Severity of Alcohol Dependence Questionnaire: Validity and Reliability of the Turkish Version

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SUMMARY

Objective: The aim of the study was to determine the validity and reliability of the Turkish version of Severity of Alcohol Dependence Questionnaire (SADQ) by evaluating people with alcohol use disorder.

Method: The present study was conducted with an adult sample of 200 participants with alcohol use disorder according to DSM-5 (Diagnostic and Statistical Manual of Mental Disorders). These volunteers applied to Ege University Institute on Drug Abuse, Toxicology and Pharmaceutical Science. Regarding validity analysis, item-total score correlation coefficients and principal component analysis were calculated. The scale was compared with the Michigan Alcoholism Screening Test (MAST) analysis was performed with an internal consistency reliability and test-retest reliability.

Results: Considering the internal consistency reliability of scale, Cronbach's Alpha Reliability Coefficient was found to be α=0.914. The Item and Total Score Correlation Coefficients of the scale items were found between 0.309 and 0.730 ($p < 0.01$). The mean test-retest scores of the scale and its sub-dimensions were calculated with t-test for dependent groups. The difference was not statistically significant. The Test-retest correlation coefficient of the scale was found to be 0.855 ($p < 0.01$). Exploratory factor analysis explained 70.5% of the total variance and four sub-dimensions were identified. Factor loadings of these sub-dimensions were estimated between 0.49-0.91. The correlation between SADQ and MAST was statistically significant ($r = 0.557$, $p < 0.01$).

Conclusion: The results of this study suggest that the Turkish version of the SADQ with four sub-dimensions is a reliable and valid instrument for determining alcohol severity dependence.

Keywords: alcohol use disorder, reliability, severity of alcohol dependence questionnaire, validity

INTRODUCTION

Alcohol is the most commonly abused substance worldwide (Uzbay 2009). Excessive alcohol consumption has been documented to lead to the development of many chronic health conditions such as cancer and cardiovascular disorders. Interestingly, it has been regarded as the fifth most important risk factor for premature death worldwide (Rehm et al. 2009, Lim et al. 2010). Alcohol use disorder has been defined as a chronic disorder characterized by excessive and repeated alcohol intake, though this pattern of use may lead to problems in an individual's health or end up with socially adverse consequences. To meet the criteria, the individual must also feel the need to consume alcohol where he/she might not be able to control their limit of intake (Keller et al. 1982, Rehm et al. 2009). Due to its high prevalence and relation to all abovementioned negative consequences, alcohol use disorder needs to be efficiently managed within health services (Mann et al. 2017).

It is of utter importance to correctly define alcohol dependence as well as identification of risk groups. Early diagnosis and intervention within this field shall obviously contribute to the decreasing problems, the individual, and what

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the whole society might encounter (Flemming et al. 1997). Practical and valid, self-report screening instruments to early-identify alcohol misuse have been made available over the years (Sharpe 2001). These assessment tests could be beneficially used both in community outlets for screening and also in psychiatry clinics. Among these instruments, CAGE, Alcohol Use Disorder Identification Test (AUDIT), and the Michigan Alcoholism Screening Test are standardized tools that have been readily and frequently used in our country (Deveci 2012). These instruments have been used efficiently to screen for and diagnose alcohol use disorder. However, different instruments are required to access detailed and accurate information on the severity of dependence, which is a very important context within the treatment process. As a result of screening with the use of aforementioned scales, utilizing a different instrument to determine severity of dependency within individuals with problems is certainly important. In addition, assessing the severity of the disorder would also positively contribute to create an assumption over prognosis, evaluation of treatment results, and planning the intensity of possible treatment options (Sharpe 2001).

