Relationship of Life Quality with Severity of Alcohol Related Problems in Male Alcohol Dependent Inpatients

Yatarak Tedavi Gören Erkek Alkol Bağımlılarında Yaşam Kalitesinin Alkolle Bağlantılı Sorunların Şiddeti ile İlişkisi

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ABSTRACT

Objective: Aim of this study was to evaluate the relationship of alcohol related problems with impairments in quality of life (QoL), while controlling the severity of depression and anxiety symptoms and the age onset of regular alcohol use.

Methods: Participants were 156 consecutively admitted male alcohol dependents. Patients were investigated with the Michigan Alcoholism Screening Test (MAST), the Short Form-36 (SF-36) and depression and anxiety subscales of Symptom Check List 90 (SCL-90).

Results: Severity of alcohol related problems, anxiety and depression were negatively correlated with age onset of regular alcohol use and mean scores of the QoL. Anxiety was associated with physical component summary (general health and bodly pain) and depression was associated with mental component summary (mental health, vitality and social functioning) in Stepwise Linear Regression models.

Conclusion: Severity of alcohol related problems are related with QoL. Early age onset of regular alcohol use and particularly negative affect may be important factors mediating this relationship. *(Archives of Neuropsychiatry 2010; 47: 64-8)*

Key words: Alcohol dependence, alcohol related problems, anxiety, depression, quality of life

ÖZET

Amaç: Bu çalışmanın amacı, yatarak tedavi gören erkek alkol bağımlılarındaki yaşam kalitesi ile alkolle bağlantılı sorunların şiddeti arasındaki ilişkiyi değerlendirmektir. Bu ilişki değerlendirilirken depresyon ve anksiyete belirtilerinin şiddeti ve düzenli alkol kullanmaya başlama yaşı kontrol edilmiştir.

Yöntemler: Çalışmaya kliniğe ardışık yatırılan 156 erkek alkol bağımlısı alındı. Hastalar Michigan Alkol Tarama Testi (MATT), Kısa Form 36 (SF-36) ve Belirti Tarama Listesi 90'nın (SCL-90) depresyon ve anksiyete alt boyutları ile değerlendirilmişir.

Bulgular: Alkole bağlı sorunlar, anksiyete ve depresyon belirtilerinin şiddeti ile düzenli alkol kullanmaya başlama yaşı ve ortalama yaşam kalitesi puanları arasında negatif korelasyon saptandı. Stepwise Doğrusal Regresyon modellerinde anksiyete fiziksel komponent toplamı (genel sağlık ve vücut ağrısı) ile ilişkili iken, depresyon metal komponent toplamı (mental sağlık, vitalite ve sosyal işlevsellik) ile ilişkili bulunmuştur.

Sonuç: Alkole bağlı sorunların şiddeti yaşam kalitesi ile ilişkili bulunmuştur. Erken yaşta düzenli alkol kullanımına başlama, ve olumsuz duygulanım bu ilişkiye aracılık eden önemli etkenler olarak görülmektedir. *(Nöropsikiyatri Arşivi 2010; 47: 64-8)*

Anahtar kelimeler: Alkol bağımlılığı, alkole bağlı sorunlar, anksiyete, depresyon, yaşam kalitesi

Introduction

Alcohol misuse is associated with a range of physical, psychological and social problems affecting individuals, families, and communities. Physical and mental illnesses, marital and occupational disturbances, and crime are among them (1). There are several instruments to measure alcohol related problems, although Michigan Alcoholism Screening Test (MAST) is one of the most commonly used scales for this purpose. The MAST was originally developed to determine alcoholism in young adults (2). Recently the scale was also found to be useful in older subjects (3) and its' different form in adolescents (4) to evaluate alcoholism and severity of alcohol related problems.

Some factors may increase the probability of alcohol related problems. i.e., older individuals may report these kinds of problems less than youngster (5), affect instability and

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impulsivity may increase alcohol related problems with synergistic effect (6). Also amount of alcohol consumed during the week is positively correlated with severity of alcohol related problems (5). Nevertheless, Babor et al. (7) reported that amount of alcohol was not always related with risk of having alcohol related problems and they suggested that it represents a complex interrelation of many variables. Also in consistent with this, a recent study found that the severity of alcohol related problems measured with MAST was also related with the severity of depression, anxiety and general psychopathology (8).

