

The validity and Reliability of the Turkish Version of Drug Attitude Inventory-10

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ABSTRACT

Introduction: Compliance with drug treatment is an important issue in schizophrenia for which many scales have been devised. Turkish version of the Drug Attitude Inventory is frequently employed due to ease of use and high predictive value, although it is not as accurate as blood level testing. To determine the validity and reliability of the Turkish version of the Drug Attitude Inventory-10.

Methods: Eighty-two schizophrenia patients were included in the study. Subjects were evaluated using Drug Attitude Inventory-10, a Sociodemographic Data Form, Positive and Negative Symptom Scale PANNS, Social Functioning Scale, and Quality of Life Scale for schizophrenia patients.

Results: Reliability analysis revealed Cronbach's α coefficient for internal consistency to be 0.798 and item-total item correlation coefficients to be between 0.420 and 0.647. Test-retest correlation coefficient (r) was 0.809. Construct validity analysis revealed a tri-factorial construct which accounts for 62.68% of variance. Good conformity to single factor construct was found with confirmatory factor analysis.

Conclusion: Turkish version of the Drug Attitude Inventory-10 is valid and reliable for evaluation of schizophrenia patients which makes it suitable for research and clinical settings.

Keywords: Drug attitude inventory, treatment compliance, schizophrenia

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INTRODUCTION

Antipsychotic drugs have been used to treat exacerbations and to prevent relapses. The most important factor effecting the course of the disorder is known to be regular antipsychotics use (1). Continuing use of antipsychotic treatment after remission of symptoms is advocated for at least six months to a year in treatment guidelines, due to this reason (2). Despite all recommendation, compliance is a major problem in this patient group. Non-compliant patients have been shown to have 3-7 times higher rates of relapse (3). Treatment adherence problems are associated with progressive cortical deterioration, recurrent hospitalization, increase in suicide and death rates as well as higher treatment costs (4).

75% of schizophrenia patients have been reported to drop medication within the two years after their initial discharge (5). Various studies report non adherence to medication to be 4-72%. Variation between rates may result from differences in definition and evaluation of treatment compliance, differences in study group selection criteria and treatment preferences as well as differences in study design (2,4). Treatment compliance may be defined as accepting and following recommendation. Non-compliance presents itself as not using or irregular use of medication and failing to follow through with appointments (6). Non compliance to antipsychotic treatment may be due to many reasons such as severity and course of the disorder, lack of insight, polypharmacy, drug dose,

side effects, frequency of dosing, stigmatization, attitude of patient and family towards medication and poor cooperation (5,7). Even though first and second generation antipsychotics are very different in terms of side effects, second generation antipsychotics offer little over first generation in terms of rates of regular use (4).

Evaluation of adherence to treatment is possible with medication count or serum level measurements; information obtained from patients' relatives, clinical observation and questionnaires (8). Serum level measurements are rarely used, being expensive or mostly unavailable. In addition, variances in patients' rates of metabolism cause uncertain results. Drug count on the other hand, may be harmful to therapeutic alliance and is not an accurate measure of drug "ingestion," therefore not particularly reliable. Questionnaires evaluating patients' own reports are commonly employed due to ease of use and less expense (8).

Many questionnaires have been developed to evaluate patient compliance (9). "The Scale for Evaluation of Drug Therapy Non-Compliance for Patients with Psychotic Disorders" devised by Aker et al. (2000) is available in Turkey (10). Drug Attitude Inventory-10, the subject of our study differs from other questionnaires in that it inquires patients' attitudes towards drugs (11). Schizophrenia patients' attitude drug use is considered a strong indication of compliance, which increases with

positive attitude (12). Schizophrenia patients' attitudes towards drugs is shaped by awareness of symptoms, general functioning, course of disorder and side effects. While awareness of symptoms and use of new generation antipsychotics correlate with a positive attitude; symptom severity, low functioning and cognitive impairment correlate with a negative attitude (12). Drug Attitude Inventory-10 groups persons into two, compliant and non-compliant as total points are either positive or negative (11). This questionnaire is commonly used for research because of its high predictive value even though it is not as precise as blood levels (13).

AIM

To analyze validity and reliability of the Turkish version of Drug Attitude Inventory-10 by Awad et al. (1992) (11).

