The Relationship Between Childhood Traumatic Experiences and Obsessive Beliefs in Alcohol Use Disorder

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Abstract

Objective: Based on the pathophysiological similarities between alcohol use disorder (AUD) and obsessive compulsive spectrum disorders, as well as the close association between traumatic experiences and addiction, the goal of this study was to assess the relationship between obsessive beliefs and childhood traumas in patients with AUD by comparing them with the control group

Material and Method: The data of 60 AUD cases who applied to the Alcohol and Substance Treatment Center outpatient clinic consecutively and 56 healthy control groups were evaluated. Structured Clinical Interview for DSM-5, Obsessive Beliefs Questionnaire, Childhood Trauma Questionnaire, Hamilton Anxiety Inventory, and Hamilton Depression Inventory were applied to both groups. The Addiction Profile Index, which evaluates the severity of addiction, was applied to the patient group. Data were evaluated with SPPS 22.

Results: Obsessive beliefs, traumatic experiences, depression and anxiety scores were found to be significantly higher in AUD cases than in the control group. No significant relationship was found between traumatic experiences and obsessive beliefs. The most important predictors of obsessive beliefs were found to be anxiety and depression scores.

Conclusion: The current study is important since it is the first to assess how obsessive beliefs and childhood traumas relate to AUD patients. Further analysis in a larger sample in this area will be helpful in identifying risk factors and creating preventive interventions for AUD, a disorder that is difficult to treat and relapse.

Keywords: Alcohol use disorder, Childhood traumatic experiences, Obsessive beliefs

Özet

Amaç: Bu çalışmada alkol kullanım bozukluğu (AKB) ve obsesif kompulsif spektrum bozuklukları arasında var olan benzerliklerden ve travmatik yaşantıların da bağımlılıkla olan yakın ilişkisinden yola çıkılarak, AKB tanılı hastalarda obsesif inanışlar ve çocukluk çağı travmalarının ilişkisinin, kontrol grubu ile karşılaştırılarak değerlendirilmesi amaçlanmıştır.

Gereç ve Yöntem: Alkol ve Madde Tedavi Merkezi polikliniğine ayaktan ardışık olarak başvuru yapan 60 AKB olgusu ile aynı özelliklere sahip ve aynı bölgeden rastgele seçilen 56 sağlıklı gönüllüden oluşan kontrol grubunun verileri değerlendirilmiştir. Her iki gruba da DSM-5 için yapılandırılmış Klinik Görüşme, Obsesif İnanışlar Ölçeği-44, Çocukluk Çağı Travmaları Ölçeği-28, Hamilton Anksiyete Ölçeği ve Hamilton Depresyon Ölçeği uygulanmış, hasta grubuna bağımlılık şiddetini değerlendiren Bağımlılık Profil İndeksi yapılmıştır. Veriler SPPS 22 ile değerlendirilmiştir.

Bulgular: AKB olgularında obsesif inanışlar, travmatik yaşantılar, depresyon ve anksiyete skorları anlamlı olarak kontrol grubundan yüksek saptanmıştır. Travmatik yaşantılar ile obsesif inanışlar arasında ise anlamlı bir ilişki tespit edilmemiştir. Obsesif inanışların en önemli öngörücüleri anksiyete ve depresyon belirtileri olduğu görülmüştür.

Sonuç: Bu çalışma AKB hastalarında obsesif inanışlar ile çocukluk çağı travmalarının ilişkisini değerlendiren ilk çalışma olması nedeniyle değerlidir. Bu alanda daha büyük örneklemde daha ileri analizler, tedavisi zor olan ve yinelemelerle giden bir bozukluk olan AKB için, risk faktörleri belirleme, önleyici müdaheleler oluşturma konusunda yararlı olacaktır.

Anahtar Sözcükler: Alkol kullanım bozukluğu, Çocukluk çağı travmatik yaşantıları, Obsesif inanışlar

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Introduction

Alcohol use disorder (AUD) is a disease with a high incidence of significant disability and medical comorbidities in which biological, psychological, behavioral and social factors play a role (1). AUD includes compulsive heavy drinking and loss of control over alcohol intake, as well as other features of addiction (2). There is a high risk of relapse in AUD, as in all other addictions. Alcohol, like all addictive substances, reinforces its own use by affecting the brain reward circuits (3). Numerous studies have demonstrated that dopamine increases at synapses in the nucleus accumbens (NA), a crucial part of the ventral striatum, are a common mechanism through which both natural rewards and addictive chemicals influence behavior (4). The increase in NA dopamine induced by alcohol intake has been suggested as a necessary way to reinforce the repetitive urge to drink and the addictive process (5). Compulsive alcohol use is due to long-term changes in memory-related neural networks that receive input from midbrain dopaminergic neurons (6). When alcohol addiction occurs, a certain memory develops. For this reason, even a very small amount of alcohol use or reminder stimuli have a triggering effect. These triggers lead to alcohol seeking and compulsive use in addicted individuals (7).