There has been no practical assessment tool used for the specific evaluation of the severity of alcohol dependency in our country. Therefore, we have aimed to study the psychometric properties of The Severity of Alcohol Dependence Questionnaire (SADQ; Stockwell et al. 1983) to be used in the Turkish population. SADQ is an instrument that was developed to determine the severity of alcohol use disorder in a selected population with problematic drinking behavior in which they are seeking help. Differing from rest of the instruments used to evaluate alcohol-related conditions, this tool mainly focuses on the quantitative and measurable dimensions of alcohol dependence (such as symptoms of abstinence) and does not consider the presence of legal and social problems related to alcohol among factors that determine the severity of dependence (Stockwell et al. 1983). Due to its construct, SADQ is an appropriate tool for independent rating of the clinician (other than the classification as such "present" and "absent") as well as being an instrument that comprises main features of alcohol dependence (Stockwell et al. 1979). This instrument has been widely used in recent clinical studies of alcohol use disorders (Novais et al. 2016, Palaniappan et al. 2016, Szabo et al. 2014).

The aim of the study was to translate SADQ into Turkish, study the reliability and validity of this version, and provide discussion on its clinical use.

METHOD

Sample

Individuals that applied to the Ege University Institute on Drug Abuse, Toxicology and Pharmaceutical Science, and Addiction Treatment Unit of the Department of Psychiatry at Ege University between dates April 2014 to April 2015 for alcohol use and related problems were included in the study. The study groups were evaluated by a consulting psychiatrist that was specifically trained for the assessment and treatment of addiction. All 200 individuals that volunteered to participate and had been diagnosed as Alcohol Use Disorder by using DSM-5 diagnostic criteria were included in the study group.

Among participants, 89.5% (n=179) were male and 10.5% (n=21) were female. Age of participants ranged between 23 - 70 years old with a mean age of 44.5 ± 11.7.

When cases diagnosed as alcohol use disorder, according to the DSM-5 criteria, were assessed by their patterns of alcohol and substance use, it was observed that 75% of participants (n= 150) used alcohol "daily" and the most common type of alcoholic beverage consumed was beer, with a rate of 47.5% (n=95). The mean quantity of standard drinks consumed weekly was 99.7 ± 48.9. The mean age of the initial alcohol use was 17 ± 2.9 and the age of onset of the regular alcohol use was 26.5 ± 6.8. In addition to alcohol use, 88% of participants also reported cigarette use. Moreover, 35.5% (n = 71) of the group stated that they had experienced illegal drug use, which did not meet the criteria for substance use disorder.

Instruments

Severity of Alcohol Dependence Questionnaire (SADQ)

SADQ is a scale that was developed by Stockwell et al. (1983) to determine the extent of addiction among individuals that had been diagnosed with alcohol dependency. The scale consists of 20 self-administered items, which respondents would focus on the recent period of heavy drinking. This scale that evaluated alcohol dependence under 5 subdomains consisted of 4 questions for each subdomain. Subscales of SADQ include physical withdrawal signs, affective withdrawal signs, withdrawal relief drinking, quantity and frequency of alcohol consumption, and the rapidity of reinstatement of withdrawal symptoms following a period of abstinence. Each item on the scale was evaluated within a 4-point Likert scale ("almost never", "sometimes", "often", and "nearly always") and responses are recorded in numeric values as 0, 1, 2, and 3, respectively. Scores obtained from the scale range between 0-60. Scores under 16 generally indicate mild dependence, while scores within 16-30 indicate "moderate", and scores equal to and above 31 indicate "severe" alcohol dependence (Stockwell et al. 1994).

Michigan Alcoholism Screening Test (MAST)

The MAST was developed by Gibbs, in order to determine whether an individual problem with alcohol use and to measure level of addiction. It has become a widely used self-report

questionnaire within the addiction field since it was developed (Gibbs 1983). It distinguishes the individuals with or without alcohol dependence in the best way with 25 questions about alcohol related losses, drinking problem, and help-seeking behavior. The Turkish validity and reliability study was conducted by Coşkunol et al. (1995) and has been reported to highly discriminate individuals with or without alcohol dependence when cut-off values are set between 5-9.

Sociodemographic Form

This form was developed by researchers to evaluate characteristics of participants such as gender, age, marital status, education, and employment status. The form also includes questions about the patterns of alcohol and substance use.

Procedure

Prior to initiating the study, the researchers that developed the questionnaire were contacted via electronic mail and permission to use the form was obtained. The translation process was independently carried out by an independent psychiatrist and two independent psychologists with advanced degree in English. The translated material was initially applied to 20 volunteers diagnosed with alcohol use disorder and, upon corrections and redactions over conflicted areas, the questionnaire was once again translated into English by the same team and compared to the original form. The re-translated questionnaire was sent to the developer of the instrument and feedback was collected in order to prevent internal bias. Following these phases, a 20-item Turkish form was composed. Ethical approval was obtained from Local Ethics Committee of Ege University prior to the start of the study.