METHODS

Subjects

41 consecutive consenting schizophrenia patients who had been followed for at least a year at Bakırköy Community Mental Health Center and 41 consecutive consenting schizophrenia patients who had been followed for at least a year at Bakırköy Outpatient Clinic were recruited for our study. Patients between the ages of 18-65 years, who had been diagnosed with schizophrenia according to DSM-IV-TR criteria were included. The aim of the study was explained to participants and they were asked to consent orally and in writing.

Execution

Both patient groups were evaluated with Sociodemographic Data Form, Drug Attitude Inventory-10, Positive and Negative Syndrome Scale, Social Functioning Scale and Quality of Life Scale. A written consent was obtained from George Awad, the developer of Drug Attitude Inventory-10, to perform a validity and reliability study for a Turkish version through electronic mail (11). Original version was translated to Turkish by an experienced English language academic, the Turkish form was then translated back to English by another researcher. This English form was sent to the original developer to confirm that it is close enough to the original English form in meaning. Validity and reliability studies begun after confirmation. Local ethical committee approval was obtained and study was performed in accordance with Helsinki Declaration.

Statistical Analysis

Internal consistency, inter-item correlation, item-total item correlation and test-retest correlation was analyzed for reliability. Pearson Correlation Test was used for normally distributed data. Spearman Correlation Analysis was used for data without a normal distribution. Initial Exploratory Factor Analysis and subsequent Confirmatory Factor Analysis was used to test validity. Convergent validity of the inventory was evaluated by testing correlation with Positive and Negative Syndrome Scale, Social Functioning Scale and Quality of Life Scale scores. Statistical significance was $p < 0.05$ for all tests. All analysis was performed using Statistical Package for the Social Sciences version 18. Amos 18 software was used for Confirmatory Factor Analysis.

Tools

Sociodemographic Data Form: A semi structured interview form devised by the researchers to record sociodemographic data and clinical information obtained from subjects.

Positive and Negative Syndrome Scale (PANSS): Devised by Kay and et al in 1987, this semi structured interview scale has 30 items with seven severity points for each item (14). 18 of 30 items are adapted from Brief Psychiatric Rating Scale (BPRS), while 12 are adapted from Psychopathology Rating Scale. Positive Syndrome Scale has 7 items

(minimum 7, maximum 49 points), Negative Syndrome Scale has 7 items (minimum 7, maximum 49 points) and General Psychopathology scale has 16 items (minimum 16, maximum 112 points). Validity and reliability studies were done by Kostakoğlu et al. (15).

Drug Attitude Inventory-10(DAI-10): This questionnaire was devised by Awad et al. in by modifying Hogan's Drug Attitude Inventory of 30 items. Number of items were decreased to 10 from 30 items with "yes" or "no" questions. 6 of the answers are expected to be affirmative while 4 are expected to be negative to implicate drug compliance. Patients receiving total points greater than 0 are considered drug compliant (11).

Quality of Life Scale (QLS) for Schizophrenia Deficit Syndrome:

Devised by Heinrichs et al, this scale measures functionality within previous month (16). It is a semi structured form filled out by the interviewer. Evaluates intrapsychic foundations, interpersonal relations, instrumental role, common objects and activities. Validity and reliability studies of the Turkish version were performed by Soygür et al (17).

Social Functioning Scale(SFS):

Devised by Birchwood et al in 1990, this scale evaluates schizophrenia patients' performance in seven areas within previous month (18). These areas are social engagement/withdrawal, interpersonal behaviour, pro-social activities, recreation, independence-competence, independence-performance and employment/occupation. The scale has two forms for patient and patients' immediate relations. Validity and reliability studies of the Turkish version were performed by Erakay et al (19).

RESULTS

Patients' mean age in years was 38.32 ± 10.99 in our study. 65 of the subjects (79.3%) were male and 17(20.7%) were female. Some of the patients had received no formal education while some were university graduates; mean duration of education in years was 7.45 ± 4.07 . 17(20.7%) patients were married, 12(14.6%) were currently employed. Patients who were found to be drug compliant were comparable to patients who were not, in terms of age, education, sex, marital status and employment ($p > 0.05$) (Table 1).