Alcohol related problems are one of the major factors linked to quality of life (QoL) (9). The Addiction Severity Index (ASI) is a semi-structured interview that assesses seven domains (medical, employment, alcohol, drugs, family/social, legal, and psychiatric) in which individuals with substance use disorders typically have problems (10). The ASI medical and psychiatric composite scores measure similar domains as the Short Form-36 (SF-36) in substance-dependent veterans (10). Alcohol dependent subjects have impaired QoL compared to general population and to patients with other chronic health problems (11). QoL in recently detoxified alcoholics is impaired significantly, and it improves in 3 months if they don't relapse (12,13). Pattience et al. (9) among outpatients with alcohol use disorder and Volk et al. (14) among patients in primary care noted that QoL appears to be more associated with use patterns (abusive or dependent) rather than with frequency or quantity consumed. Comorbid psychopathology is common among individuals with substance dependence (15,16) and can effect health-related QoL (17). Psychiatric comorbidities (especially depression) (18-20), disturbed sleep (20,21), social and other alcohol-related problems (9) are major factors linked to QoL in alcohol dependent individuals. Indeed depression strongly predicts health-related QoL in alcohol dependents (22). Also alcohol-dependent patients may perceive their problems as more psychological than physical. Nevertheless, the severity of alcohol dependence and depressive symptoms seemed to influence the perception of QoL negatively (19).

QoL represents an important area to consider in assessing individuals with alcohol use disorders and in evaluating alcoholism treatment outcome (11,23). Thus, QoL and alcohol-related, sociodemographic and clinical variables that are linked to QoL are important areas to investigate in alcohol dependents. For evaluating QoL the MOS-SF-36 presents good criteria for reliability and validity in alcohol-dependent patients (19).

Aim of this study was to evaluate the relationship of QoL with the severity of alcohol related problems, while controlling the effect of depressive and anxiety symptom severity and age onset of regular alcohol use.

Method

Subjects

The study was conducted in Bakirkoy State Hospital for Psychiatric and Neurological Diseases, Alcohol and Drug Research, Treatment and Training Center (AMATEM) in Istanbul between January 2007 and January 2008. The Ethical Committee of the hospital approved the study. Patient's written informed consent was obtained after the study protocol was thoroughly explained.

Two hundred consecutively admitted alcohol-dependent inpatients without history of any other substance abuse were considered for participation in the study. All participants fit the DSM-IV diagnostic criteria for alcohol dependence. Excluding criteria were illiteracy, mental retardation or cognitive impairment and comorbid psychotic disorder. Five patients were excluded due to illiteracy and three patients due to cognitive deficits. Although none of the patients refused to participate in the study, 16 patients were excluded because they left some parts of the scales unfilled, did not give the forms back or left the treatment program prematurely; i.e. before filling the forms. A total of 156 alcohol-dependent inpatients participated in the study. Interviews with the study group were conducted after detoxification period, i.e. 4-6 weeks after the last day of alcohol use.

Measures

All patients were assessed by using a semi-structured socio-demographic form. The diagnosis of alcohol or drug dependence in each participating patient based on the clinical examination, a screening interview based on the Structured Clinical Interview for DSM-IV (SCID-I), (24) Turkish version, (25) conducted by trained interviewer (CE).

Michigan Alcoholism Screening Test: The MAST was used in assessment of the severity of dependence (26). It was developed as a rapid and effective screening for lifetime alcohol-related problems and alcoholism for a variety of populations. Turkish version of the MAST is valid and reliable for screening severity of alcohol dependency (27). The Cronbach's alpha was 0.74 in the present study.

The Short-Form 36: The SF-36 is a so-called generic QoL instrument, which has been originally derived from the Medical Outcome Study (MOS) (28). The MOS-SF-36 presents good criteria for reliability and validity in alcohol-dependent patients (19). The SF-36 consists of eight scales with 36 items (29). In present study QoL was measured with the Turkish version of the SF-36 (30). For the initial assessment, we used a SF-36 version referring back to the last 4 weeks.

Symptom Checklist-Revised (SCL-90-R): Depression and anxiety symptoms were assessed with depression and anxiety subscales of widely used Symptom Checklist-Revised (SCL-90-R), a self rating inventory with 9 clinical scales (31). In the present study reliable and valid Turkish version of SCL-90-R was used (32). Cronbach's alpha was 0.93 for depression subscale (13 items), whereas 0.91 for anxiety subscale (10 items) in the present study.