The final form of the instrument was applied to participants along with consent form, sociodemographic form, and MAST. The SADQ was reapplied to 37 participants in 2-week intervals by the same researcher.

Statistical Analysis

For statistical analysis, the Statistical Package of Social Sciences (SPSS, v 21.0) was used and the significance level was set at a p-value of less than 0.05.

The Cronbach alpha coefficient was used for internal consistency in the reliability analyses of the questionnaire. Item analysis was conducted as well as the Item-Total Correlations and Cronbach's alpha if the item(s) deleted were calculated. A Pearson correlation coefficient was used to assess test-retest reliability, which also included sub-dimensions.

To test whether the SADQ Turkish form would be fit for factor analysis, the Bartlett's sphericity test and the Kaiser-Meyer-Olkin (KMO) sample fit measures were used. Factor analysis was conducted by Principal Component Analysis and Varimax Rotation techniques. Factors with eigenvalues equal to 1 and above were included and factors with loads above 0.3 were considered significant. As for concurrent validity, comparison of SADQ and MAST were made using the Pearson moment correlation coefficient and Student t-test.

RESULTS

Reliability Analyses

In this study, reliability measurements including internal consistency, item analysis, and test-retest analyses were conducted. The Cronbach alpha value was calculated to determine the internal consistency coefficient. Through this method, the Cronbach alpha of SADQ was found to be 0.914.

To measure internal consistency, item analysis and item-total correlation was used. Item-total correlation scores of the questionnaire was determined to vary between 0.309 (SADQ 13) and 0.730 (SADQ 11) ($p < 0.01$). The Item-total correlations and Cronbach's Alpha (if the item(s) were deleted) are shown in Table 1.

Pearson correlation coefficient was used to measure test-retest reliability of the questionnaire. Test-retest correlation coefficient was calculated as 0.855 in our study ($p < 0.01$). For

Table 1. Severity of Alcohol Dependence Questionnaire Item-Total Analysis

Items	Item-Total Correlation	Cronbach's Alpha if Item Deleted
SADQ 1	0.535	0.911
SADQ 2	0.540	0.911
SADQ 3	0.563	0.910
SADQ 4	0.586	0.910
SADQ 5	0.426	0.914
SADQ 6	0.434	0.913
SADQ 7	0.546	0.911
SADQ 8	0.547	0.911
SADQ 9	0.647	0.908
SADQ 10	0.700	0.907
SADQ 11	0.730	0.906
SADQ 12	0.684	0.907
SADQ 13	0.309	0.915
SADQ 14	0.406	0.914
SADQ 15	0.543	0.911
SADQ 16	0.543	0.911
SADQ 17	0.593	0.910
SADQ 18	0.605	0.910
SADQ 19	0.650	0.909
SADQ 20	0.709	0.907

SADQ: Severity of Alcohol Dependence Questionnaire

Table 2. Severity of Alcohol Dependence Questionnaire and Comparisons of Test-retest means and Correlations of Sub dimensions

Severity of Alcohol Dependence Questionnaire and Sub dimensions	Test (n=37) M ± SD	Retest (n=37) M± SD				
			r	p	t	p
Severity of Alcohol Dependence Questionnaire	25.8 ± 9.4	25.7 ± 9.9	0.86	0.0	0.19	0.85
Physical Withdrawal Signs	50.7 ± 20.4	5.9 ± 2.5	0.75	0.0	0.57	0.57
Affective Withdrawal Signs	3.2 ± 2.5	3.2 ±1.8	0.79	0.0	0.107	0.92
Withdrawal Relief Drinking	4.3 ± 3.2	4.2 ± 3.0	0.86	0.0	-0.40	0.70
Quantity and Frequency of Alcohol Consumption	5.9 ± 2.2	6.2 ± 2.1	0.58	0.0	1.1	0.28
Rapidity of Reinstatement of Withdrawal Symptoms	6.6 ± 2.2	6.3 ± 2.0	0.72	0.0	-1.0	0.30