Internal consistency

Cronbach's alpha coefficient for internal consistency of Drug Attitude Inventory-10 was 0.798. Cronbach's alpha varied between 0.770 and 0.800 when items were removed. Values obtained by removal of items are shown in Table 2.

Item -total item and inter item correlation coefficients are shown in Table 3. Items were significantly correlated with total item, with r between 0.420 and 0.647.

Test- Retest Analysis

Drug Attitude Inventory-10 was administered to 12 of the patients enrolled in the study, for a second time 3 weeks later. Initial results and retest results were analyzed using Spearman's Correlation Test; correlation ($r: 0.809$) was statistically significant to a high degree ($p < 0.01$).

Structural Validity

Exploratory Factor Analysis using Varimax Rotation were performed for all 10 items. Kaiser-Meyer-Olkin (KMO) value which is used to indicate sampling adequacy was 0.78 for our study. Bartlett Test X^2 value which is also indicates sampling adequacy by analyzing probability of high inter item correlation was 266.013 ($p < 0.01$). Exploratory Factor Analysis revealed a three factor structure with eigenvalue greater than 12. Factor 1 was a cluster of 3rd, 6th, 8th and 10th items; factor 2 was a cluster of 1st, 4th, 7th and 9th items; factor 3 was a cluster of 2nd and 5th items.

Table 1. Comparison of sociodemographic data with respect to DAI-10 scores

	n:82		DAI-10 Compliant/Non-compliant		z	p
	Greatest/smallest	Ave/ss	Ave/ss	Ave/ss		
Age:	18 - 65	38.32±10.99	38.36±10.97	35.461±1.12	-0.654	0.513
Education Years	0-15	7.45±.07	7.75±.14	5.843±.41	-1.389	0.165
		n/%	n/%	n/%	x ²	
Male:		65 / 79.3	57 / 87.7	8 / 12.3	2.955	0.09
Female:		17 / 20.7	12 / 70.6	5 / 29.4		
Married:		17 / 20.7	12 / 70.6	5 / 29.4	2.955	0.09
Unmarried:		65 / 79.3	57 / 87.7	8 / 12.3		
Employed:		12 / 14.6	12 / 100	0	2.648	0.10
Unemployed:		70 / 85.4	57 / 81.4	13 / 18.6		

Ave:Average, ss: Standard deviation, x²: Chi squared value, z: Mann-Whitney-U value

Table 2. Cronbach's Alpha Values when items are removed

	Cronbach's Alpha Values when items are removed
Item 1	0.787
Item 2	0.799
Item 3	0.771
Item 4	0.781
Item 5	0.799
Item 6	0.800
Item 7	0.770
Item 8	0.776
Item 9	0.749
Item 10	0.766

Variance of this three factor structure was 62.68%. Factor 1 was named "comment on positive effect of drugs," factor 2 was named "comment on protective effects of drugs" and factor 3 was named "comment on side effects of drugs." Table 4 shows factor loading after rotation for each factor.

Confirmatory Factor Analysis

Confirmatory factor analysis for the "three factor model" revealed a chi-squared test result which was not statistically significant (χ^2 : 43.172, $p > 0.05$), however it shows a good level of fit (χ^2/df : 1.349). Goodness of Fit Index(GFI) was 0.908, Normed Fit Index(NFI) was 0.846, Confirmatory Fit Index was 0.953 and Root Mean Square Error of Approximation (RMSEA) was 0.066. Factor loadings of confirmatory factor analysis are shown in Table 5.

Concordance Validity

To test concordance validity of DAI-10, correlation between DAI-10 and the scales used in the study (QLS, PANSS, SFS) were analyzed, taking into consideration that scores received on each scale were presumed to be affected by drug compliance. Statistically significant correlation between PANSS (r: -0.436, negative correlation, $p < 0.01$), QLS (r: 0.417, positive correlation, $p > 0.01$) and SFS (r: 0.391, positive correlation, $p < 0.01$) were found (Table 6).

DISCUSSION

Validity and reliability analysis of the Turkish version of Drug Attitude Inventory-10 was done in our study.

Sociodemographic data for drug compliant and non-compliant groups in our study were statistically similar. Sociodemographic attributes are reported to be definitive for drug compliance in literature, however there are certain publications reporting that drug compliance is not affected by sociodemographic attributes. Studies with greater sample sizes may be explicative in this respect (4, 5).

