

Assessment of Dementia Knowledge Scale for the Nursing Profession and the General Population: Cross-Cultural Adaptation and Psychometric Validation

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Keywords

Dementia · Knowledge · Measurement instrument · Validity · Reliability

Abstract

Background: The incidence of dementia is increasing dramatically worldwide. It is important to determine knowledge about the dementia for its prevention, early diagnosis, treatment, and care. The psychometric properties of the Turkish version of the Dementia Knowledge Assessment Scale (DKAS-T) were evaluated in this study. **Methods:** The psychometric study was conducted. A total of 1592 participants were recruited between November 2019 and March 2020. The data were collected using a sociodemographic form and DKAS-T. The language and content validity, exploratory factor analysis (EFA), and confirmatory factor analysis (CFA) were used to assess the validity of the scale. The scale's reliability was obtained using Cronbach's alpha coefficient, a paired sample *t*-test, item-total score correlation, and Hotelling's *T*-squared test. **Results:** The mean age of the sample was 29.38 (± 11.50) years; 66.8% ($n = 1064$) were female, and 54.1% ($n = 861$) reported their income status as income equal to expenditure. The DKAS-T demonstrated content validity and adequate sensitivity (Kendall $W = 0.155$, $p = 0.093$).

The scale consisted of seventeen items and was unidimensional, which explained 28.705% of the variance. All the factor loadings were found to be >0.30 in factor analysis. In CFA, all of the fit indexes were >0.95 and root mean square error of approximation (RMSEA) was 0.033. A Cronbach's alpha value of 0.836 was obtained for the entire scale. It was determined that the scale has invariance according to time ($t = -1.362$, $p = 0.181$). Homogeneity of the scale was 3.26%, and there was no absence of reaction bias (Hotelling's *T*-squared = 2573.681, $p < 0.001$). **Conclusion:** The results demonstrated that the instrument is reliable and generates valid data for the Turkish sample. This scale can be used to determine knowledge about dementia and planning educational interventions in the issue.

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Introduction

Today, the increasing number of older adults worldwide means the number of people with dementia is also increasing. The number of people diagnosed worldwide with dementia was estimated to be around 47 million in 2015, and this number is expected to reach 75 million in 2030 and 132 million in 2050. Dementia is a geriatric

syndrome that causes a permanent and progressive decline in cognitive functions that impair the ability to perform daily life activities, causing disability and a loss of independence among older adults [1].

The World Health Organization (WHO) has emphasized that a lack of awareness and understanding of dementia causes stigma, which leads to barriers to dementia diagnosis, treatment, and care [2]. Given the significant burden this will place on the healthcare system, priority should be given to summarizing the evidence for dementia prevention and planning treatment [3]. Although advanced age, genetic factors, and having a family history of dementia cannot be changed, many risk factors can be modified to reduce the risk of dementia and decreased cognitive functions [4]. Despite the WHO published guidelines in 2019 to reduce the risk of cognitive decline and dementia development [5], the British social attitudes survey was showed that most individuals are unaware that the risk of developing dementia can be reduced [6]. It has also been shown that differences exist between the knowledge of people regarding dementia prevention and scientific evidence [3]. Cations, Radisic, Crotty, and Laver (2018) conducted a systematic review of studies that evaluated people's knowledge and attitudes about the prevention and treatment of dementia. Many of the studies they examined reported that people consider dementia to be a normal part of aging and that it cannot be prevented. Many of those studies also indicated that knowledge about the treatment and management of dementia is lacking [7].

For the early diagnosis and management of dementia, it is necessary to examine whether healthcare professionals, families, and society have sufficient knowledge of the symptoms. To the best of our knowledge, no previous studies have tested and reported findings of dementia knowledge obtained from reliable instrument that generates valid data Turkish measurements. In the existing literature, measurement instruments have been used to determine people's dementia knowledge. One such measurement instrument is the Dementia Knowledge Assessment Scale (DKAS), which was developed by Annear et al. (2015) [8] and revised in 2017 [9]. The DKAS is considered to be reliable instrument that generates valid data for health professionals, students, and members of the public. The Japanese and Chinese versions of the DKAS (DKAS-J and DKAS-C, respectively) have been cross-culturally validated and were found to be reliable instrument that generates valid data for healthcare providers, including nurses, physicians, social workers, physiotherapists, care assistants [10], health students, and academics [11].

