,416	0.173			
I-9	240	0.979	0,143	0.020			
I-10	240	0.800	0,401	0.161			
Attitude dimension							
I-11	240	0.946	0.227	0.051			
I-14	240	0.871	0.336	0.113			
I-16	240	0.513	0.501	0.251	4.05±1.01	0.810	0.790
I-17	240	0.738	0.441	0.194			
I-18	240	0.983	0.128	0.016			
Practice dimension							
I-20	141	0.787	0.410	0.169			
I-21	99	0.414	0.495	0.245	3.48±0.91	0.870	0.917
I-22	99	0.414	0.495	0.245			
I-23	99	0.242	0.431	0.186			

Discussion

This study determined that the KAP-UI scale was suitable for Turkish society and could be used.

The indicator of whether the items in the measurement tool adequately cover the practiceal domain to be measured is expressed as "content validity" (Pernambuco et al., 2017). According to Davis (1992) technique used to determine content validity, if the CVI value obtained is greater than 0.80, the item is considered sufficient in terms of content validity. If the CVI is less than 0.80, the item should be removed from the Scale (Polit and Beck, 2006). In this context, it was determined that the CVI of the items on the KAP-UI scale was 1.00. In this context, since the calculated values were higher than the minimum value, it was decided that there was agreement among the experts, and the draft scale was created without removing any item from the Scale. The researchers reported that the content validity of the original version of the Scale was calculated according to the Delphi Technique (Cohen Kappa Formula). Accordingly, items with a Cohen Kappa Coefficient value of 0.80 and above were included in the Scale, and the average coefficient value calculated was 0.84 (Ribeiro et al., 2021).

To assess the validity of the scale items, each dimension's items were individually analyzed (Table 2). Item analysis employed the "Simple Method" (27% lower-upper groups method) to compute both the item difficulty index and item discrimination index. This approach involves identifying the top-performing 27% upper group and the bottom-performing 27% lower group based on total respondent scores, encompassing 54% of the population (Hasançebi et al., 2020).

The item difficulty index ranges from 0 to 1. The difficulty index approaches 0, it can be interpreted that the item is difficult. As it approaches 1, it can be interpreted that the item is easy. However, when evaluating items based on the item difficulty index, 0.29 and below is difficult, 0.30-0.49 is medium difficulty, 0.50-0.69 is easy, 0.70-1 is considered very easy (Hasançebi et al., 2020). In this context, it was determined that the difficulty index of the statement numbered 5 in the knowledge assessment dimension of the KAP-UI scale was low; that is, it was a difficult item; all of the items in the attitude assessment dimension of the Scale were 0.30 and

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above, that is, there was no difficult item; and the difficulty index of the item number 19 in the practice assessment dimension was low, that is, it was a difficult item.

The discrimination index assesses an item's capacity to differentiate between individuals who possess knowledge on the subject matter and those who do not. It serves as an indicator of an item's validity, ranging from -1 to +1. As the index approaches 0, the item demonstrates minimal discrimination between lower and upper groups; conversely, as it nears 1, the item exhibits strong discrimination between these groups. However, when evaluating the item based on the item discrimination index, 0.19 and below is considered very poor-it should be removed; 0.20-0.29 should be corrected or removed from the Scale; 0.30-0.39 is quite good but can still be improved; 0.40 and above is considered very good (Sharma, 2021). In this context, it was determined that the discrimination of item 5 in the knowledge assessment dimension of the KAP-UI scale was low, which is bad; the discrimination of items 16 and 17 in the attitude assessment dimension was which is bad; and the discrimination of item 19 in the practice assessment dimension was low, which is bad. The other items in the Scale were determined to have the ability to distinguish between those who know and those who do not know.

According to the independent sample t-test conducted to more accurately determine the item discrimination levels (Table 3), it was determined that the differences between the items in the knowledge dimension and the lower and upper groups were statistically significant at 99% and 95% confidence levels ($p= 0.001$ and $p= 0.003$; $p<0.05$). This result shows that all items in the related dimension have the ability to distinguish between those who know and those who do not know. It was determined that the differences between the items in the attitude dimension and the lower-upper groups were not statistically significant at a 95% confidence level for items 12, 13, and 15 ($p>0.05$). This result shows that although the discrimination indices of the items were high, they could not make sufficient measurements in distinguishing between the lower and upper groups, that is, the participants with the lowest and highest scores. In this respect, it was decided to remove the related items from the Scale. The discrimination levels of the other items were found to be significant ($p=0.001$; $p=0.045$). It was determined that the differences between the items in the practice dimension and the lower and upper groups were not statistically significant at a 95% confidence level for item number 19 ($p>0.05$). This result shows that in addition to the low discrimination index and item difficulty index of the item, it could not make sufficient measurement in terms of distinguishing the lower and upper groups, that is, the participants with the lowest and highest scores. The discrimination levels of the remaining items were found to be significant ($p= 0.001$).

