



Original Research / Orijinal Araştırma

Assessing Compliance with Driver Behavior Improvement Training (DBET): A Study on ADATC Data

Sürücü Davranışları Geliştirme Eğitimi (SÜDGE) Uyumun Değerlendirilmesi: AMATEM Verileri Üzerine Bir İnceleme

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Abstract

Objective: This study aims to focus on the follow-up processes of 128 people who applied to Driver Behavior Improvement Training (DBET) and were referred to the Alcohol and Drug Addiction Treatment Center (ADATC) with a prediagnosis of alcohol use disorder (AUD). By providing access to critical information such as sociodemographic characteristics, follow-up times, number of admissions, and AUD detection rates, data review will help to plan health services more effectively and develop a comprehensive understanding of support processes for individuals with a prediagnosis of AUD.

Material and Method: We retrospectively analyzed the data of 128 individuals who applied to the ADATC forensic outpatient clinic between October 2021 and October 2023 and received a preliminary diagnosis of AUD from the DBET.

Results: The mean age was 41.85±8.79 years, and the median number of referrals was 9. The follow-up period was 237.09±171.35 days; of the participants, 96.9% were male, 78.1% were primary school graduates, 43% were followed for less than six months, and 57% for more than six months. The rate of individuals with positive results was 64.8%, and the rate of individuals with long-term positive results was 41.4%. No significant differences were found between the participants in the 'positive' and 'continuation' status regarding age, number of applications, follow-up periods, gender, and educational level ($p>0.05$). However, in the subgroup analysis of follow-up periods, a significant difference was observed in the follow-up rate for more than six months between participants with positive results compared to those with a follow-up time of <6 months ($p<0.05$).

Conclusion: It indicates that individuals with a positive outcome succeed more when followed up for longer. The study contributes to the understanding of the follow-up processes of individuals presenting with a prediagnosis of AUD and the development of a comprehensive understanding of providing adequate support.

Keywords: Alcohol Use, Traffic Accident, ADATC, DBET

Özet

Amaç: Bu çalışma, Sürücü Davranışları Geliştirme Eğitimi (SÜDGE) başvuran ve alkol kullanım bozukluğu (AKB) ön tanısıyla Alkol ve Madde Tedavi Merkezine (AMATEM) yönlendirilen 128 bireyin takip süreçlerine odaklanmayı amaçlamaktadır. Veri incelemesi, sosyodemografik özellikler, takip süreleri, başvuru sayıları ve AKB tespit oranları gibi bilgilere erişim sağlayarak, sağlık hizmetlerinin daha etkili bir şekilde planlanmasına ve AKB ön tanısı olan bireylere yönelik destek süreçlerine ilişkin kapsamlı bir anlayış geliştirilmesine yardımcı olacaktır.

Gereç ve Yöntem: Ekim 2021 ile Ekim 2023 tarihleri arasında AMATEM biriminin adli polikliniğine başvuran ve SÜDGE'den AKB ön tanısı alan 128 kişinin verileri retrospektif olarak analiz edilmiştir.

Bulgular: Yaş ortalaması 41,85±8,79 yıl ve ortalama sevk sayısı 9 olarak hesaplanmıştır. Katılımcıların takip süresi 237,09±171,35 gün, %96,9'u erkek, %78,1'i ilkökul mezunu, %43'ü 6 aydan az ve %57'si 6 aydan fazla süredir takip edilmektedir. Pozitif sonuç alınan bireylerin oranı %64,8, uzun süreli pozitif sonuç alınan bireylerin oranı ise %41,4'tür. "Pozitif" ve "devam" durumundaki katılımcılar arasında yaş, başvuru sayısı, takip süreleri, cinsiyet ve eğitim düzeyi açısından anlamlı bir fark bulunmamıştır ($p>0.05$). Bununla birlikte, takip sürelerine ilişkin alt grup analizinde, pozitif sonuç alan katılımcılar arasında 6 aydan uzun süreli takip oranında, takip süresi ≤6 ay olanlara kıyasla anlamlı bir fark gözlenmiştir ($p<0,05$).

Sonuç: Araştırmamızın sonuçları olumlu sonuç alan bireylerin daha uzun süre takip edildiklerinde daha başarılı olduklarını göstermektedir. Çalışma, AKB ön tanısıyla başvuran bireylerin takip süreçlerinin devamlılığının geliştirilmesine katkıda bulunmaktadır.