However, to the best of our knowledge, the DKAS has not yet been cross-culturally validated in any other language or country except Japanese and Chinese versions. This study was therefore conducted to evaluate the validity and reliability of the DKAS in the Turkish population (DKAS-T). It is thought that the instrument will contribute to determining people's dementia knowledge and help in the planning of interventions to increase people's dementia knowledge.

Methods

Design

A cross-sectional design was used to evaluate the validity and reliability of the DKAS. This instrument was developed to assess the dementia knowledge of health professionals, students, and members of the public. The instrument was assessed for applicability to the Turkish nurses, nursing students, and the members of the public.

Setting and Sample

The study data were collected between November 2019 and March 2020. The sample population comprised nursing students, nurses who were working on adult inpatient clinics at a university hospital, and the member of the public registered at a family health center. The sample of each of these groups was nonrandom sample (convenience sampling). Different methods can be employed to determine the sample size of a study to test validity and reliability. The most commonly used method requires that the number of participants is 5–10 times the number of items in the measurement instrument [12]. The sample size should be at least 300 participants in cases where the number of items or subscales in an instrument is too few, the theoretical structure or model is complex, the distribution of data deviates from normal, or the factor loadings are low [13]. It is also stated that as the sample size increases, the percentage of error decreases. We thus aimed to obtain 300 people for each group in the study. The sample size comprised 1592 people, who represented diverse cohorts, including 291 nurses, 722 nursing students, and 579 members of the public. Individuals who were aged 18 years and over, were able to speak and understand Turkish, were literate, and agreed to participate voluntarily were included in the study. The exclusion criteria for individuals were having visual and/or hearing impairments.

Data Collection

The data were collected using a sociodemographic form and the DKAS-T. All respondents had face-to-face contact with the investigators, were provided with information about the study, and were asked to sign an informed consent before completing the scale.

Socio-Demographic Form

This form was developed by the investigators of this study, contained questions about the participants' socio-demographic information (i.e., age, gender, income, marital status, education level, previous dementia education, family member with dementia, and previous experience with dementia care) [8, 9].

Dementia Knowledge Assessment Scale

This instrument was developed by Annear et al. (2015) [8] to determine people's dementia knowledge. The original version of the DKAS comprised 27 items. The number of items was reduced to 25 based on the results of the exploratory factor analysis (EFA). Response options include a 5-point Likert-type scale, which includes the following 5 responses: false, probably false, I don't know, probably true, and true. Two points assign to an answer of "true" to a truthful (true) statement and "false" to an untrue (false) statement. One point is assigned to an answer of "probably true" to a truthful (true) statement and "probably false" to an untrue (false) statement. Zero points are given for an answer of "true" or "probably true" to an untrue (false) statement and "false" or "probably false" to a truthful (true) statement and "I don't know." The minimum score obtained from each item is 0 and the maximum score is 2. The original scale has 4 subscales: causes and characteristics, communication and behavior, care considerations, risk factors, and health promotion. The maximum total score of the DKAS is 50 points. A higher score indicates greater knowledge about dementia. The DKAS was tested in a large sample of physicians, nurses, health students, family members, professional care workers, other health-care workers, and the general population ($n = 3649$) in 2017. The subscale Cronbach's alpha coefficients of the original scale varied from 0.65 to 0.76 [8, 9].

Statistical Analyses

Descriptive data were analyzed and are reported in numbers, percentages, and mean scores. The Statistical Package for the Social Sciences version 22.0 (SPSS Inc., Chicago, IL, USA) and Analysis of Moment Structures (AMOS) version 25.0 were used for statistical evaluation of the data.