Item difficulty indices and item discrimination indices of the knowledge assessment dimension were compared, and accordingly, it was decided to remove item number 5 from the Scale since both indices were below 0.30. When the data related to the comparison of item difficulty index and item discrimination index levels of the attitude assessment dimension were analyzed, it was determined that items 16 and 17 were below 0.30 in terms of item discrimination indices, but since their item difficulty indices were above 0.30, it was determined that these items were sufficient to distinguish the lower and upper groups and the related items were not removed from the Scale. When the data related to the comparison of item difficulty index and item discrimination index levels of the practice assessment dimension were examined, it was decided to remove item 19 from the Scale since both indices were below 0.30 (Table 2 and Table 3).

The reliability of a measuring instrument refers to its ability to consistently measure the intended variable or produce error-free measurement outcomes (Pernambuco et al., 2017). Within the scope of the item total score analysis conducted to determine the reliability of the KAP-UI scale, the item averages obtained for the knowledge, attitude, and practice assessment dimensions indicate that the average difficulties of the relevant dimensions are high level (Figure 1 and Table 4). If the KR-20 coefficient used to determine the reliability of the sub-dimensions of the scale is between 0.70 and 0.90, it is stated that the scale has a sufficient level of reliability and the scale can be used safely in community surveys and in forming scientific judgments (Hemmer et al., 2021). Accordingly, it was determined that the reliability of the scale sub-dimensions was high (Knowledge KR-20=0.852; Attitude KR-20=0.790; Practice KR-20=0.917). These results show that the items in each sub-dimension are consistent with each other and determine the levels of knowledge, attitude and practice of pregnant women towards UI (Table 4).

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In addition, the scale score calculation differs from the original scale (Ribeiro et al., 2021) because 5 items (Knowledge= item 5; Attitude= items 12, 13, 15; Practice= item 19) were removed from the Turkish version of the scale (Eq. 1 and Eq 2). Accordingly, the maximum score for the knowledge dimension is 95, the maximum score for the attitude dimension is 80, the maximum score for the practice dimension is 50 for women without UI complaints and the maximum score for women with UI complaints is 100. In the knowledge dimension, a woman must score at least on items 1, 6, 7, 8 and 9 (75 points) to be considered to have adequate knowledge; a woman must score at least on item 14 in the attitude dimension (60 points) to be considered to have an appropriate attitude. In the practical dimension, women without UI complaints need to score on item 15 (50 points) to be considered practically adequate; women with UI complaints need to score on items 16 and 17 (80 points) to be considered practically adequate.

Conclusion and Recommendations

In order to prevent or properly manage UI, which is common and negative affects women's of life, it is important to assesment the knowledge, attitude and practices of women about UI during pregnancy, which is among the risk factors of UI, with appropriate assessment tools. For this purpose, 5 items (knowledge= item 5; attitude= items 12, 13, 15; behaviour= item= 19) were removed from the Turkish version of the KAP-UI scale, which we thought could be used for this purpose, and it was determined that the final scale obtained was a valid and reliable scale that could be used in our country.

Ethics Committee Approval: The study was performed after receiving written permission from the Sanliurfa Provincial Health Directorate and Harran University Clinical Research Ethics Committee (No: HRU/21.21.07, Date: 29.11.2021).
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Author Contributions: Concept: YY, ZT; Design: YY, ZT; Consulting/Supervision: YY; Data collection and/or processing: ZT; Data analysis and/or interpretation: YY, ZT; Literature search: YY, ZT; Article writing: YY, ZT; Critical review: YY, ZT; Final approval of the version to be submitted: YY, ZT.
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What did the study add to the literature?

- In this study, the Scale for Assessing Knowledge, Attitudes and Behaviors of Pregnant Women Regarding Urinary Incontinence (KAP-UI) was adapted into Turkish.
- It was determined that the KAP-UI adapted to Turkish is a valid and reliable scale that can be used in our country.

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