Reliability is defined as the degree to which an instrument consistently measures a construct across different samples from a main body at different times. Most frequently employed methods to determine reliability are item analysis, internal consistency and stability in time (20). The most prevalent measure of internal consistency in reliability studies is Cronbach's alpha coefficient; a value of less than 0.40 implies unreliability. Our study revealed a value of 0.798 show strong reliability. Reliability analysis of the Spanish version found a Cronbach's alpha coefficient of 0.57 (21). The same coefficient was found to be 0.71 in another study (8).

Table 3. Item -Total Item and Inter Item Correlation Coefficients

	ITE1	ITE2	ITE3	ITE4	ITE5	ITE6	ITE7	ITE8	ITE9	ITE10	ITE10 total
ITE1		203	.153	.341**	.154	.148	.312**	.283**	.557**	.226*	.420**
ITE2			237*	.158	.460**	.004	.199	.255*	.235*	.200	.633**
ITE3				254*	.177	.360**	.346**	.416**	.623**	.552**	.525**
ITE4					189	.110	.542**	.330**	.506**	.420**	.446**
ITE5						156	.300**	.101	.228*	.199	.614**
ITE6							323**	.272*	.357**	.251*	.499**
ITE7								289**	.566**	.488**	.510**
ITE8									492**	.455**	.622**
ITE9										602**	.647**
ITE10											532**

* $p < 0.05$ level significance and ** $p < 0.01$ level significance with Sperman's Correlation Analysis

Table 4. Distribution of Respective Factor Loadings After Varimax Rotation of DAI Items

	Factor 1 Comment on Positive Effects of Drugs	Factor 2 Comment on Protective Effects of Drugs	Factor 3 Comment on Side Effects of Drugs
ITE3	0.808		
ITE6	0.719		
ITE10	0.640		
ITE8	0.561		
ITE4		0.789	
ITE1		0.750	
ITE9		0.653	
ITE7		0.613	
ITE2			0.844
ITE5			0.834

Exploratory Factor Analysis

Table 5. Standardized Factor Loadings

	Item	Standardized Factor Loadings
Factor 1:		
	it10	0.739
	it8	0.599
	it6	0.423
	it3	0.736
Factor 2:		
	it1	0.558
	it7	0.620
	it4	0.557
	it9	0.948
Factor 3:		
	it2	0.705
	it5	0.652

Table 6. Correlation of DAI-10 Total Points with PANSS, QLS and SFS Scores

	PANSS Total	QLS Total	SFS Total
Item Total	r:-0.436 *	r:0.417*	r:0.391*
PANSS Total		r: -0.585*	r:-0.558*
QLS Total			r:0.812*

r: Spearman's Correlation Coefficient, *p<0.01 level significance of correlation

Highly significant correlations were found between item points and total points, evidenced by coefficients ranging from 0.402 to 0.647 ($p < 0.01$). Cronbach's alpha values were between 0.77 and 0.80 after removal of items. This signifies that each item has a differentiating contribution to total points. Test-retest analysis also entails a significant correlation ($r: 0.809$) between points received in first and second assessments, meaning that the scale gives similar results at different times.

Validity is the degree to which a scale measures what it is supposed to measure, in other words whether the scale serves its purpose (20). In our study, exploratory factor analysis was performed to determine structural validity. KMO ve Barlett tests confirmed sample adequacy and variables in the universe parameters had a multidimensional structure (22). Exploratory factor analysis revealed a three factor structure. Variance for this three dimensional structure was 62.68%. Original scale, was adapted from DAI-30 which had a seven factor structure with 30 questions. DAI-30 was reduced to 10 questions; 6 of these were expected to have

a positive and 4 were expected to have a negative answer. The Korean version of the scale had a two factor structure (23). However Nielsen et al found a three factor structure in a study with chronic patients. The results of our study is in agreement with the results of this study (13). Another study with chronic patients found a two factor structure. But the scale aimed to let the participants to express themselves more by asking if they "do not agree," "agree to some extent," "agree to a some extent," "agree to a large extent" instead of asking "yes" or "no" questions. Two factor structure accounted for 50% of the variance in this study. Item 3 and 6 did not cluster in any factor. However item 3 was kept in the scale due to the understanding that this item was relevant to insight and drug compliance (24).