Anahtar Kelimeler: Alkol kullanımı, Trafik Kazası, AMATEM, SÜDGE

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Introduction

Today, loss of life and nonfatal injuries caused by traffic accidents worldwide constitute a severe problem.¹ In studies investigating the role of human factors in driving safety, it has been reported that between 2000 and 2013, there were 84,756 fatalities among young drivers due to road traffic accidents (RTA), and 23,757 of these fatalities were due to alcohol consumption.² Alcoholic drivers are 17.8 times more likely to cause a fatal crash than non-alcoholic drivers.^{3,4} Another study reported that the rate of excess alcohol in the blood of drivers involved in fatal injuries was around 20%.^{1,5}

While approximately 25% of road fatalities in Europe are alcohol-related, only 1% of total kilometers driven involve drivers with a blood alcohol concentration (BAC) of 0.5 g/l or higher. As the driver's BAC increases, the accident rate gradually increases. For example, compared to a sober driver, a driver with a BAC of 0.8 g/l (currently the legal limit in three of the 25 EU member states) is 2.7 times more likely to have an accident. At a BAC of 1.5 g/l, the accident rate increases to 22 times that of a sober driver. Moreover, not only does the accident rate increase rapidly with increasing BAC, but accidents also become more severe. In fatal accidents, the accident rate of a driver with a BAC of 1.5 g/l is about 200 times higher than that of a sober driver.⁶

In the Global Action Plan prepared by the WHO, the Foundation, the Global Road Safety Partnership, and the World Bank, it is stated that improving the road safety situation in a country by reducing the incidence of drunk driving requires continuous efforts in the planning, implementation, and evaluation of programs. Implementing a continuous improvement cycle for the prevention of drunk driving starts with assessing the current system, followed by developing, implementing, evaluating, and improving a national or local action plan.⁷ One of the programs implemented worldwide is the Driver Behavior Improvement Program. The program's primary objectives include raising drivers' awareness of their driving identity and self-control and changing attitudes, beliefs, and misinformation that lead to rule violations. These programs aim to improve overall traffic safety by helping drivers develop safe driving habits.⁸

In Türkiye, the Regulation on Driver Behavior Improvement Training implemented by Article 48 of the Highway Traffic Law published in the Official Gazette No. 25583 dated September 14, 2004, includes a particular plan for drivers suspended for the second time.⁹ Individuals who are driving under the influence of alcohol for the second time and whose driver's license has been temporarily confiscated apply for this training. The number of drivers in a training session is limited to 15. A psychiatrist assesses each driver to determine whether he/she has any psychiatric disorder that prevents him/her from driving. However, if psychiatrists suspect alcohol use disorder (AUD) during the assessment process, the individual is referred to the Alcohol and Drug Abuse Treatment Center (ADATC) unit. The evaluation process in the ADATC unit continues for at least six months, with the first eight examinations taking place every two weeks and monthly after that. After six months of follow-up, an assessment is made of the individual will continue with DBET training and report to the Provincial Directorate of Health. During the follow-up period at ADATC, necessary interventions can be made for individuals with symptoms of AUD, and the follow-up period can be extended. When an opinion is formed about the individual, a report is issued.

Although the number of studies in the literature on Driver Behavior Improvement Training (DBET) is limited, these studies generally focused on the sociodemographic characteristics of the individuals who applied for the training and evaluated the effects of the training on drivers. In a study conducted in Türkiye, it was reported that 2 out of 117 individuals who applied to DBET were referred to the ADATC unit with a prediagnosis of AUD.¹

This study focuses on the follow-up processes in ADATC of individuals who applied to the DBET and were referred to ADATC with a prediagnosis of AUD. This study represents an essential step toward understanding the link between DBET and ADATC and identifying the factors in this process. By accessing important information such as sociodemographic characteristics, follow-up periods, number of admissions, and rates of AUD detection, the data review will help plan health services more effectively and develop a comprehensive understanding of the support individuals will receive when faced with a prediagnosis of AUD.