Validity

Translation of the DKAS

Permission to translate the instrument into Turkish and examine its psychometric properties was obtained from the investigator (Dr. Claire Eccleston) by email. The instrument was translated from English to Turkish by the investigators of this study. Each item of the instrument was examined in terms of linguistic accuracy, significance, and conceptual equivalence. To ensure the accuracy of the translation, the instrument was back translated by a professional bilingual translator. The investigators compared the new version of instrument translated from Turkish to English (DKAS-T) with the original version. The final version of the DKAS-T was checked by one of the original scale investigators for approval. In line with the recommendations from the investigator, items 6, 18, 19, and 25 were revised.

Content Validity

Content validity was confirmed by nine experts: three were academic nursing faculty and were experts in dementia care; one was also an expert in psychometric analysis; three were clinic nurses, two of whom were neurology nurses and one was a geriatric nurse with more than 10 years working in dementia care; and two of the experts were physicians, one was a family physician specializing in dementia care and one was a psychologist in the dementia field. The Davis technique and the Content Validity Index (CVI) calculations were used to evaluate the experts' opinions at the item (I-CVI) and scale levels (S-CVI). In the Davis technique, the opinions of the experts are rated on a 4-point Likert-type scale, ranging from 1 (it is not appropriate) to 4 (it is very appropriate). To arrive at the I-CVI for the relevant statement, the number of experts

marking the statements as "it is very appropriate" and "it is appropriate but needs minor changes" was divided by the total number of experts. S-CVI is computed as the proportion of item on an instrument that achieved a rating of "it is very appropriate" or "it is appropriate but needs minor changes" by the content experts. A CVI greater than 0.80 indicated that the content validity of the item was sufficient, and an item with a CVI less than 0.80 was eliminated [14–16]. The Kendall W analysis was conducted to test whether there is no agreement among expert opinions.

Pilot Study

The DKAS-T, created after a review by the experts, was administered to 21 participants, who were thought to have similar characteristics to those of the participants to be included in the main study. Pilot study data were not included in the study data. It is recommended that the final version of a scale be applied to a group of 20–30 people not included in the sample [13]. Each of the items in the pilot study was found to be comprehensible and with the collection of the data, the validity/reliability study was continued. Participants took approximately 10 min to complete the scale.

Construct Validity

EFA and confirmatory factor analysis (CFA) were used to measure construct validity. Whether the data were sufficient and suitable for factor analysis was determined using the Kaiser-Meyer-Olkin (KMO) coefficient and Bartlett Sphericity test. The principal component and varimax return methods were used to determine the construct validity of the scale. For CFA, data were analyzed by Pearson chi-square/degrees of freedom (χ^2/df), root mean square error of approximation (RMSEA), goodness-of-fit index (GFI), comparative fit index (CFI), and normal fit index (NFI).

Reliability

Reliability analyses of the instrument were examined based on internal consistency and invariance. Reliability was determined using test-retest (a paired sample t -test), Cronbach's alpha, item-total correlations, ceiling and floor effects, and Hotelling's T -squared test for response bias.

Ethical Considerations

Written permission was obtained from Dr. Claire Eccleston via email to adapt the original DKAS into Turkish and to examine the psychometric properties of the instrument in Turkish. Ethical approval was obtained for the study from the Dokuz Eylül University Ethics Committee (approval number: 2019/28-33, date: November 18, 2019), and written permission was received from the directorate of the family health center, a faculty of nursing, and a university hospital. The participants were informed about the purpose and design of the study, and verbal and written consent was obtained.

Results

The mean (SD) age of the sample was 29.38 (± 11.50) years; 66.8% ($n = 1064$) were female, and 54.1% ($n = 861$) reported their income status as income equal to expenditure. The results showed that 14.6% ($n = 233$) had a family member with dementia (Table 1).