Table 3. Eigenvalues, Percentage of Variance and Cumulative Variance of Factors of Severity of Alcohol Dependence Questionnaire

Factor	Total	Percentage of Variance	Percentage of Cumulative Variance
1	4,426	22.1	22.1
2	4,283	21.4	43.6
3	3,026	15.1	58.7
4	2,359	11.8	70.5

Table 4. Factor Loadings

	Physical Withdrawal Signs	Withdrawal Relief Drinking	Affective Withdrawal Signs	Quantity and Frequency of Alcohol Consumption
SADQ1	0.818	0.045	0.118	0.089
SADQ2	0.737	0.135	0.114	0.085
SADQ3	0.724	0.123	0.183	0.122
SADQ4	0.776	0.118	0.137	0.149
SADQ5	0.080	0.090	0.857	0.069
SADQ6	0.185	0.076	0.783	0.007
SADQ7	0.229	0.157	0.748	0.157
SADQ8	0.158	0.209	0.842	0.064
SADQ9	0.111	0.912	0.111	0.114
SADQ10	0.188	0.912	0.119	0.116
SADQ11	0.223	0.818	0.247	0.127
SADQ12	0.179	0.906	0.109	0.109
SADQ13	0.120	0.034	-0.062	0.840
SADQ14	0.127	0.101	0.057	0.905
SADQ15	0.133	0.306	0.308	0.633
SADQ16	0.207	0.369	0.204	0.494
SADQ17	0.794	0.222	0.034	0.097
SADQ18	0.735	0.255	0.103	0.086
SADQ19	0.669	0.289	0.264	0.067
SADQ20	0.361	0.748	0.081	0.169

every item, the correlations among the administration were calculated and the results were found to be statistically significant. Test-retest correlation coefficients of items were found between 0.446 (SADQ 20) and 0.866 (SADQ 11). In addition, the relationship between the scores of the questionnaire sub-dimensions obtained from the initial and second administration was measured via Pearson Correlation Analysis. It was observed that coefficients varied between r = 0.86 and r = 0.58 within a positive direction and the results were statistically significant (Table 2).

Validity Analyses

Exploratory Factor Analysis was used to assess construct validity of the questionnaire. To decide on whether data were suited for factor analysis or not, a Kaiser-Meyer-Olkin (KMO) test for sampling adequacy was used. The KMO value was 0.855, while the Barlett sphericity test chi-square value was 2979.75 df(190) (p = 0.0). To evaluate the factor structure of the questionnaire, the principal component analysis and Varimax rotation method were used. As a result of the exploratory factor analysis, 4 dimensions were obtained with eigenvalues above 1 that explained 70.5% of total variance (Table 3). Distribution of the factor loads of dimensions as a result of principal component analysis is summarized in Table 4.

It was observed that the SADQ scores of our participants with alcohol use disorder showed a moderately significant correlation with their MAST scores (r = 0.557, p < 0.001).

DISCUSSION

In this study, we aimed to provide a Turkish version of the SADQ, which contributes to treatment and the research by measuring the severity of existing alcohol dependence.

The Turkish validity and reliability study of SADQ was carried out with the participation of 200 individuals with alcohol use disorder. Choosing samples in the validity and reliability studies to maintain better statistical power and quality has been recommended to determine a number that would equal at least five times or if possible ten times of the number of items (Tavşancıl 2002, Csikszentmihalyi & Larson 2014). As our questionnaire contained 20 items and 200 individuals were included in the study to achieve required sample size.

A reliable questionnaire specifically measures its intent in a consistent manner (Peter 1979). The internal consistency coefficient is a widely used technique to determine reliability of the instruments. Commonly used methods to calculate internal consistency have been identified as the Alpha Coefficient (Cronbach Alpha), Kuder-Richardson 20 (KR-20), Kuder-Richardson 21 (KR-21) formulae and split-half methods (Osburn 2000). However, the split-half might cause random

errors if the questionnaire measures different behaviors and emotions. The KR-20 and KR-21 formula are techniques that are used when the instrument is single- dimensional (Baydur& Eser 2006). Since SADQ was a multi-dimensional scale, the Cronbach alpha reliability coefficient was used to determine internal consistency.