Method

Sample Selection and Data Screening Method

In this study, we retrospectively analyzed the data of 128 individuals who were admitted to the forensic outpatient clinic of the ADATC unit between October 2021 and October 2023 with a prediagnosis of AUD from the DBET. This study was carried out with the authorization granted by the Ankara Provincial Directorate of Health (E-90739940-799-231059367, December 06, 2023).

In the study, according to the follow-up period, those whose follow-up was terminated after six months or less were evaluated in the "short follow-up" group, while those whose follow-up lasted longer than six months and formed a final opinion were evaluated in the "long follow-up" group. In addition, the sample was grouped as "positive," "continuation," and "negative" according to the final opinion. Those judged to be able to drive due to ADATC follow-up were evaluated in the "positive" group, and those judged unable to drive were evaluated in the "negative" group. Those whose follow-up was ongoing during data screening were evaluated in the "continuation" group.

Statistical Analysis

Mean, standard deviation, median, minimum, and maximum values were given in descriptive statistics for continuous data, and percentage values were given for discrete data. The Shapiro-Wilk test was used to examine the conformity of the data to the normal distribution. The Mann-Whitney U test was used in continuous data comparisons between those with positive and persistent results. Chi-square/Fisher's Exact test was used to compare nominal variables (in cross-tabulations). The IBM SPSS version 20 program (Chicago, IL, USA) was used in the evaluations, and $p < 0.05$ was accepted as the limit of statistical significance.

Results

In this study, 128 individuals were evaluated; the mean age was 41.85 ± 8.79 years, and the age range was between 26 and 71 years. The median number of admissions was calculated as 9. The mean follow-up period was 237.09 ± 171.35 days; 96.9% of the individuals were male, and 78.1% were primary school graduates. 43% of the individuals were followed for less than six months, and 57% for more than six months. The proportion of individuals with positive results was 64.8%, and the proportion of individuals with long-term positive results was 41.4% (Table 1).

Table 1. Characteristics of the participants

	Mean±SD Median (Min-Max)	
Age (years)	41.85±8.79 40 (26-71)	
Number of applications	9.28±3.92 9 (1-20)	
Follow-up time (day)	237.09±171.35 182 (45-989)	
	n	%
Gender		
Men	124	96.9
Women	4	3.1
Education		
Primary education	100	78.1
High school	26	20.3
College	2	1.6
Month of follow-up		
≤6 months	55	43.0
>6 months	73	57.0
Result		
Positive	83	64.8
Continuation	45	35.2
Ratio		
Short positive	30	23.4
Short continuation	25	19.5
Long positive	53	41.4
Long continuation	20	15.6

SD: Standard deviation

Table 2. Comparison of the characteristics of the participants whose results were 'positive' and the participants whose results were 'continuation.'

	Result Positive		Conclusion Continuation		p-value
	Mean±SD Median (Min-Max)		Mean±SD Median (Min-Max)		
Age	42.70±8.83 41 (28-71)		40.29±8.59 40 (26-59)		0.160 ^c
Number of applications	9.82±3.74 10 (1-20)		8.29±4.10 8 (1-19)		0.007^c
Follow-up time (day)	212.84±86.54 184 (68-497)		281.82±260.07 175 (45-989)		0.342 ^c
	n	%	n	%	
Gender					
Men	80	96.4	44	97.8	1.000 ^b
Women	3	3.6	1	2.2	
Education					
Primary education	67	80.7	33	73.3	0.172 ^b
High school	16	19.3	10	22.2	
College	0	0	2	4.4	
Month of follow-up					
≤6 months	30	36.1	25	55.6	0.034^b
>6 months	53	63.9	20	44.4	
Ratio					
Short positive	30	36.1	0	0	-
Short continuation	0	0	25	55.6	
Long positive	53	63.9	0	0	
Long continuation	0	0	20	44.0	

b: Chi-Square test/Fisher's Exact Test

c: Mann-Whitney U Test

SD: Standard deviation

There were no significant differences in age between participants whose results were 'positive' and those whose results were "continuation" ($p>0.05$). However, when the number of applications was analyzed, it was determined that the number of applications of individuals with positive results was significantly higher ($p<0.01$). Regarding follow-up periods, no significant differences were found between participants in the 'positive' and 'continuation' status ($p>0.05$). No significant difference was found in the comparisons made regarding gender and educational status ($p>0.05$). However, according to the follow-up time month, there is a significant difference between the characteristics of participants with 'positive' outcomes and those with 'continuation' outcomes. This difference was observed between the groups whose follow-up time was divided into "≤6 months" (less than six months) and "> six months" (more than six months) ($p<0.05$). This indicates that more success is achieved when people with positive results are followed for longer (Table 2).

