VOJNOSANITETSKI PREGLED

VOJNOMEDICINSKA AKADEMIJA

Crnotravska 17, 11 000 **Beograd, Srbija**

Tel/faks: +381 11 2669689
vsp@vma.mod.gov.rs

ACCEPTED MANUSCRIPT

Please cite this article: **THE ASSESSMENT OF PERSONALITY DIMENSIONS, TOBACCO SMOKING AND DEPRESSION AMONG TRETMENT- SEEKING MALE ALCOHOLICS**

PROCENA DIMENZIJA LIČNOSTI, PUŠENJA DUVANA I DEPRESIJE KOD LEČENIH MUŠKIH AKOHOLIČARA

Authors: Gordana Mandić Gajić*, Aleksandar Eror,*Nataša Pješčić†, Mirko Dolić*, Danilo Joković*, Gordana Nikolić‡; Vojnosanitetski pregled (2016); Online First Oktobar, 2016

UDC:

DOI: 10.2298/VSP160719290M

* Clinic for psychiatry, Military Medical Academy,Belgrade, Serbia
†Clinic for psychaitric disorders "Dr Laza Lazarević", Belgrade, Serbia
‡Clinic for mental health Clinical centre Niš, Niš, Serbia

The assessment of personality dimensions , tobacco smoking and depression among tretment- seeking male alcoholics

Sažetak Background/Aim. The co-occurrence of depression and tobacco smoking among treating alcoholics is frequent, but understudied. Some findings suggest that there are some shared aethiological factors, but a few clinical researches of personality dimensions among patients with these comorbidities were done. The personality dimensions, the pattern of cigarette use and depression and correlation of personality and depression among inpatient alcoholics were explored. Methods. The one hundred primary male inpatient alcoholics were consecutively recruited. The eigty six completed study and were compared with thirty male age matched healthy subjects. Semistructured clinical interview for sociodemographics, the pattern of cigarette and alcohol use and family history data was applied. According cut-off on Hamilton Depression Rrating Scale-HDRS (Hamilton, 1960) the alcoholics divided into depressive and non-depressive subgroups resulting in half of alcoholics in each subgroup. The Eysenck personality questionnaire- EPQ (Eysenck, 1975) was completed. Student t-test for differences and Pearson test for correlation were used. Results. There were no significant sociodemographic differences between groups. Alcoholics were more frequent smokers (86% vs. 50%). They didn't started drinking earlier, but earlier started smoking, with higher daily cigarettes use than controls. Alcoholics had average mild depression degree after detoxification. The personality dimensions did not show differences between groups, except neuroticism. The neuroticism showed significantly higher level among alcoholics vs. controls (12.72±5.19 vs. 5.00±3.36) and among depressive vs. non-depressive alcoholics (15.07± 4.89 vs.10.37±4.40). The depression correlated only with neuroticism ($r= 0.487$, $p<0.001$). Conclusions. The

majority of detoxified alcoholics were smokers, earlier started smoking with mild depression and higher neuroticism compared to controls. Our results suggest that the alcoholics with high neuroticism may experience higher depression and may require more intensive integrative treatment.

Introduction

There is increasing interest of researchers and clinicians in heterogenity of alcohol dependent patients, especially of those with comorbid conditions. The findings from epidemiological study on the prevalence of lifetime alcohol dependence was 12.5% and the prevalence of nicotine dependence among alcoholics was 45%, which is over two times higher than in the general population (1). Smoking is a major health issue in persons with a lifetime history of depression, who are twice as likely to smoke as those who do not suffer from depression (2). Co-occurance of mental disorders, such as alcohol use disorders (AUDs), major depression, and nicotine dependence are increasingly common among patients in the clinical settings but understudied and present challenges for treatment (3).

The complex, self-sustaining relationship between alcohol and tobacco dependence and depression is partly explaned by self-medication attempt by person who may smoke or drink to alleviate depression (4). Contrary, the long-term use of alcohol and nicotine can decrese levels of the brain serotonin production, which might worsen depression (5). The co-morbidy of alcoholism and depression is high and may related to effects of alcohol on neurotransmitters involved in mood regulation, but nicotine has been demonstrated antidepressant effects due to counteracts alcohol-induced depression in preclinical as well as clinical studies (6). This interaction may also be a contributory factor to drinking-smoking co-morbidity (7). Postreatment depressive symptoms are related to less abstinence and more frequent drinking (8).

