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CLINICAL STUDY

Retention in outpatient treatment of alcohol dependence based on the Lesch's typology and the involvement of a close person

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ABSTRACT
OBJECTIVES: Retention in alcohol-dependence treatment is an indicator of successful treatment. The aim of this study was to analyze Lesch's typology of alcohol dependence (LAT) and the participation of close people as potential predictors of retention in outpatient treatment.
METHODS: Participants were included in the study according to the inclusion criteria. Data were collected over eight visits during a 6-month period. The primary outcome was retention in treatment during the 6-month follow-up period.
RESULTS: 119 patients were involved in the study, and 84 (70.6 %) of those patients remained in treatment up to the 6th month. Analysis of retention was performed for the Lesch I, II, and III types, as the type IV patients were underrepresented and had different baseline characteristics. Higher retention was found for Lesch I type patients (78.4 %) in comparison to the merged II and III groups. The presence of close people at planned visits had a significant effect on treatment persistence.
CONCLUSIONS: We found no significant difference in the treatment retention of alcohol-dependent patients at the 6-month follow-up. However, a more comprehensive survival analysis indicated a trend of different retention dynamics between the Lesch I and merged Lesch II and III subgroups. Baseline severity of dependence measured by AUDIT score had no significant effect on treatment retention *(Tab. 1, Fig. 3, Ref. 35).*
Text in PDF *www.elis.sk*
KEY WORDS: alcohol dependence, Lesch typology, treatment retention, close person participation.

Introduction

The prevalence of alcohol use differs substantially in different regions and countries (1, 2), but globally, alcohol use is among the leading causes of mortality and burden expressed in disability-adjusted life-years (DALYs) (3). The Diagnostic and Statistical Manual of Mental Disorders (4) and the WHO International Classification of Diseases (5) provide criteria for the diagnosis of alcohol use disorder (AUD) and alcohol dependence (AD) with minor differences, although there are critical comments for widening the gap between the two systems (6). Craving, impaired control, increasing priority for alcohol use with giving up on other activities, persistent use of alcohol despite negative consequences, higher tolerance, and withdrawal syndrome are the main diagnostic criteria (7).

These criteria provide basic tools for diagnosis, and they are, in essence, uniformly applied without contributing to a more detailed individual characterization of a particular patient. Apart from the official diagnostic criteria, there has been a long-time effort to classify alcohol-dependent patients into subgroups that could provide more detailed information about the nature of the addiction and could offer clues for more specific treatment and prognosis. The well-known Jellinek's typology (mainly Gamma and Delta types) has become part of the basic terminology in many countries. Other typologies, such as Morey's and Skinner's, are based on clustering techniques; Cloninger's typology is based on neurobiology and theory of personality (8, 9).

Lesch's typology, which is the focus of this study, was built on the long-term assessment of 444 patients hospitalized for "chronic alcoholism" and thereafter observed in outpatient services for approximately 5 years. Combining the premorbid, social, and psychopathological characteristics; type of alcohol use; withdrawal symptoms; and abstinence, Lesch et al. identified and characterized four distinct subtypes. Type I (allergy model) is defined by a primary craving for alcohol, severe withdrawal syndrome, and the need for recurrent detoxification. Type II (conflict resolution and anxiety model) is connected to an anxious or avoidant personality bending to alcohol consumption as a solution for negative feelings and harm avoidance. In the type III (depressive model), alcohol is used as a mood enhancer and sleep inducer. Type IV (conditioning model) is relevant to individuals with significant developmental abnormalities, neurodevelopmental disorders, and diseases (10, 11). In the diagnostic process, the representative symptoms of the given

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types are gradually removed in the following direction: Type IV → Type III → Type I → Type II. Lesch's typology might represent a useful clinical tool for better management of patients with AD and, therefore, can be used as an important characteristic for the analysis of retention in outpatient treatment of alcohol dependence.

The treatment of AUD and AD is complex and may involve different goals. Abstinence is an appropriate goal for most patients, especially those with significant psychiatric and physical comorbidities. In some patients, a moderate drinking and harm reduction approach can be considered (12, 13). In clinical practice and clinical studies on substance dependence, low retention, even less than 50 % after the first month of treatment, is a substantial shortcoming for analyses of treatment effects of different approaches (14, 15), and retention in treatment has become the standard as a primary or secondary outcome measure for substance use disorder trials. Retention is defined dichotomously as remaining in treatment for a certain period or as a continuous measure (e.g., number of days in treatment). A comparison of retention rates can be used for the quality assessment of treatment programs (13, 16). Several factors have been identified as predictors of retention in treatment; among them, the involvement of family members or close people is among the primary components of successful treatment (17, 18).