Compulsive drinking, ritualistic behavior pattern, preoccupations; reflects the obsessive-compulsive spectrum-related side of AUD. In fact, many overlaps are known between impulse control disorders, addiction, and obsessive-compulsive spectrum disorders (8).

Addiction and traumatic experiences are also areas that have been frequently studied and shown to be related. Traumatic experiences seem to play a role, especially in addiction processes associated with avoiding negative emotions (9).

The development of obsessive-compulsive disorder (OCD) and the intrusive thoughts associated with OCD is believed to be influenced by maladaptive "obsessive beliefs" regarding threat, responsibility, uncertainty, perfectionism, importance, and control of thoughts, according to cognitive models of OCD (10). In the literature, obsessive beliefs have been studied in OCD (11), major depression (12) and anxiety disorders (13), but they have not been studied in AUD. The purpose of the current study was to assess the connection between traumatic experiences and obsessive beliefs in the AUD group, based on the relationship of addiction with trauma and obsessive-compulsive spectrum.

Material and Method

Inclusion criteria for the study: being older than 18 and younger than 65, being literate, consenting to participate in the study and meeting the criteria for AUD for the patient group. Exclusion criteria: any psychotic disorder/mood disorder with psychotic features, mental retardation and substance use disorders were determined. The participants who signed the informed consent form after learning about the study and meeting the inclusion and exclusion criteria were included. Patients admitted to the study center eighty-two patients were evaluated for AUD by psychiatric interview. Eight patients were disqualified because the scales were improperly filled out. 3 patients were excluded from the study because of accompanying psychotic disorder, 2 patients due to mental retardation, and 9 patients did not volunteer to participate in the study. After exclusion 60 consecutive cases diagnosed with AUD who applied to the AMATEM outpatient clinic and 56 healthy volunteers, met the inclusion/exclusion criteria from the study. Then, psychiatric diseases were evaluated by the researcher of the study with Structured Clinical Interview for DSM-5 (SCID-5) in the patient and control groups. While the sociodemographic data form, Obsessive Beliefs Questionnaire (OBQ) and Childhood Traumatic Experiences Scale (CTQ) were applied to both groups, the Addiction Profile Index (API), which evaluates the severity of addiction, was applied only to the AUD group. The scale scores for the AUD and control groups were compared and the effect on obsessive beliefs was investigated by dividing the patient group into two according to whether they had childhood trauma or not.

The Hitit University Non-Interventional Research Ethics Committee approved the current cross-sectional, clinically based study (decision number 2022-01), and it was carried out in conformity with the Helsinki Declaration. Subjects who agreed to participate in the study after being informed of its existence and having completed the inclusion and exclusion criteria did so by signing consent forms.

Data Collection Tools

Sociodemographic information form

The researchers created a form that evaluated a wide range of sociodemographic and addiction-related factors, including educational attainment, substances used, and length of use. This form, which consists of 14 questions, includes age, gender, marital and employment status, age of onset of alcohol, duration, frequency, substance use, and the presence of concomitant mental and physical illness.

The Obsessive Beliefs Questionnaire (OBQ)

Due to the substantial association, the Obsessive Compulsive Cognitions Working Group first designed 87 items, and later a 44-item short form. It is a measure that evaluates perfectionism/intolerance of uncertainty, elevated sense of responsibility/exaggerated threat perception, and the value placed on one's thoughts/controlling thought. Boysan et al. conducted a validity-reliability assessment of the OBQ-44 in Turkey. The internal consistency rate for the entire scale was 0.95, and the 30-day test-retest correlation was 0.79 (14).

Childhood Trauma Questionnaire (CTQ-28)

The five sub-dimensions of this self-report scale, which Bernstein et al. established, are Emotional abuse, Physical abuse, Sexual abuse, Emotional neglect, and Physical neglect. It is rated from 1 to 5 on a Likert scale (15). The 28-question version of the scale was subjected to adaptation, validity, and reliability studies, and a cut-off score of > 35 points for the total score. Şar et al. determined the Turkish version's validity and reliability. The scale's Cronbach's alpha value was determined to be 0.93 (16).