Comorbidity of alcohol dependence with other substance abuse appears as a part to unique aetiology factors underlying for each substance use disorder. However, comorbidity of alcoholism with anxiety, mood and personality disorders were explained by shared aethiological factors, but a few clinical studies of personality traits among patients with these comorbidities were done (9).

Some researches reported that smoking behavior in the general population is linked to personality traits and negative emotionality, but it is unknown whether these traits are related to alcoholic smokers (10). Previous research has indicated that specific relations existence between personality traits in individuals with alcoholism (11). Exploration of these complex associations between drinking, smoking, and depression is important due to depression can complicate comorbid alcohol and nicotine dependences by exacerbating the negative affect during early abstinention from one or both drugs (12).

The aim in the present study was to explore the personality traits, cigarette smoking and depression among treatment-seeking alcoholics and the correlations between personality traits and depression were investigated.

Methods

Subjects and procedures

The cross sectiona study was performed at the Department for Psychiatry of the Military Medical Academy (MMA), Belgrade. The sample included consecutively recruited one hundred treatment-seeking male inpatient alcoholics, aged between 25 and 60 years. The total final sample consited of 86 alcoholics (Alc) who completed study. Inclusion criteria were alcohol dependence syndrome diagnosed according to Diagnostic and Statistic Manual of Mental Disorders-DSM-IV (American Psychiatric Association, 1994) (13). They were assessed at baseline and compared to 30 age matched male controls (Cont), which were consecutively recruited among persons undergoing periodical routine examination in the MMA. All subjects received complete medical, neurological and psychiatric examinations to confirm good health condition. Exclusion criteria for alcoholics were any other current DSM-IV Axis I diagnoses assessed by the Structured Clinical Interview for DSM-IV, a history of significant medical illness, the use of other psychotropic drugs or substances except tobacco smoking. Control subjects did not meet current or lifetime abuse or dependence criteria for alcohol or any other illicit drug and Axis I psychiatric diagnosis according SCID.

All participants were explored for demographic characteristics, the patterns of alcohol and cigarette use, the family history, personality dimensions and depression. In additional analysis, the alcoholics were reassessed for depression after four weeks of in-patient treatment and were categorized into depressive (Ad) and non-depressive (And) subgroup. The 50% of total alcoholics were scored above cut off score on Hamilton depression rating

Scale (Hamilton, 1960) (14) resulting in 43 subjects consisted each subgroup. The subgroups were compared for baseline characteristic.

All subjects signed written informed consent prior entering the study and all study procedures were approved by the Local Ethics Board.

Mesures

On the baseline a trained psychiatrist interviewed subjects by semistructured clinical interwiev for collecting sociodemographic characteristics, the paterns of alcohol and cigarette use and family hystory data. The pattern of alcohol use included the alcohol use in years, the drink number per week for the past year and the number of times in treatment. The smoking status was evaluated by years of daily smoking and daily cigarettes number. The family hystory (FH+) on alcoholism and depression was expplored.

Michigan alcoholism screening test- MAST (Selzer, 1971) (15) is 25-items screening tool for alcohol use disorder. The cut off score sum MAST score < 3 is related to no alcohol use disorder.

Depression was assessed by indipedent trained rater who applied the 21-item Hamilton Rating Scale for Depression (HDRS) (14). HDRS is semi-structured interview which score sum ranges from 0 to 63 and indicates condition with no depression (scored 0-7) and three degrees of severity: the mild depression (8-16 scored) moderate depression (17-24 scored) and severe depression scored 25 to 63.

The personality dimensions were measured by self-administered Eysenck Personality Questionnnaire- EPQ (Eysenck& Eysenck, 1975) (16). The EPQ consists of 90 true-false self-descriptive items and covers four dimensions: extraversion/introversion (E), neuroticism (N), psychoticism (P) and control (C) or lie scale. The neuroticism refers to the stability/instability dimension of personality and assesses the general emotional over-responsiviness, anxiety and worryng. Extraversion describes sociable, uninhibited personality. The psychoticism is related to more bizarre personality characteristics, such as being distant, cold, insensitive, absurd, and unable to empathize with others (Eysenck& Eysenck, 1975). The control, lie scale highlights the social desirability was introduced later in an attempt to measure to what extent subjects were deliberately attempting to control their scores (17).

Statistics

For all the variables descriptive statistics were applied and data were expressed as mean ± SD. The diffeence between groups was calculated by the Student t-test and $\chi 2$ test. The corellations were tested y Pearson's correlation coefficient. SPSS for Windows was used and the p values of 0.05 or below defined as statistically significant.