The primary aim of the current study was to compare the 6-month retention rates in the treatment of patients with alcohol dependence based on Lesch's typology. The secondary aim was to examine the impact of the involvement of close people in the treatment program on the retention rate with the involvement of gender, age, and AUDIT score as variables.

Methods

Study sample and interventions

The research sample consisted of patients who started treatment at an outpatient addiction treatment center in Slovakia. The inclusion criteria for involvement in the study were: 1) starting outpatient treatment for the first time at the researcher's workplace; 2) 18 years of age or older; 3) diagnosis of alcohol dependence according to ICD-10 (code F10.2); 4) presence of a patient's relative at the first contact/examination; 5) providing written consent for participation in the study; and 6) Mini-Mental State Examination (MMSE) score of at least 25 points. The main exclusion criterion was combined addiction and the harmful use of other psychoactive substances, with the exception of nicotine. In addition, patients who did not see their addiction as a subjective problem (i.e., without appropriate insight) were not offered to participate in the study. A diagnosis was established, and all other measurements were performed by a treating psychiatrist (EV).

Patients received standard psychopharmacological treatment based on national guidelines, and cognitive behavioral therapy was applied if needed. The first assessment session lasted approximately 50 minutes, and the accompanying person participated in the interview/intervention from the beginning of the interview or after an initial individual interview with the patient.

Assessments and data collection

Data were collected at the first examination, after 7 days, 14 days, and thereafter at one-month intervals up to the 6th month from the beginning of the treatment. There were eight study visits. At the first and last visits, the WHO Alcohol Use Disorders Identification Test (AUDIT) (19) was used to assess alcohol use and the severity of alcohol dependence. The patient and accompanying person provided information on the duration of addiction. The Lesch's type of dependence was established for individual patients at the 2nd visit using a standardized questionnaire available at www.lat-online.at. Patients who presented at least at visit 2 were enrolled in the retention analysis.

Statistical analyses

Relationships between nominal variables were analyzed using the chi-squared test (χ^2 test). For group comparisons, we used the

Tab. 1. Basic demographic and clinical characteristics of patients divided by Lesch's typology.

		Lesch I (n=51)	Lesch II (n=38)	Lesch III (n=27)	Lesch IV (n=3)
Men (%)		82.4	68.4	70.4	100
Women (%)		17.6	31.6	29.6	0
Age years (mean. SD)		46.27 (10.52)	44.24 (12.17)	44.85 (10.45)	46.0 (2.00)
Marital status (n; %)	single (%)	14 (27.5)	18 (47.4)	13 (48.1)	3 (100.0)
	married (%)	19 (37.3)	12 (31.6)	7 (25.9)	0
	divorced	16 (31.4)	7 (18.4)	7 (25.9)	0
	widowed	2 (3.9%)	1 (2.6%)	0	0
Living condition (n; %)	alone	11 (21.6)	12 (31.6%)	9 (33.3)	0
	within primary family	10 (19.6)	12 (31.6)	10 (29.6)	2 (66.7)
	with partner	30 (58.8)	14 (36.8)	10 (37.0)	1 (33.3)
Employment status (n; %)	full/partial job	40 (78.4)	29 (76.3)	19(70.4)	1 (33.3)
	retirement (age or disability)	5 (9.8)	4 (10.5)	2 (7.4)	2 (66.7)
	unemployed	6 (11.8)	5 (13.2)	6 (22.2)	0.0
Education level (n; %)	basic school	4 (7.8)	5 (13.2)	2 (7.4)	3 (100.0)
	secondary school	42 (82.4)	25 (65.8)	15 (55.6)	0.0
	university	5 (9.8)	8 (21.1)	10 (37.0)	0.0
Duration of dependence years (mean; SD)		9.04 (8.73)	8.24 (6.96)	9.15 (7.12)	18.33 (2.88)
AUDIT score (mean; SD)		21.76 (7.70)	24.00 (6.51)	19.56 (8.06)	26.67 (9.29)

Mann-Whitney U test. Retention rates were evaluated using survival analysis. We estimated two models: one with three groups I to III based on Lesch's typology, and the second model compared only the I type with collapsed II + III types.