Addiction Profile Index Scale (API)

It is a 37-item scale with 5 subscales that was created by Ögel et al. to examine various aspects of addiction and gauge the severity of addiction. Substance Use Characteristics Dimension, Addiction Diagnostic Criteria Dimension, Effect of Substance Use on One's Life Dimension, Severe Desire for Substance Use Dimension, Motivation to Stop Using Substances subscales. For the subscales, the Cronbach's

alpha coefficient ranged from 0.63 to 0.86, and for the total API, it was 0.89 (17).

Structured Clinical Diagnostic Interview (SCID-5)

The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) diagnoses are covered by the SCID, a semi-structured clinical interview created by First (18). Elbir et al. carried out validity and reliability investigations in Turkey (19).

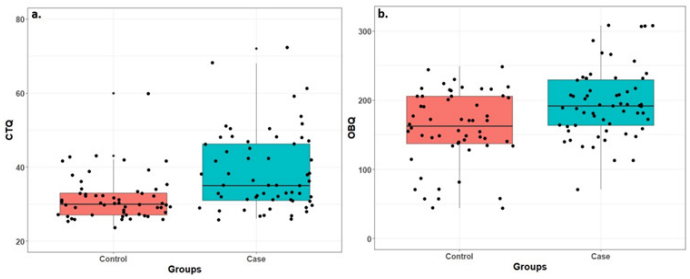
Statistical Analysis

Statistical analyses of the data obtained from the questionnaires and scales were carried out using the SPSS (Version 22.0, SPSS Inc., Chicago, IL, USA) package program in the current study. To ascertain whether the data had a normal distribution, the Kolmogorov-Smirnov and Shapiro-Wilk tests were applied. When presenting descriptive statistics for numerical data, the mean and standard deviation (SD) were used if the data had a regularly distributed distribution; otherwise, the median (min-max) was used. Descriptive statistics of categorical variables obtained from socio-demographic questions and scales were reported as frequency and percentage (%). The Mann Whitney U test was employed for non-normally distributed data and the Student's t test for normally distributed data when comparing numerical data between two independent groups. Univariate linear regression analysis was used to determine the cause-effect relationship between the OBQ total score and socio-demographic characteristics and other scale scores. The accepted statistical significance level was $p<0.05$.

Results

Sixty patients and 56 controls were analyzed in the study. All patients included in the study were male. The comparison of the socio-demographic characteristics, total and subscale scores of the OBQ and CTQ scales among the research groups is presented in Table I. Education and marital status distributions were statistically similar among the research groups (Respectively, $p=0.322$, $p=0.299$, Table I). The mean API of the patient group was 14.32±2.63 (7.20 – 20.75). The distribution of CTQ and OBQ scores between the AUD and control groups is shown in figure 1.

Figure I. Box plots showing the distribution of (a.) Childhood trauma questionnaire (CTQ) and (b.) Obsessive Beliefs Questionnaire (OBQ) scores between case and control groups



The AUD group's CTQ subscale scores for total, Emotional abuse, Physical abuse, and Emotional neglect were all substantially higher than those of the control group ($p0.001$, $p0.001$, $p=0.027$, and $p=0.006$, respectively) in comparison to the AUD group. There were no statistically significant differences in the rates of Sexual abuse and Physical neglect across the research groups ($p>0.05$).

The patient group's HAM-A and HAM-D scores were substantially higher than those of the control group ($p<0.001$). The patient group's OBQ total, Perfectionism, Conscientiousness, and Caring scores were significantly higher than the control group ($p=0.001$, $p=0.002$, $p<0.001$, $p=0.002$, respectively) Table I.

Table I. Comparison of socio-demographic characteristics and scale scores between research groups