Table 1. Sociodemographic profile of Turkish version of the DKAS respondents ($n = 1,592$)

Sociodemographic profile	Nursing students ($n = 722$)	Nurses ($n = 291$)	General population ($n = 579$)	Cohort ($n = 1,592$)
Gender, n (%)				
Male	219 (30.3)	35 (12.0)	274 (47.3)	528 (33.2)
Female	503 (69.7)	256 (88.0)	305 (52.7)	1064 (66.8)
Income, n (%)				
Income less than expenditure	142 (24.5)	83 (28.5)	310 (42.9)	535 (33.6)
Income equal to expenditure	318 (54.9)	169 (58.1)	374 (51.8)	861 (54.1)
Income more than expenditure	119 (20.6)	39 (13.4)	38 (5.3)	196 (12.3)
Marital status, n (%)				
Married	11 (1.5)	162 (55.7)	386 (66.7)	559 (35.1)
Single	711 (98.5)	129 (44.3)	193 (33.3)	1033 (64.9)
Previous dementia education, n (%)				
Yes	353 (48.9)	131 (45.0)	57 (9.8)	541 (33.9)
No	369 (51.1)	160 (55.0)	522 (90.2)	1051 (66.1)
Family member with dementia, n (%)				
Yes	82 (11.4)	46 (15.8)	105 (18.1)	233 (14.6)
No	640 (88.6)	245 (84.2)	474 (81.9)	1359 (85.4)
Previous experience with dementia care, n (%)				
Yes	150 (20.8)	125 (43.0)	44 (7.6)	319 (20.0)
No	572 (79.2)	166 (57.0)	535 (92.4)	1273 (80.0)
Education level, n (%)				
Literate/elementary school			105 (18.1)	105 (6.6)
High school graduate	722 (100)	17 (5.8)	165 (28.5)	904 (56.8)
University graduate		251 (86.2)	267 (46.1)	518 (32.5)
Higher university degree		23 (8.0)	42 (7.3)	65 (12.3)
Mean age and SD	20.78±1.47	32.41±8.05	38.57±12.15	29.38±11.50
Age range of respondents, years	18–32	21–62	18–76	18–76

DKAS, Dementia Knowledge Assessment Scale.

Validity Analyses

Language and Content Validity

Among the opinions of nine experts sought for language and content validity, no statistically significant differences were evident between the scores given for each item (for DKAS-T: Kendall $W = 0.155$, $p = 0.093$). For this reason, all items were retained in the instrument. The CVIs for 25 items were in the range of 0.88–1 and S-CVI was 0.98.

Structure Validity

Structural validity shows how accurately the instrument can measure an abstract phenomenon (concept, dimension, etc.) [17]. EFA and CFA were performed to investigate the construct validity of the scale.

Exploratory Factor Analysis (EFA)

The 25-item DKAS-T performed moderately well with a population of native Turkish speakers. The measure

reached 0.81 as an acceptable Cronbach's alpha (α) value [15, 17]. Principal component analysis results showed that the KMO coefficient was 0.897 and the Bartlett Sphericity test χ^2 value was 6337.993, with $p < 0.001$. Some items had low unacceptably item score correlations that were below 0.30. Six items (4, 5, 7, 9, 12, and 20) were removed from the scale during the evaluation of preliminary psychometric properties. Scale with Eigenvalues greater than 1 was determined, explaining 28.705% of the total variance. However, subsequent examination of the scree plot showed that a unidimensional scale was the optimal solution.

Confirmatory Factor Analysis (CFA)

During the CFA, two items showed low communality score (<0.30) and had to be removed from the analysis (items 1 and 3). Under-taking an analysis with the 17-item DKAS-T shows all remaining items had acceptable communality scores. CFA revealed the factor loadings for

Table 2. Mean scores and factor loading of DKAS-T (*n* = 1,592)