Statistical Methods

The statistical package SPSS 15.0 for Windows was used for all the analyses. Correlation analyses (Pearson, bivariate) between the MAST score age at regular alcohol use and QoL scores were performed. Determinants of physical component summary and mental component summary scores were evaluated in Stepwise Linear Regression models. Multivariate analysis of covariance was performed when QoL subscales were dependent variables. For all statistical analysis p values were two-tailed and differences were considered significant at $p<0.05$.

Results

A total of 156 consecutive alcohol-dependent male inpatients were included in the statistical analyses. The mean age of the participants was 44.2 (SD=9.1, range=27-67). Ninety four (60.2%) subjects were married, whereas 48 (30.8%) were divorced and 14 (9.0%) were single. Fifty seven (36.5%) subjects were employed, 20 (12.8%) subjects were part-time workers, whereas 51 (32.8%) subjects were unemployed and 28 (17.9%) were retired. Overall, they had 9.6 years of education (SD=3.9) in average. The mean MAST score of the overall group was 27.7 (SD = 10.3), whereas mean scores of physical component summary of SF-36 was 218.92 (SD=85.56) and mental component summary of SF-36 was 171.79 (SD=87.45).

Severity of alcohol related problems measured with MAST, anxiety and depressive symptoms were negatively correlated with age at regular alcohol use and mean scores of the QoL (Table 1). Age onset of regular alcohol use was positively correlated with general health (r=0.24, p=0.002), vitality (r=0.23, p=0.004) and mental health (r=0.31, p<0.001) subscales and mental component summary (r=0.23, p=0.004) (not shown).

Severity of anxiety symptoms predicted physical component summary and depressive symptoms predicted mental component summary scores in Stepwise Linear Regression models, when age onset of regular alcohol use, MAST, depression and anxiety symptoms were independent variables (Table 2).

Multivariate analysis of covariance was performed when QoL subscales were dependent variables and age onset of regular alcohol use, MAST, depression and anxiety symptoms were taken as covariants. Together with age onset of regular alcohol use anxiety predicted general health and severity of depressive symptoms predicted mental health subscales of QoL. Anxiety also predicted bodly pain subscale of QoL, whereas depressive symptoms predicted vitality and social functioning subscales of this scale (Table 3).

Discussion

Main finding of the present study is that severity of alcohol related problems are related with both physical and mental dimensions of QoL. Also early age onset of regular alcohol use seems to be important factor effecting QoL, probably by increasing the severity of alcohol related problems (23). Also findings of the present study suggested that other common factors, such as negative affect (i.e. anxiety and depressive symptoms), may be mediating this relationship between alcohol related problems and QoL. Interesting finding is that anxiety symptoms mainly have mediating role on the physical component of QoL (particularly bodily pain and general health), whereas depressive symptoms have this effect on the mental component (particularly vitality, social functioning and mental health). Higher severity of comorbid psychopathology may affect both the severity of alcohol related problems and QoL

Table 1. Correlations of MAST, anxiety and depression scores with age onset of regular alcohol use, and QoL scores

	MAST (n=156)		Anxiety	Depression
Scale scores	**r**	**P**	**r***	**r***
Age onset of regular alcohol use	-0.29	<0.001	-0.15**	-0.18***
Physical functioning	-0.16	0.046	-0.38	-0.37
Role physical	-0.28	<0.001	-0.39	-0.37
Bodily pain	-0.19	0.017	-0.49	-0.43
General health	-0.25	0.002	-0.59	-0.56
Physical component summary (PCS)	-0.30	<0.001	-0.59	-0.56
Role emotional	-0.22	0.007	-0.62	-0.69
Vitality	-0.30	<0.001	-0.56	-0.60
Social functioning	-0.25	0.002	-0.38	-0.37
Mental health	-0.33	<0.001	-0.61	-0.69
Mental component summary (MCS)	-0.33	<0.001	-0.64	-0.68

*: p<0.001, **p=0.064, ***p=0.021

Table 2. Determinants of physical and mental QoL total scores in Stepwise Linear Regression models