In our study, the three factors formed by the clustering of 10 questions, were processed with a confirmatory factor analysis. Satisfactory indices of fit were obtained.

Concordance validity was tested by analyzing correlation between total points and PANSS, QLS, SFS scores. All of these three scales relate to drug compliance. Low DAI-10 scores correlate with severe positive symptoms, lower cognitive ability and decreased social functioning (4). High level of correlation between the DAI-10 total scores and scores of all three scales ($p < 0.01$) supports validity of DAI-10 according to our study.

Our study also demonstrates that the Turkish version of DAI-10 can differentiate patients in terms of drug compliance. But greater predictive power can be achieved by evaluating symptom severity, level of insight and level of functioning alongside DAI-10 scores (12). In addition, DAI-10 is not sufficient to appraise all attitudes towards drug use. Patients' attitudes towards physician patient relationship, types of drugs, method of drug administration, stigmatization, awareness of symptoms cannot be assessed with this scale. Physicians are required to thoroughly assess the attitudes of non-compliant patients and implement intervention. It should prove useful to bring other scales of attitudes towards drugs into Turkish besides DAI-10 (25, 26).

Limitations

Test-retest analysis was performed with a single patient group in short time. Also a greater sample size can allow appreciation of drug attitude at various phases of a disorder, under various side effects, towards various types and doses of drugs. Predictive power of the Turkish version of DAI-10 can be determined in diverse clinical settings.

Ethics Committee Approval: The study was approved by the Ethics Committee of Istanbul Bakırköy Prof. Dr. Mazhar Osman Mental Health and Neurological Disorders Education and Research Hospital.

Informed Consent: Written informed consent was obtained from the participants.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept - EA; Design - EA, ÖDB; Supervision - HY; Materials - EA; Data Collection and/ or Processing - EA; Analysis and/or Interpretation - EA, HY; Literature Search - EA, ÖDB; Writing - EA; Critical Reviews -ME.