Results

In total, 119 patients were enrolled in this study. 90 of them were males (75.6 %). The age ranged from 25 to 71 years (mean M = 45.3 years; SD = 10.9 years). 51 patients (42.9 %) were identified as Lesch I type, 38 (31.9 %) patients as Lesch II type, 27 patients (22.7 %) as Lesch III type, and 3 patients (2.5 %) as Lesch IV type. The basic sociodemographic characteristics of the patients and their classification based on Lesch's typology are shown in Table 1. All three patients characterized as Lesch IV type had organic brain disorders, a much longer duration of dependence, were less educated, and dependent on the help of another person. Owing to these substantial differences and the small number of participants in this group, we decided not to include these participants in further analyses. Comparisons of Lesch types I, II, and III did not reveal any significant differences in the sociodemographic and basic clinical characteristics.

A total of 81 (69.8 %) patients with Lesch I to III type remained in treatment, defined as being present for the visit for the 6th month of treatment. Retention rates for Lesch type are as follows: 40 patients (78.4 %) were from the Lesch I type, 24 (63.2 %) from the Lesch II type, and 17 (63.0 %) from the Lesch III type (Fig. 1). Lesch I group patients had the highest attendance across all visits, and a statistically significant difference between groups in retention rate was found only at the 5-month follow-up (χ^2 (2) = 7.328; p = 0.026). Patients with Lesch I took part in slightly more visits, and the difference in the number of attended visits was significant (U = 1339.5, p = 0.041).

Survival analysis

We used survival analysis to compare the retention rates of the Lesch groups. The first survival analysis was conducted separately for all three groups. There were no significant differences between the groups (x^2 = 4.638, p = 0.098). Based on the visual inspection of the survival curves, group I was separated from the others during the treatment period. In the second analysis, we compared the Lesch type I group (n = 51) to the group merged with types II and III (Lesch II+III; n = 65). This grouping is based on the basic characteristics of Lesch's typology: when type I can be understood as the primary, biologically determined tendency to use alcohol, and in types II and III, alcohol is used as a tool by which the addict deals with other, primarily present, mental problems. 78.4 % Lesch I patients attended the 6-month control vs 63.1 % of merged Lesch II and III groups. This difference was not statistically significant (x^2 = 3.198, p = 0.074), but a significant difference was observed in the trajectory of the survival curves (x^2 = 4.637, p = 0.031) (Fig. 2).

Involvement of close people/relatives in the treatment

The rate of presence of supportive/close people who accompanied patients at a particular visit was stable during the study, with no statistical difference found for Lesch types I to III (Fig. 3).

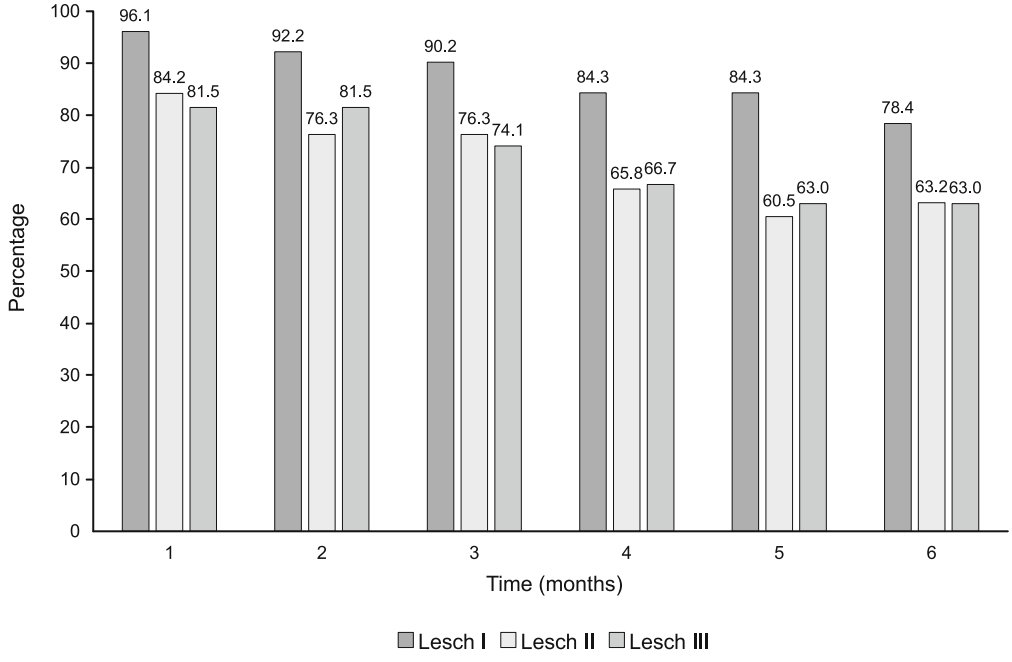

Fig. 1. Percentage of patients attending the control.