		Control (n=56)	AUD group (n=60)	*p Values*
Education	Primary education High school University	15 (26.8%) 25 (44.6%) 16 (28.6%)	24 (40%) 22 (36.7%) 14 (23.3%)	*0.322*[a]
Marital status	Single Married	19 (33.9%) 37 (66.1%)	26 (43.3%) 34 (56.7%)	*0. 299*[a]
Age		41.36±8.59	39.62±10.83	*0.342*[b]
CTQ	No Yes	46 (82.1%) 10 (17.9%)	29 (48.3%) 31 (51.7%)	***<0.001***[a]
CTQ Emotional abuse	No Yes	49 (87.5%) 7 (12.5%)	31 (51.7%) 29 (48.3%)	***<0.001***[a]
CTQ Physical abuse	No Yes	52 (92.9%) 4 (7.1%)	47 (78.3%) 13 (21.7%)	***0.027***[a]
CTQ Sexual abuse	No Yes	49 (87.5%) 7 (12.5%)	53 (88.3%) 7 (11.7%)	*0.890*[a]
CTQ Emotional neglect	No Yes	45 (80.4%) 11 (19.9%)	34 (56.7%) 26 (43.3%)	*0.006*[a]
CTQ Physical neglect	No Yes	40 (71.4%) 16 (28.6%)	43 (71.7%) 17 (28.3%)	*0.977*[a]
HAM-A		4 (1-11) (4.75±2.65)	20 (0-47) (20.35±9.42)	*<0.001*[c]
HAM-D		7 (3-11) (7.23±2.32)	24 (12-53) (26.88±10.23)	*<0.001*[c]
OBQ - Total		162.5 (44-249) (159.5±53.3)	192 (71-308) (196.1±50.27)	*0.001*[c]
OBQ - P		61.77±22.46	73.93±18.91	*0.002*[b]
OBQ - R		59.5 (16-94) (58.59±19.50)	74 (25-112) (73.28±19.36)	*<0.001*[c]
OBQ - I		41 (10-70) (38.04±15.61)	48 (17-84) (48.82±17.57)	*0.002*[c]

[a]Chi-Square test
[b]Student's t test
[c]Mann Whitney U
CTQ: Childhood Trauma Questionnaire, OBQ: Obsessive Beliefs Questionnaire, OBQ – P: Perfectionism and Intolerance of Uncertainty, OBQ – R: Responsibility, OBQ – I: Importance and Control of Thoughts, HAM-A: Hamilton Anxiety Scale, HAM-D: Hamilton Depression Scale

Comparison of total and subscale scores of OBQ is presented in Table II, when the AUD group is divided into 2 according to the CTQ cutoff score. According to the existence of the CTQ, there was no statistically significant difference in the OBQ total and subscale scores. ($p>0.05$, Table II).

Table II. Comparison of the OBQ total and subscale scores of the groups formed according to the CTQ scale scores in the AUD group

	CTQ (+) (n=31)	CTQ (-) (n=29)	*p values*
OBQ – Total	206.2 ± 55.42	186.7±43.74	*0.134*[b]
OBQ – P	76.48 ±20.65	71.55±17.12	*0.317*[b]
OBQ – R	76.86±20.17 76 (25-112)	69.94±18.26 68 (36-109)	*0.203*[c]
OBQ – I	52.62±19.04	45.26±15.55	*0.105*[b]

[b]Student's t-test with mean±SD
[c]Mann-Whitney U test with median (min-max)
SD: Standard deviation, CTQ: Childhood Trauma Questionnaire, OBQ: Obsessive Beliefs Questionnaire, OBQ – P: Perfectionism and Intolerance of Uncertainty, OBQ – R: Responsibility, OBQ – I: Importance and Control of Thoughts.

In order to ascertain the cause-and-effect relationship between the total scores of the OBQ and sociodemographic characteristics, as well as the total and subscale scores of the CTQ scale, as well as the and 95% confidence intervals for each statistically significant parameter, a univarite regression analysis was conducted. The results are shown in Table III. According to the findings, for 1 unit increase in the HAM-A score, the OBQ total score increased by 1.61 (0.69-2.53) units and the 1 unit increase in the HAM-D score increased the OBQ total score by 1.43 (0.65-2.2) units (*p=0.001, p<0.001*, Table III). The OBQ scores of those who were alcohol addiction were increased by 36.7 (17.6-55.7) units (*p<0.001*). Age, education, marital status, CTQ total, Emotional Abuse, Physical Abuse, Sexual Abuse, Emotional Neglect, Physical Neglect subscale variables were not statistically insignificant in the univariate model (*p>0.05*, Table III).