DKAS items* (English version)	Mean	SD	Factor 1 ^a
Alzheimer's disease is the most common form of dementia	1.27	0.81	0.411
Blood vessel disease (vascular dementia) is the most common form of dementia	0.53	0.72	0.376
Having high blood pressure increases a person's risk of developing dementia	0.72	0.81	0.479
Symptoms of depression can be mistaken for symptoms of dementia	0.82	0.80	0.406
Exercise is generally beneficial for people experiencing dementia	1.26	0.79	0.534
The sudden onset of cognitive problems is characteristic of common forms of dementia	1.11	0.82	0.569
It is impossible to communicate with a person who has advanced dementia	0.57	0.78	0.321
A person experiencing advanced dementia will not generally respond to changes in their physical environment	0.66	0.80	0.428
It is important to correct a person with dementia when they are confused	0.91	0.85	0.396
People experiencing advanced dementia often communicate through body language	0.61	0.77	0.497
Uncharacteristic behaviors in a person experiencing dementia are generally a response to unmet needs	0.81	0.79	0.567
Medications are the most effective way of treating behavioral symptoms of dementia	0.74	0.77	0.476
Movement is generally affected in the later stages of dementia	1.07	0.82	0.648
People with advanced dementia may have difficulty speaking	1.23	0.80	0.724
People experiencing dementia often have difficulty learning new skills	1.26	0.79	0.688
Difficulty eating and drinking generally occurs in the later stages of dementia	1.25	0.80	0.701
Daily care for a person with advanced dementia is effective when it focuses on providing comfort	1.34	0.78	0.646

DKAS, Dementia Knowledge Assessment Scale; CFA, confirmatory factor analysis. * Turkish version of instrument, which is unidimensional, was administered to the participants. ^aCFA.

all items in the scale. These were between 0.32 and 0.72 (Table 2). Model fit indicators were determined as follows: CFI = 0.975, GFI = 0.983, NFI = 0.962, $\chi^2/\text{degrees of freedom}$ (χ^2/df) = 2.757, $p < 0.001$, and RMSEA = 0.033.

Reliability Analyses

The total scale score of the 38 participants was 8.23 (± 3.09) for the test and 8.78 (± 3.35) for the retest. No difference was observed between the test and retest average scores ($t = -1.362$, $p = 0.181$) of the DKAS-T. A statistically significant, positive, and strong correlation was found between the test and retest scores ($r = 0.702$, $p < 0.001$).

The Cronbach's α value calculated for the DKAS-T (17 items) was 0.836. As a result of the split-half analysis, the Cronbach's α value of the first half was 0.661 and that of the second half was 0.811. The Spearman-Brown coefficient was 0.767. The Guttman split-half coefficient was 0.764.

Hotelling's T -squared test was used to determine whether the scale had a response bias. The result showed that the Hotelling's T -squared value was 2573.681, with a significance of $p < 0.001$. In this study, the floor and ceiling effect was found to be 3.26%.

Item-total correlation analysis was conducted to explain the relationship between the scores of the scale

items and the total score of the scale. The correlations of the items with the total scale score were determined to be between 0.36 and 0.67 (Table 3).

Discussion

The incidence of dementia is increasing dramatically, someone in the world develops dementia every 3 seconds [1]. Considering these frightening rates, early diagnosis and management of dementia is important. For this reason, it is necessary to examine whether healthcare professionals, families, and society have sufficient knowledge of the dementia. No measurement instrument for this had previously been developed in Turkey nor adapted into Turkish. The lack of a measurement instrument is a barrier to determining knowledge of dementia. This study translated the DKAS from English to Turkish and tested the psychometric properties of this translated version in a cohort of Turkish people, which included nurses, nursing students, and the members of the public.

Content validity is the most frequently used method for testing the validity of measurement tools [14]. In this study, the values of both I-CVI and S-CVI were found to be above 0.80. The lower limit of acceptability for a CVI is 0.80 [18], and an I-CVI of 0.78 or higher and an S-CVI of

Table 3. Correlations of the item-total score ($n = 1,592$)