If the Cronbach Alpha Reliability Coefficient values were $0.00 \leq \alpha < 0.40$, that would indicate a less reliable instrument, while values within $0.40 \leq \alpha < 0.60$ would indicate low reliability; $0.60 \leq \alpha < 0.80$ would indicate fair reliability; and $0.80 \leq \alpha < 1.00$ would indicate high reliability. As a result of our study, we have found that the Cronbach alpha of the questionnaire was 0.914. With this value obtained, we might safely say that items of the scale were able to measure the same construct in an equal and similar fashion based on the relationship to each other.

Previous studies have also indicated that SADQ was a highly reliable instrument that was widely used to determine severity of dependence (Stockwell et al. 1983, Stockwell et al. 1994, Drummond et al. 2000). Min et al. (2008) similarly found high Cronbach alpha (0.86) in their South Korean sample.

Item analysis is another technique used for calculating internal consistency. Using this technique, each item was assessed by its consistency within the test. In order to state that all items within the test were consistent, correlation values of at least 0.20 would be required for each item (Ebrinc 2000). When item-total correlations were analyzed in our study, it was observed that item-total correlations varied between 0.309 (SADQ 13) and 0.730 (SADQ 11) ($p < 0.01$). Due to higher rates of weekly standard drinks consumed in our sample, the 13th item of SADQ was frequently answered as "nearly always". This has caused a discrepancy in coherence of the rest of the questionnaire items with relation to each other. It might be possible to get more and detailed information on this item, through conducting future studies in samples with lower quantities of alcohol consumption. However, there is an acceptable level of correlations for all items in general, and we have reached the conclusion that there is no need to correct the item correlations.

In order to be able to state that an instrument is reliable, it is necessary to see that it gives similar results after a certain period of time within the same individuals (LoBiondo-Wood & Haber 2010, Köroğlu 2009). To test this, the questionnaire was applied to 37 participants twice in a span of 15 days and Pearson correlation coefficients were compared. The test-retest correlation coefficient in our study was 0.855 ($p<0.01$). The test-retest correlation coefficient that was obtained through the application of the original version 2-weeks apart in 42 patients was found as 0.85 ($p<0.01$), as part of the initial study where the questionnaire was initially developed (Stockwell et al. 1983). This value indicates that similar results could be obtained when the test was reapplied. Since we obtained similar results with the original study, this suggest that the questionnaire remained unchanged within the scope of time.

As a result, internal consistency analysis, item-total correlations, and test-retest values support our hypothesis that the Turkish version of the SADQ may be a useful and reliable tool in our country.

A validity of an instrument indicates its ability to accurately measure a designated outcome (O'leary-Kelly & Vokurka 1998). Within the direction of this aim, the values obtained were standardized against another instrument that gives a similar outcome (Streiner et al. 2014). To our knowledge, there has been no standardized scale developed to specifically assess the severity of alcohol dependence in our country. The MAST, which analyzes alcohol dependence and relevant issues multi-dimensionally, was chosen as the instrument of comparison. The correlation between MAST and SADQ total scores was moderately significant. The main reason for the discrepancy may stem from MAST evaluation of alcohol use disorder in the perspective of problems associated with alcohol consumption, whereas SADQ mainly focused on abstinence symptoms.

Factor analysis is one method commonly used for the analysis of the relationship between multi-variables and constructed test validity (Izquierdo et al. 2014). In order to assess whether the questionnaire in our study showed a similar construct to its original version, the Confirmatory Factor Analysis (CFA) was conducted. However, the result of CFA values were not within expected ranges. The Exploratory Factor Analysis was performed to obtain a new factor construct, which was based on our hypothesis that the scale might comprise a different factor construct through its use in our country.

Principal component analysis and Varimax rotation were chosen to be used for factor analysis performed in order to determine factors of SADQ. With KMO values found to be 0.855 ($p<0.0$), we might state that the data was congruent for factor analysis (Bartlett's chi- square=2,979.75, p=0.0). Using principal component analysis, factors with eigenvalues above 1 were considered significant. Different from the original version of the questionnaire, we obtained 4 factors in our study and, with this construct, 70.5% of total variance was explained.