We also compared Lesch I and Lesch II + III patients in terms of the number of family member visits during the study period. We found that the median number of family visits of Lesch I patients was six and five for the merged Lesch II+III groups. This difference was statistically significant (U = 1281, p = 0.034). In all three Lesch's groups, patients who were retained in treatment had a higher number of family visits (p < 0.001).

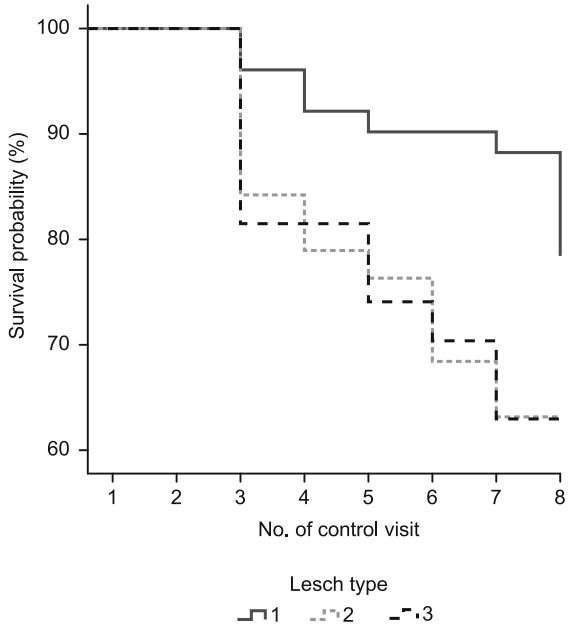

Fig. 2. Survival analysis of retention to the treatment by Lesch types.

AUDIT scores at baseline were unrelated to the number of close people at visits (rs = 0.096, p = 0.303). AUDIT scores between patients who quit or were retained in the treatment at the end of the 6th month (U = 1258.5; p = 0.338). Therefore, severity was ruled out as the cause of different retention rates.

Discussion

A high retention rate was observed in our study in the entire patient sample. Together with three patients from the Lesch IV type, who were not involved in statistical analyses, the retention defined as the presence at the 6-month control was 70.6 %. This differs from many published data on the retention of patients in outpatient treatment settings (14, 20, 21). As the retention rate depends on both patient and therapist characteristics and the substance used (22, 23), different factors specific to the study design may have played a role in the high retention rate in the current study. The inclusion criteria, such as the involvement of a relative or close person in treatment, the presence of an insight into alcohol consumption as a personal problem, and inclusion in the study with the signing of informed consent, could be factors that affected high retention. The fact that the treatment of all patients was provided by an experienced psychiatrist (EV) could also have played a role.

The structure of the sample patients, according to Lesch's typology, included in the study was different from the known data. Pombo et al (24) in their naturalistic study of 152 outpatients treated for alcohol dependence, found 19.4 % Lesch I, 17.9 % Lesch II, 36.3 % Lesch III, and 26.4 % Lesch IV patients (24) in their sample. Samochowiec et al (25) reported 47 % Lesch type