DKAS items** (English version)	Item-total score correlation (r)*
Alzheimer's disease is the most common form of dementia	0.438
Blood vessel disease (vascular dementia) is the most common form of dementia	0.417
Having high blood pressure increases a person's risk of developing dementia	0.500
Symptoms of depression can be mistaken for symptoms of dementia	0.436
Exercise is generally beneficial for people experiencing dementia	0.532
The sudden onset of cognitive problems is characteristic of common forms of dementia	0.566
It is impossible to communicate with a person who has advanced dementia	0.365
A person experiencing advanced dementia will not generally respond to changes in their physical environment	0.464
It is important to correct a person with dementia when they are confused	0.432
People experiencing advanced dementia often communicate through body language	0.514
Uncharacteristic behaviors in a person experiencing dementia are generally a response to unmet needs	0.570
Medications are the most effective way of treating behavioral symptoms of dementia	0.488
Movement is generally affected in the later stages of dementia	0.618
People with advanced dementia may have difficulty speaking	0.678
People experiencing dementia often have difficulty learning new skills	0.645
Difficulty eating and drinking generally occurs in the later stages of dementia	0.657
Daily care for a person with advanced dementia is effective when it focuses on providing comfort	0.608

DKAS, Dementia Knowledge Assessment Scale. * $p < 0.001$. ** Turkish version was administered to the participants.

0.90 or higher are the minimum acceptable indexes [13]. In the DKAS-C, the CVI was 0.98, and I-CVI values ranged from 0.83 to 1 [10]. These results showed that agreement among the experts, the instrument measured the subject adequately, and the content validity was ensured.

EFA was examined using the KMO coefficient and the Bartlett Sphericity test. Existing literature emphasizes that the Bartlett Sphericity test value should be statistically significant ($p < 0.05$) and the KMO value should be at least 0.60 to perform a factor analysis [19, 20]. The sample size of the present study was adequate for factor analysis. In the first version of the DKAS, the preliminary analysis confirmed the factorability of the dataset (KMO = 0.92, Bartlett Sphericity test $p < 0.001$) [8]. The scale adapted to Turkish was found to consist of unidimensional scale and accurately measured the construct created in the original scale.

Findings of the CFA indicated that the factor loading and fit indexes were within the limits stated in the literature after two items removed due to poor factor loadings. According to the literature, fit indexes >0.90 , RMSEA values <0.08 , and $\chi^2/df <5$ confirm the factor structure of scale [19, 20]. The original DKAS had factor loads of >0.30 and four subscales [9]. Furthermore, the CFA conducted indicated the data were compatible with the model it confirmed unidimensional. Participants' homogeneity

or cultural differences between countries may be the reason for different results from the original scale. One of the investigators, who developed the scale and conducted its psychometric analysis, was consulted and approval was obtained for removing the items. For the DKAS-J, an examination of the Eigenvalues suggested that five components could be supported by the 18-item measure. In the DKAS-J, total nine items showed low communality scores and were removed from the measure. The DKAS-J is also unidimensional [11]. In the DKAS-C, the four-factor structure was not fully confirmed [10]. These findings show that the sample size is sufficient and the DKAS-T should be unidimensional like the DKAS-J. Also, it has been reported that the 18-point DKAS-J provides a balance between positive statement ($n = 11$) and negative statement ($n = 7$) of dementia [10]. There is a similar construction for the Turkish version of the scale (11 and 6, respectively). The DKAS-T covers diverse information about dementia including general characteristics, causes and symptoms, and behavior and communication with dementia people. These results showed that the structure of the DKAS-T could accurately and effectively measure the knowledge of dementia among the Turkish nursing profession and the general population.

The test-retest method is used to evaluate the stability of the scale over time [21]. The time between the two

tests should not be too short that the respondents remember the answers given in the first test. Thus, an interval of two to three weeks is recommended between the two tests. Test-retest reliability was examined using Pearson's correlation, a paired sample *t* test, and intra-class correlation coefficient (ICC) value [13, 21, 22]. The DKAS was re-administered to 38 participants two to three weeks after the first application to evaluate the test-retest reliability. The DKAS-C obtained an ICC of 0.91 [10]. The test-retest mean scores obtained from the DKAS-T were found to be similar. The DKAS-T was found to be reliable when measuring the participants' knowledge of dementia within two to three weeks.