The rapidity of reinstatement of withdrawal symptoms following a period of abstinence sub-dimension was identified as the last sub-dimension (5th sub-dimension) (SADQ 17, 18, 19, and 20), which could not be maintained in our study through factor analysis. SADQ 17, 18, and 19 were placed within the first sub-dimension (physical withdrawal signs), while SADQ 20 was placed within the third dimension (withdrawal relief drinking). When the questions were evaluated in detail, we interpreted the distribution was quite

logical. SADQ 17, 18, and 19 items defined the same withdrawal symptoms with SADQ 1, 2, and 3 (tremor in hands, sweating, shaking of the whole body). This caused the participants to respond in similar fashion. Therefore, the items intersected, and the load was on the same factor. Similarly, item 20 and item 9 of SADQ measured the same construct (fear) and caused the items to be placed under the same factor. In the Irish validity and reliability study of the questionnaire conducted with 102 participants, it was stated that the 4-factor model could be used (Meehan et al. 1985). In future studies, it might be possible to rearrange the factor construct of the scale for much more accurate and valid information. This could be gathered by the specialists' detailed instruction about the last 4 questions.

Even though the Turkish version of the questionnaire had similarities with the original version with regard to factor construct, it was not entirely the same item loading on the dimensions of the original version. Despite that, through a general evaluation of the rest of validity results, we might state that the questionnaire could be considered as a valid instrument among Turkish standards.

Limitations of the study

The lack of a control group may be considered one of the limitations. However, the reason healthy volunteers were not included was due to the instrument's design, which was developed to be used among individuals diagnosed with alcohol dependence. However, future studies to test for criterion validity might be redesigned to include individuals with alcohol consumption at the level of social drinking.

The instrument being specific to measure individuals with alcohol dependence; inability to be used for other diagnostic groups; and its incomparable structure with other scales that measure different constructs have limited us to perform any application regarding discriminative validity. For these reasons, it was impossible to define discriminative validity for this specific instrument.

CONCLUSION

Data retrieved from this study have indicated that SADQ is a valid and reliable instrument for measuring the severity of alcohol dependence. The fact that there has been no specific instrument developed to measure severity of alcohol dependence in our country must be taken into consideration. We believe that SADQ is important to increase precision and support relevant research within the field of severity of alcohol dependence. Taken together, in the light of the factor analysis, future studies might focus on a 4-factor model of the questionnaire to yield much more accurate data through better detailed instructions for the participant.

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REFERENCES

Baydur H, Eser E (2006) Uygulama: Yaşam kalitesi ölçeklerinin psikometrik çözümlenmesi. Sağlıkta Birikim 1:99-123.

Coskunol H, Bagdiken I, Sorias S ve ark. (1995) Michigan alkolizm tarama testinin geçerliliği. Ege Tıp Dergisi 34:15-8.

Csikszentmihalyi M, Larson R (2014) Validity and reliability of the experience-sampling method. Flow and The Foundations of Positive Psychology. Csikszentmihalyi M (Ed), Netherlands, Springer, s. 35-54.

Deveci A (2012) Alkol madde kullanım bozukluklarında tanı araçları. Alkol madde bağımlılığı tanı ve tedavi el kitabı, 1.baskı, C Evren, K Ögel, B Uluğ (Ed), Ankara, Türk Psikiyatri Derneği Yayınları, s. 53-66.

Drummond DC, Litten RZ, Lowman C ve ark. (2000) Craving research: future directions. Addiction 95 (Suppl. 2):247–55.

Ebrinç S (2000) Psikiyatrik derecelendirme ölçekleri ve klinik çalışmalarda kullanımı. Klinik Psikofarmakoloji Bülteni 10:109-16.

Fleming MF, Barry KL, Manwell LB ve ark. (1997) Brief physician advice for problem alcohol drinkers: a randomized controlled trial in community-based primary care practices. JAMA 277 (13):1039-45.

Gibbs LE (1983) Validity and reliability of the Michigan Alcoholism Screening Test: A review. Drug Alcohol Depend 12:279-85.