Although 63.9% of the participants who responded 'positive' to the treatment process had long follow-up periods, this rate was 44.4% for the participants in the 'continuation' status. The difference in rates between the two groups was statistically significant ($p=0.034$), indicating that people who responded positively to treatment were generally followed for extended periods (Table 3).

Table 3. Distribution of results according to follow-up period and success rates

Ratio	Result Positive		Result Continuation		p-value
	n	%	n	%	
Short	30	36.1	25	55.6	0.034 ^a
Long	53	63.9	20	44.4	

a: Chi-square Test

Table 4. Comparison of the characteristics of participants with a follow-up duration of 6 months and short positive results and participants with a follow-up duration of >6 months

	Short positive (n=30)		>6 months (n=73)		p-value
	Mean±SD Median (Min-Max)		Mean±SD Median (Min-Max)		
Age	43.43±9.33 41 (28-71)		42.37±8.84 40 (27-62)		0.587 ^a
Number of applications	9.07±2.34 10 (3-13)		10.32±4.31 10 (1-20)		0.198 ^c
Follow-up time (day)	160.53±28.04 171 (68-194)		303.38±200.93 203 (181-989)		<0.001 ^c
	n	%	n	%	
Gender					
Male	29	96.7	71	97.3	1.000 ^b
Woman	1	3.3	2	2.7	
Education					
Primary education	27	90.0	58	79.5	0.200 ^b
High school	3	10.0	15	20.5	

a: Independent Samples T Test

b: Chi-Square test/Fisher's Exact Test

c: Mann Whitney U test

SD: Standard deviation

No statistically significant differences were observed between participants with a follow-up period of ≤6 months and short-term positive results and participants with a follow-up period of >6 months and long-term positive results in terms of age, number of admissions, gender distribution, and educational level ($p>0.05$) (Table 4).

Discussion and Conclusion

The purpose of this study was to focus on the follow-up processes of individuals who applied to DBET and were referred to ADATC with a preliminary diagnosis of AUD. Our findings are important in understanding the connection between these two institutions and determining the influential factors in the process. We find it necessary to analyze information such as sociodemographic characteristics, follow-up periods, number of applications, and AUD detection rates to contribute to more effective planning of health services and to develop a comprehensive understanding of the support provided to individuals with a prediagnosis of AUD.

The demographic characteristics and follow-up periods of the 128 individuals examined in the study were evaluated with various statistical analyses. Factors such as average age, number of applications, follow-up period, and education level were analyzed, and significant differences were determined between positive and ongoing outcomes. Accordingly, it was determined that people with positive results had more applications. However, no significant differences were found in other demographic characteristics such as age, gender, and education level. In the literature, it is well documented that differences in demographic factors, such as age, gender, and education level, significantly impact drivers' alcohol use habits and reasons for consuming alcohol. For example, studies suggest that younger drivers may exhibit different drinking patterns compared to older individuals, while gender-based variations may influence alcohol consumption motivations. Furthermore, the level of education has been identified as a contributing factor in shaping attitudes and behaviors related to alcohol use among drivers. In the literature, it is stated that differences in demographic factors such as age, gender, and education level of drivers may have a significant effect on their alcohol abuse.^{10,11}

For DBET to be effective, it is thought to be a critical element in understanding the demographic characteristics of individuals and integrating this information into the therapy process.¹² In another similar study, it was stated that it is essential to give and evaluate DBET by taking into account the sociodemographic characteristics and reasons for alcohol use.¹ Providing DBET with a personalized approach can contribute to more effective and sustainable results by considering individuals' sociodemographic characteristics. In this context, careful evaluation of demographic information gains importance as a fundamental step in creating a personalized treatment plan.