	Unstandardized coefficients		Standardized coefficients	t	p	F	p	Adjusted R^2
Model*	B	Std. Error	Beta			Df=1,154		
1 (Constant)	291.30	9.659		30.160	<0.001	83.54	<0.001	0.35
Anxiety	-49.92	5.460	-0.593	-9.143	<0.001			
2 (Constant)	269.995	9.945		27.149	<0.001	133.14	<0.001	0.46
Depression	-59.010	5.114	-0.681	-11.539	<0.001			

1- Dependent variable is physical component summary, 2- Dependent variable is mental component summary
*Age onset of regular alcohol use, MAST, depression and anxiety symptoms were independent variables

Table 3. Multivariate Covariance Analysis (MANCOVA) with subscale scores of the SF-36 scale

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	p
Age at regular alcohol use	General health[a]	1615.695	1	1615.695	5.416	0.021
	Mental health[b]	2009.346	1	2009.346	9.611	0.002
Anxiety	Bodily pain[c]	6793.711	1	6793.711	10.630	0.001
	General health	3244.113	1	3244.113	10.875	0.001
Depression	Vitality[d]	7469.253	1	7469.253	26.868	<0.001
	Social functioning[e]	5288.328	1	5288.328	11.545	0.001
	Mental health	5254.767	1	5254.767	25.135	<0.001

MAST did not predict any subscale of SF-36 as a covariant. R Squared (Adjusted R Squared): a= 0.38 (0.36), b= 0.51 (0.49), c= 0.24 (0.22), d= 0.50 (0.48), e = 0.37 (0.35)

negatively. Otherwise alcohol related social, psychological and physical problems or impaired QoL may cause comorbid psychopathology such as depression or anxiety (33). Indeed the severity of depression, anxiety and general psychopathology were related with the severity of alcohol related problems measured with MAST in previous study (8). It is even suggested that the symptoms of anxiety and depressive symptoms accompanying alcohol dependence may lead to an increase in severity of the problems associated with the dependency, thus may negatively effect the QoL as a consequence (23). Also psychiatric comorbidities to alcohol dependence significantly decrease the QoL in alcohol dependent patients (13). Nevertheless, because of the cross-sectional model of the study it is not possible to reach to a conclusion about the direction of these relationships.

Comorbid psychopathology was found to be related with severity of substance use (34). Also previous studies found that severity of psychopathology and alcohol-related problems are higher among those who are considered as having early onset alcoholism (35,36). Since early start of regular alcohol use means abusing alcohol during adolescence, which is an important period in terms of physiological and psychosocial development, a higher rate of physical, social and psychological problems is expected among these patients (36). Thus, early onset of regular alcohol use, higher severity of alcohol related problems, negative affect and impaired QoL all may be interrelated. Also these variables may be interrelated with each other because of other common mediators such as personality profiles. Indeed personality dimensions (i.e. high novelty seeking, low self-directedness) may be related with early onset alcoholism (36), with severity of alcohol related problems (8) and with impairments on QoL (37).

Several limitations exist with respect to the interpretation of the data. Firstly, patients included in this study were all male and the study group was restricted to a treatment population. Thus, our study did not permit us to differentiate between the impact of abstinence itself and that of the hospital environment on the relationship between severity of alcohol related problems and QoL. Therefore it is not possible to generalize the findings to female substance dependent patients and non-treatment groups. A second limitation was that although subjects were not assessed during immediate withdrawal, patients might still have some cognitive problems to evaluate themselves correctly. A third limitation was the use of self-report instruments only and not using a reliable anxiety and depression scales for correcting the influence of residual anxiety and depressive symptoms.

In conclusion, our study confirms that the poor QoL of alcohol-dependent inpatients is related with severity of alcohol related problems of these patients. Early onset of regular alcohol use and negative affect seems to mediate this relationship. Concerning negative affect, anxiety symptoms are related with impairments in physical QoL, whereas depressive symptoms are related with impairments in mental QoL. Thus, the findings of the present study suggest that accurate measurement of the health related QoL and severity of alcohol related problems among alcohol-dependent inpatients may have treatment implications. Also the findings justify initiation of psychosocial support and the management of psychiatric comorbidities in patients undergoing alcohol detoxification as a strategy to improve QoL. Studies demonstrated the positive impact of residential care on short-term improvement in QoL of alcohol-dependent patients (13). After measuring the severity of alcohol related problems and impairments in QoL, if the findings are communicated to patients, this may enhance their motivation to enter and participate in inpatient treatment programs.

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