Izquierdo I, Olea J, Abad FJ (2014) Exploratory factor analysis in validation studies: Uses and recommendations. Psicothema 26:395-400.

Keller M, McCormick M, Efron V (1982) A Dictionary of Words About Alcohol 2nd ed. New Brunswick: N.J. Rutgers Univ. Center of Alcohol Studies.

Köroğlu E (2009) Psikiyatride Kullanılan Klinik Ölçekler. 4. baskı, Ankara, HYB yayınları, s. 21-33.

Lim SS, Vos T, Flaxman AD ve ark. (2012) A comparative risk assessment of burden of disease and injury attributable to 67 risk factors and risk factor clusters in 21 regions, 1990–2010: A systematic analysis for the Global Burden of Disease Study 2010. Lancet 380: 2224–60.

LoBiondo-Wood G, Haber J (2010) Nursing Research: Methods and Critical Appraisal for Evidence-based Practice. 8. Baskı, Çin, Elsevier, s. 285-308.

Mann K, Batra A, Fauth-Bühler M ve ark. (2017) German Guidelines on Screening, Diagnosis and Treatment of Alcohol Use Disorders. Eur Addict Res. 2017;23:45-60.

Meehan JP, Webb MG, Unwin AR (1985) The Severity of Alcohol Dependence Questionnaire (SADQ) in a sample of Irish problem drinkers. Br J Addict 80: 57-63.

Min S, Noh S, Shin J, Ahn JS, Kim TH (2008) Alcohol dependence, mortality, and chronic health conditions in a rural population in Korea. J Korean Med Sci 23:1-9.

Novais F, Pombo S, Ismail F (2016) Predictors of Multiple Substance Use in Alcohol Dependence: The Role of Personality. J Addict Res Ther 7:258. doi:10.4172/2155-6105.1000258

O'Leary-Kelly SW, Vokurka RJ (1998) The empirical assessment of construct validity. Journal of Operations Management 16: 387-405.

Osburn HG (2000) Coefficient alpha and related internal consistency reliability coefficients. Psychol Methods 5:343.

Palaniappan H, James AGW, Annamalai A (2016) Correlation between severity of alcohol dependence with age of onset and family history among urban alcoholics: a cross-sectional study. J Evolution Med Dent Sci 5: 3552-7.

Peter JP (1979) Reliability: A review of psychometric basics and recent marketing practices. Journal of Marketing Research 6-17.

Pradeep RJ, Dhilip AM, Mysore A (2015) Do SADQ and AUDIT identify independent impacts of alcohol abuse-clinical and biochemical markers respectively? Indian J Psychiatry 57:278-83.

Rehm J, Mathers C, Popova S ve ark. (2009) Global burden of disease and injury and economic cost attributable to alcohol use and alcohol-use disorders. The Lancet 373:2223–33.

Sharpe PC (2001) Biochemical detection and monitoring of alcohol abuse and abstinence. Annals of Clinical Biochemistry 38:652-64.

Stockwell T, Hodgson R, Edwards G ve ark. (1979) The development of a questionnaire to measure severity of alcohol dependence. Br J Addict 74:79-87.

Stockwell T, Murphy D, Hodgson R (1983) The Severity of Alcohol Dependence Questionnaire: Its Use, Reliability and Validity. Br J Addict 78:145-55.

Stockwell T, Sitharthan T, McGrath D ve ark. (1994) The Measurement of Alcohol Dependence in Community and Clinic Samples. Addiction 89:167-74.

Streiner DL, Norman GR, Cairney J (2014) Health measurement scales: a practical guide to their development and use. Oxford University Press, USA.

Szabó J, Tóth S, Pakai AK (2014) Narrative group therapy for alcohol dependent patients. Int J Ment Health Addiction 12:470–6.

Tavşancıl E (2002) Tutumların ölçülmesi ve SPSS ile veri analizi. Nobel Yayıncılık, Ankara.

Uzbay İT (2009) Madde bağımlılığının tarihçesi, tanımı, genel bilgiler ve bağımlılık yapan maddeler. Türk Eczacıları Birliği Meslek İçi Sürekli Eğitim Dergisi 1-15.