The sustainability of positive developments experienced by individuals during the follow-up periods can increase the effectiveness of treatment and, therefore, the number of individuals who have experienced a positive treatment

experience retrospectively.^{13,14} Another study found that behavioral self-control training significantly reduced weekly alcohol consumption.¹⁵ In our study, analysis of follow-up periods showed that individuals with positive results were followed for a more extended period, increasing success. The study reveals that individuals who responded "positively" to the treatment process were generally followed up for a more extended period. This shows that longer follow-up of people who respond positively to treatment increases the chance of success. When the descriptive values of the follow-up periods and the positive results obtained were analyzed, it was observed that the mean values of the follow-up periods of the individuals who achieved positive results in the study were significantly longer compared to the individuals in the ongoing situation.

The role of family physicians in the identification and treatment of alcohol use disorder is of vital importance. Family physicians can play an essential role by assessing patients' alcohol use habits, referring them to driver's license examinations when necessary, and initiating appropriate treatment.

References

1. Tellioglu M, Tekin ÖF, Arıkan I. Descriptive characteristics of drivers participating in driver behavior improvement training at a community health center. *ESTÜDAM Halk Sağlığı Dergisi*. 2019;4(2):176–183.
2. Hadland SE, Xuan Z, Sarda V, Blanchette J, Swahn MH, Heeren TC, Voas RB, Naimi TS. Alcohol Policies and Alcohol-Related Motor Vehicle Crash Fatalities Among Young People in the US. *Pediatrics*. 2017;139(3):e20163037.
3. Martin JL, Gadegbeku B, Wu D, Viallon V, Laumon B. Cannabis, alcohol and fatal road accidents. *PLoS One*. 2017;12(11):e0187320.
4. Almatar H, Alamri S, Alduhayan R, Alabdulkader B, Albdah B, Stalin A, Alsomaie B, Almazroa A. Visual Functions, Seatbelt Usage, Speed, and Alcohol Consumption Standards for Driving and Their Impact on Road Traffic Accidents. *Clin Optom (Auckl)*. 2023; 15:225-246.
5. World Health Organization. (n.d.). United Nations Road Safety Collaboration. Retrieved November 15, 2023, from <https://www.who.int/groups/united-nations-road-safety-collaboration/>.
6. European Road Safety Observatory. (2006). Alcohol. Retrieved December 25, 2007, from https://road-safety.transport.ec.europa.eu/system/files/2021-07/02-alcohol_en.pdf.
7. Drink Driving: a road safety manual for decision-makers and practitioners (2022). Global Road Safety Partnership, International Federation of Red Cross and Red Crescent Societies, Geneva. 2023; 4:51.
8. Kroj Taymur İ, Duyan V, Özdel K, Budak E, &Güngör B B. The Effectiveness of Improvement of Driver-Behavior Program on Self-Control of Individuals Whose Driving Licenses Have Been Seized Due to Drinking and Driving. *Journal of Cognitive-Behavioral Psychotherapy and Research*. 2015; 3:182
9. G, Dienes E. Driver improvement. In: *Traffic psychology today*. Springer; 2001:165–179.
10. Sürücü Davranışlarını Geliştirme Eğitimi Yönetmeliği. Türkiye Cumhuriyeti Resmi Gazete (2004). Başbakanlık Mevzuatı Geliştirme ve Yayın Genel Müdürlüğü. <https://www.resmigazete.gov.tr/eskiler/2004/09/20040914.htm#1>
11. Nevalennaya A. Sociodemographic characteristics, alcohol drinking and self-rated health among Russian women: A cross-sectional study. [Master Thesis in Public Health]. Stockholm University, Faculty of Social Sciences. Centre for Health Equity Studies; 2014: 40.
12. Collins SE. Associations between socioeconomic factors and alcohol outcomes. *Alcohol Res: Curr Rev*. 2016;38(1):83.
13. Mohammed Najeeb PM. A study of psychological factors influencing dangerous driving, speeding, and violation behavior of drivers [Doctoral dissertation]. Bharathiar University, Coimbatore, India; 2013: 33.
14. Spithoff S, Kahan M. Primary care management of alcohol use disorder and at-risk drinking: Part 2: counsel, prescribe, connect. *Can Fam Physician*. 2015;61(6):515-521.
15. Hammarberg S I, Wallhed Finn S, Rosendahl I, Andréasson S, Jayaram-Lindström N, & Hammarberg A. Behavioural self-control training versus motivational enhancement therapy for individuals with alcohol use disorder with a goal of controlled drinking: a randomized controlled trial. *Addiction*. 2024; 119:86-101.