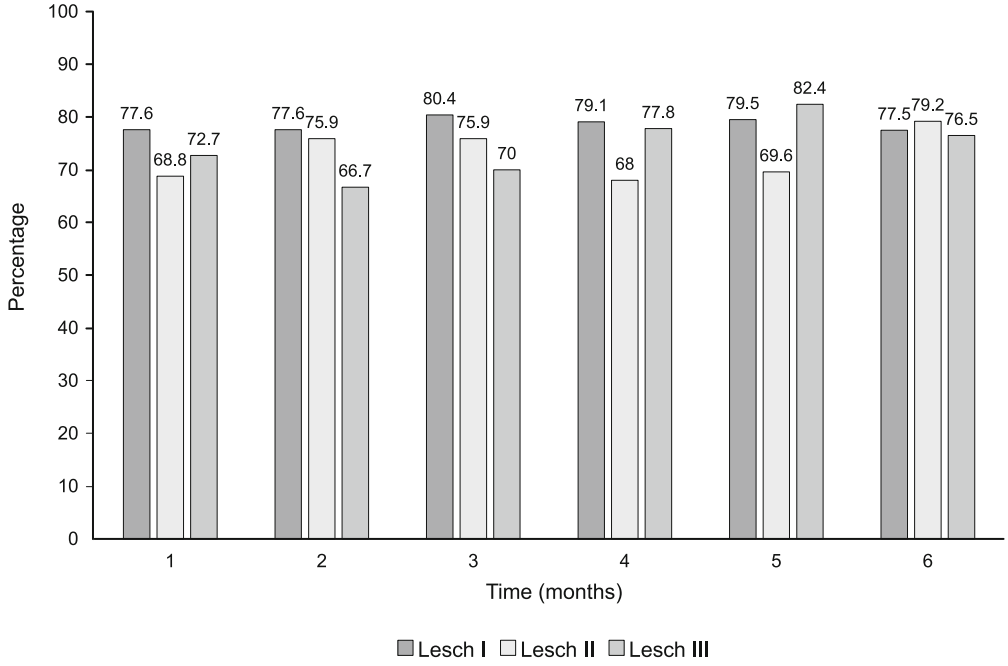

Fig. 3. Percentage of close persons present at particular control.

I patients, 30 % type II, 9 % type III, and 14 % type IV patients, and Bulgarian authors reported a proportion of more than 50 % of Lesch III type in their study of 140 participants (26). The major difference in our study was the number of Lesch type IV patients. In addition, the three patients identified as Lesch type IV, who met the inclusion criteria, differed significantly in the duration of addiction and had the highest AUDIT score at baseline. The underrepresentation of these patients may be due to their basic characteristics, according to Lesch, which did not allow them to be included in the study in a higher proportion.

A numeric observation showed that Lesch type I patients had a higher retention rate in comparison with types II and III from the first month of treatment, and a significant statistical difference in attendance to planned control was found only for the 5-month control. For a more precise evaluation, a survival analysis was performed, which showed a statistically significant difference between Lesch type I and Lesch types II and III merged into one group. Lesch II and III are similar in overlapping alcohol use and the psychopathological symptoms of anxiety or depression. This is the main difference from Lesch Type I, which is an individual with a primary tendency for alcohol consumption. Studies have been conducted with the aim of revealing biological markers in the background of distinct types (25, 27–29) or to assess the therapeutic response (30), but they did not yield conclusive results. The authors are not aware of published data focusing primarily on retention rates in the treatment of alcoholism depending on Lesch's typology and consider the finding of higher retention in the treatment of patients with Lesch type I to be clinically useful.

The presence of a close person met the inclusion criteria for the study. In the further course, the presence of an accompanying person, which was mostly a spouse or parent in younger patients, ranged from approximately 70 % to 80 % of the patients. The inclusion of family members may have the characteristics of personal support or social pressure (17) and has a positive effect at all stages of alcohol dependence treatment (31). Studies on long-term treatment also suggest that marital and family treatment can lead to long-term recovery (32). In our study, the positive effect of the presence of close people was reflected in the higher retention of patients in whose presence it was more frequent. The finding that close people were more likely to accompany Lesch I patients compared to the merged Lesch II and III groups at planned visits deserves attention and further research.

The baseline AUDIT score was not significantly different between the Lesch types, and no statistically significant difference in baseline AUDIT score and retention was found in the study. This finding underlines the fact that the retention ratio depends on a complex of factors (20, 33).

This study had several limitations. The basic limitation is the possibility of generalizing the results obtained from the sample with an underrepresentation of the Lesch IV type. Based on published data, it is problematic to estimate the representativeness of our sample more extensively according to Lesch's typology, as we did not find broader epidemiological data for comparison. The structure of the sample, as well as the results of the retention analysis could be influenced by the fact that the treatment and data collection were performed during the SARS-Cov-2 pandemic with several periods of lockdown. The pandemic has had multiple impacts on the health of the population and healthcare systems (34, 35). It can be hypothesized that patients attending treatment at the time of various restrictions and anti- pandemic measurements were really dedicated, and this was reflected in the high retention rate. The time extension of this study may provide new information with potential clinical utilization.

Conclusion

The results of this study show that treatment of alcohol dependence provided by a specialized outpatient office by a single professional can result in high retention of patients during the 6-month period. Identifying patients according to Lesch typology provides valuable clinical information outside the official diagnostic criteria and may have an impact on the retention rate during treatment. The findings of our study suggest a Lesch type I difference in retention rate in comparison with type II and III. As expected, the involvement of close people in the treatment positively affected the retention rate.

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