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REFERENCES

- Lauzier S, Gregoire JP, Lesage A, Moisan J. Community pharmacy loyalty among individuals with schizophrenia. *Res Social Adm Pharm* 2013;9:806–816. [CrossRef]
- Klingberg S, Schneider S, Wittorf A, Buchkremer G, Wiedemann G. Collaboration in outpatient antipsychotic drug treatment: analysis of potentially influencing factors. *Psychiatry Res* 2008;161:225–234. [CrossRef]
- Townsend L, Jerry Floersch J, and Findling RL. Adolescent attitudes toward psychiatric medication: the utility of the drug attitude inventory. *J Child Psychol Psychiatry* 2009;50:1523–1531. [CrossRef]
- Brain C, Allerby K, Sameby B, Quinlan P, Joas E, Ulla Karilampi U, Lindström E, Eberhard J, Burns T, Waern M. Drug attitude and other predictors of medication adherence in schizophrenia: 12 months of electronic monitoring (MEMS®) in the Swedish COAST-study. *Eur Neuropsychopharmacol* 2013;23:1754–1762. [CrossRef]
- Medina E, Salvà J, Ampudia R, Maurino J, Larumbe J. Short-term clinical stability and lack of insight are associated with a negative attitude towards antipsychotic treatment at discharge in patients with schizophrenia and bipolar disorder. *Patient Prefer Adherence* 2012;6:623–629. [CrossRef]
- Üstünsoy Çobanoğlu ZS, Aket T, Çobanoğlu N. Şizofreni ve diğer psikotik bozukluğu olan hastalarda tedaviye uyum sorunları. *Düşünen Adam Derg* 2003;16:211–218.
- Çakır F, İlnem C, Yener F. Kronik psikotik hastalarda taburculuk sonrası takip ve tedaviye uyum. *Düşünen Adam Derg* 2010;23:50–59.
- Thompson K, Kulkarni J, Sergejew AA. Reliability and validity of a new Medication Adherence Rating Scale (MARS) for the psychoses. *Schizophr Res* 2000;42:241–247.
- Acosta FJ, Hernandez JL, Pereira J, Herrera J, Rodriguez CJ. Medication adherence in schizophrenia. *World J Psychiatry* 2012;2:74–82. [CrossRef]
- Aker T, Üstünsoy S, Kuğu N, Yazıcı A. Psikotik bozukluğu olan hastalarda tedaviye uyum ve ilaç tedavisine uyumsuzluğu değerlendirme ölçeği. 36. Ulusal Psikiyatri Kongresi, Antalya, 2000.
- Hogan TP, Awad AG. Subjective response to neuroleptics and outcome in schizophrenia: a re-examination comparing two measures. *Psychol Med* 1992;22:347–352.
- Rossi A, Pacifico R, Stratta P. Attitudes toward medication and the clinical variables in schizophrenia: structural equation models. *Patient Prefer Adherence* 2009;3:305–309.
- Nielsen RE, Lindström E, Nielsen J, Levander S. DAI-10 is as good as DAI-30 in schizophrenia. *Eur Neuropsychopharmacol* 2012;22:747–750. [CrossRef]
- Kay SR, Fiszbein A, Opler LA. The positive and negative syndrome scale (PANSS) for schizophrenia. *Schizophr Bull* 1987;13:261–276.
- Kostakoğlu AE, Batur S, Tiryaki A, Göğüş A. Pozitif ve Negatif Sendrom Ölçeğinin (PANSS) Türkçe uyarlamasının geçerlik ve güvenilirliği. *Türk Psikoloji Dergisi* 1999;14:23–32.
- Heinrichs DW, Hanlon TE, Carpenter WT Jr. The Quality of Life Scale: an instrument for rating the schizophrenic deficit syndrome. *Schizophr Bull* 1984;10:388–398.
- Soygür H, Aybaş M, Hınçal G, Aydemir Ç. Şizofreni hastaları için yaşam nitelikleri ölçeği: güvenilirlik ve yapısal geçerlik çalışması. *Düşünen Adam Derg* 2000;13:204–210.
- Birchwood M, Smith J, Cochrane R, Wetton S, Copestake S. The Social Functioning Scale. The development and validation of a new scale of social adjustment for use in family intervention programmes with schizophrenic patients. *Br J Psychiatry* 1990;157:853–859.
- Erakay SY. Şizofreni tanılı hastalarda Sosyal İşlevsellik Ölçeği (SİÖ) Türkçe formunun geçerlik ve güvenilirliğinin araştırılması. Basılmamış Uzmanlık Tezi. Atatürk Eğitim ve Araştırma Hastanesi Psikiyatri Kliniği, İzmir, 2001.
- Bora E, Özdemir F, Özaşkın S. Akıl hastalığına içgörüsüzlük ölçeğinin kısaltılmış Türkçe formunun geçerlik ve güvenilirliği. *Türkiye’de Psikiyatri* 2006;8:74–80.
- García RR, Alvarado VS, Agraz FP, Barreto FR. Assessment of drug attitudes in patients with schizophrenia: psychometric properties of the DAI Spanish version. *Actas Esp Psiquiatr* 2004;32:138–142.
- Emiroğlu B, Karadayı G, Aydemir Ö, Üçok A. Şizofreni hastalarında işlevsel iyileşme ölçeğinin Türkçe versiyonunun geçerlik ve güvenilirlik çalışması. *Nöropsikiyatri Arşivi* 2009;46:15–24.
- Yoon BH, Bahk WM, Lee KU, Hong CH, Ahn JK, and Kim MK. Psychometric properties of Korean Version of Drug Attitude Inventory (KDAI-10). *Korean J Psychopharmacol* 2005;16:480–487.
- Sigrid S, Karin P, René N, Eva T, Sten L. A modified Drug Attitude Inventory used in long-term patients in sheltered housing. *Eur Neuropsychopharmacol* 2013;23:1296–1299. [CrossRef]
- Cuevas CDI, Sanz EJ. Attitudes toward psychiatric drug treatment: the experience of being treated. *Eur J Clin Pharmacol* 2007;63:1063–1067. [CrossRef]
- Kampman O, Lehtinen K, Lassila V, Leinonen E, Poutanen O, Koivisto A. Attitudes towards neuroleptic treatment: reliability and validity of the attitudes towards neuroleptic treatment (ANT) questionnaire. *Schizophr Res* 2000;45:223–234.