Table III. Univariate regression analysis findings regarding the cause-effect relationship between OBQ total scores and socio-demographic characteristics and total and subscale scores of the CTQ in the entire group

	Univariate		
	p values	**Beta (CI 95%)**	**Standardized Beta Coefficients**
Alcohol addiction (Case vs. control)	***<0.001***	36.7 (17.6-55.7)	0.336
HAM-D	***<0.001***	1.43 (0.65-2.2)	0.324
HAM-A	***0.001***	1.61 (0.69-2.53)	0.310
Age	*0.126*	-	
Education	*0.460*	-	
Marital status	*0.101*	-	
CTQ	*0.566*	-	
CTQ emotional abuse	*0.333*	-	
CTQ physical abuse	*0.395*	-	
CTQ sexual abuse	*0.142*	-	
CTQ emotional neglect	*0.697*	-	
CTQ physical neglect	*0.764*	-	

CI: Confidence interval, CTQ: Childhood Trauma Questionnaire, OBQ: Obsessive Beliefs Questionnaire, OBQ – P: Perfectionism and Intolerance of Uncertainty, OBQ – R: Responsibility, OBQ – I: Importance and Control of Thoughts

Due to the very substantial connection between AUD, HAM-A, and HAM-D variables, all of which were significant in the univariate model, multiple regression analysis was not possible.

Discussion

In this study, we demonstrated obsessive beliefs and negative childhood experiences in the AUD group by comparing them with the control group. The findings showed that obsessive beliefs and childhood traumatic experiences were significantly higher in the AUD group. However, it was found that obsessive beliefs were not associated with childhood trauma, however anxiety and depressive symptoms affected obsessive beliefs. As a result of our research, there is no study in the literature investigating obsessive beliefs in AUD and examining its relationship with childhood traumatic experiences.

Despite current effective treatments for AUD, high relapse rates and long-term dysfunction persist even in treated patients (20). This situation creates the need for a more comprehensive examination and a transdiagnostic approach in the pathophysiological mechanisms that play a role in AUD. Especially in recent years, studies have emphasized the relationship between OCD in the etiology of AUD (21, 22). Compulsiveness (persistent use despite negative results) in both these diseases is one of the most important common symptoms. Based on this, we confirmed in our study the hypothesis that obsessive beliefs, which almost match with OCD, will be high in AUD with compulsive side. However, the moderate effects of anxiety and depression on obsessive beliefs in OCD shown in studies (21, 23) were also seen in the AUD group in the present study.

As in many mental disorders, the effect of childhood trauma on symptoms in both addiction and OCD has been emphasized (24, 25). Based on this, we thought that obsessive beliefs would be significantly higher in the AUD group with childhood traumatic experience. In a study conducted in the general population, a relationship was found between negative childhood experience and obsessive beliefs. Moreover, this relationship was found to be independent of anxiety and depression. In the same study, it was stated that anxiety was associated with both negative childhood experience and obsessive beliefs (26). The fact that childhood traumatic experience was found to be significantly higher in the AUD group and our study was compatible with the literature in this respect. However, our findings showed that anxiety and depression symptoms rather than childhood traumas were effective on obsessive beliefs. According to our multivariate analysis, although they were close to each other, AUD, HAM-D and HAM-A effects were observed on OBQ, respectively. This situation hinders the comparison since there is no studied area in the literature. The reasons for this may be due to the small size of our sample, as well as the fact that AUD patients who applied to our institution participating in the study for treatment did not reflect the whole universe in terms of AUD. Therefore, it can be said that there is a need for research with a larger sample on the subject.

The role of obsessive beliefs in major depression and anxiety disorders was investigated. In patients with major depression, all subscale scores and total scores of obsessive beliefs were found to be significantly higher, and a significant

correlation was found between the HAM-D scale and the OBQ (12). Obsessive beliefs were shown to be substantially greater in those with general anxiety disorder than in healthy controls (27). Both depression and anxiety severity were found to be predictors of obsessive beliefs in the univariate model in our study. Considering that obsessive beliefs on subscales (especially Responsibility and Threat Satisfaction, Importance and Control of thoughts) may also cause anxiety in the person or there may be a predisposition to these cognitions due to anxiety, it is understandable that the severity of anxiety is high in individuals with high obsessive beliefs.

Limitations

The limitations of the study are that it consists of a cross-sectional and relatively small sample, and that all of the participants are male. Also, we want it to be known that the AUD cases included in our study do not reflect the entire AUD universe.

Conclusion

All scale scores were discovered to be significantly higher than those of the control group, per the literature. Yet, there was no conclusive evidence linking childhood traumatic experience to obsessive beliefs. The current study is significant since it is the first to assess the connection between childhood trauma and obsessive beliefs in individuals with AUD. Knowing the neurobiological, behavioral and cognitive effects of addictive substances is very important in the treatment process of patients. Treatment approaches are modeled and applied based on this information. Transdiagnostic approaches that investigate the etiology, treatment and approaches in addiction from different perspectives will be important. In this context, it may be considerable to identify obsessive beliefs that affect the thought process of patients. The relationship between addiction and compulsive behaviors and how it affects the therapeutic process require more research.

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