For Likert-type scales, internal consistency is determined by calculating the Cronbach's α reliability coefficient. Cronbach's α values of the scale were found to be above the values indicated in the literature. A Cronbach's α coefficient of 0.60–0.80 indicates the tool is quite reliable, while 0.40–0.69 indicates low reliability [15, 17]. The results here are similar to the results of the original scale (0.85) [9], 0.78 for the DKAS-J [11] and 0.77 for the DKAS-C [10]. In addition, it was demonstrated that the scale items adapted to Turkish were equivalent to the original items, and they could measure similar qualities in the same way in different cultures. These results demonstrate that the DKAS-T scale was reliable at an acceptable level for the Turkish sample.

Response bias, which affects the reliability of a scale, was evaluated to test whether the participants' responses were affected by society or the presence of the researcher. The Hotelling's *T*-squared test was used to evaluate the response bias and determine whether the mean of the sample was normally distributed. In this study, there is no response bias, suggesting that the participants answered questions based on their opinions, and their responses differed from each other [16, 23]. Since these data were not included in the original and adapted versions of the scale, no comparisons could be made.

The assessment of scale homogeneity was evaluated with floor and ceiling effect analysis. A floor and ceiling effect below 20% shows that the scale is reliable [16, 23]. No floor effect or ceiling effect was determined for the whole scale. Since these data were not included in the original and adapted versions of the scale, no comparisons could be made.

Another method used to evaluate the reliability of scale is item-total score statistics. The present study determined that all items of the scale showed a high correlation with the total score. Item-total correlation coefficients should be positive and above 0.20. Item-total correlation of the scale was not done in the original study

by Annear et al. (2017) [9], not adaptation of other languages; the results of the present study could not be compared with the results of the original study [9–11]. The findings demonstrated that the DKAS-T has high internal consistency. These results revealed that the instrument was able to reliably measure nurses, nursing students, and the general populations' knowledge of dementia in Turkish sample.

Conclusion

The knowledge of dementia is of vital importance for the prevention of the disease, early diagnosis, and management. Before targeted educational interventions to health professionals and the general populations on dementia literacy, care, and support, it is extremely important to determine their knowledge about the disease with an appropriate measurement instrument. The results obtained from this study showed that the DKAS-T is a valid and reliable measurement instrument for determining the dementia knowledge of Turkish cohorts of nurses, nursing students, and the public.

A salient feature of this study is that this measurement instrument is acceptable to the Turkish setting and is the first measure of this kind that measures dementia. Hence, our study is extremely important in terms of providing findings for validity and reliability of DKAS-T in assessing knowledge regarding dementia in Turkish population.

Several limitations exist in this study. The data were collected from volunteer nurses who were working in adult inpatient clinics of a university hospital, nursing students, and members of public registered at a family health center in Turkey. The use of a non-random sampling method limits common generalizations as bias may exist. Further studies should consider this situation; thus, it is recommended that the groups be homogeneous. In addition, comparative studies between cultures can be conducted using this scale. But original structure of the DKAS was not fully confirmed in the adaptation into other languages. It is necessary to add that the number of items of DKAS scales should be taken into account in order to make appropriate comparisons.

This scale will demonstrate value for assessing dementia knowledge and developing educational interventions as the incidence of dementia increases in Turkey and across the world. Because it is practical and easy to use and the administration period is short, it is a preferable measurement tool for the evaluation of knowledge about dementia.

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Statement of Ethics

Approval to conduct the study was obtained from the Ethical Committee of the Dokuz Eylul University, Noninvasive Research Ethics Board (approval number: 2019/28-33, date: November 18, 2019). Written informed consent was obtained from the participants.

Conflict of Interest Statement

No conflict of interest has been declared by the authors.

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Data Availability Statement

All data generated or analyzed during this study are included in this article and its online suppl. material files; for all online suppl. material, see www.karger.com/doi/10.1159/000517537. Further inquiries can be directed to the corresponding author.