Results

The differences between alcoholics and controls

Demographic data did not show significant differences between groups.

The mean age (± SD) of the alcoholics and control subjects was 43.29 (±7.32) years and 43.33 (± 7.10) years, respectively (t= 0.028, n.s). The groups were similar in term of years of education Alc vs. Con 13.72+1.95 vs. 13.47+2.28 (n.s). There were married 83.7% of Alc and 93.3% of Cont subjects.

The significant difference for MAST score between Alc (19.01 ± 10.64) and controls (1.30 ± 1.12) was showed (t= 15.192, p<0.01). The majority of controls were social healthy drinkers (90%) and only 10% were sober. The alcoholics smoked cigarettes more frequently (86,01%) than controls (50%).

The data from the pattern of alcohol use and cigarettes use were presented in Table 1.

Table 1. about here

While alcoholics and haelthy controls did not differ in years of drinking, the group of alcoholics had more lyfetime smoking in comparation with healthy controls. The alcoholics consumed more drinks and more cigarettes daily (Table 1). The alcoholics had significantly more frequent family hystory for alcoholism, but no for depression and suicide in comparation to controls (Table 1).

The personality traits assessed by Eysenck personality questionnaire (EPQ) showed significant difference only for neuroticism, which was more prominent among alcoholics vs. controls 12.72±5.19 vs. 5.00 ±3.36 (t = 9.292, p< 0.01). There were not significant differences for other personality dimensions (Figure l).

(Figure l. about here)

Alcoholics were depressed. The mean HDRS sum score was 15.37 ± 6.20 for alcoholics and 1.43± 1.55 for controls with significant difference between groups (t = 19.219,

P < 0.01). The mean HDRS sum scores for depressive and non depressive alcoholics´ subgroups at baseline was 18.67±5.60 and 12.07±4.89 respectively (t= - 5.822, p<0.01).

The differences between depressive and non-depressive alcoholics

The depressive alcoholics had more lifetime duration of smoking and more number of treatment compared to non-depressive alcoholics near statistical significance difference, but there was no difference for daily cigarettes smoking (Table 2).

(Table 2 about here)

The personality traits differences between Ad and And alcoholics´ subgroups showed that only for Control (lie) scale there was no significant difference. The most prominent difference was higher neuroticism among depressive vs. non-depresive alcoholics 15.07± 4.89 vs. 10.37±4.40 (t= - 4.684, p<0,01) respectively . Depressive alcoholics had lower extraversion and higher psychoticism than non depressive alcoholics (p<0.05) (Figure 2).

(Figure 2. about here)

Relationship between personality dimensions and depression measures in depressive alcoholics recorded the positive and significant correlation between the mean HDRS sum score and EPQ Neuroticism dimension (r= 0.487, p<0.001), without significant correlation between other EPQ dimensions and depression. The exploring relations between each EPQ dimensions showed only negative correlation between Neuroticism and Extraversion (r= - 0.310, p<0.05).

Discussion

This study explored the male alcoholics´ personality and sociodemografic heterogenety in early alcohol recovery. The gender and individual differences may impact susceptibility to AUD and other addiction. However, the majority studies had mainly male subjects and gender was not taken into consideration in the analysis (18). In this paper all participants were male, and there were no significant demographic differences between groups. The majority of controls were socal drinkers (90%) and 50% of them were daily smokers. Among alcoholics 86% were smokers and more cigarettes daily had smoked than controls

(Table 1). These findings were in concordance with previous research in which smoking prevalence estimated among 80% of alcoholics in the clinical samples (19).

Early age at onset is an index of high liability to illness and may increases risk of illness in relatives in many biomedical disorders (20). Age at first alcohol use reported as a risk factor for the development of alcohol use disorders (21). In this paper alcoholics had significant longer duration of lifetime smoking than controls, which mean that they earlier started smoking in adolescence with almost two fold higher number of daily cigarettes use than controls (Table 1). Nicotine addiction use problems develops rapidly in adolescents and is the most expressed in vulnerable persons who have other substance use disorders or psychiatric illness. This findings are of interest since psychiatric comorbidities are associated with a less favorable prognosis (22).

There is groving interest in research and treatment of comorbid AUD and tobacco dependence. Some investigations showed that alcoholics smokers have a higher dependence severity than non-smokers suggesting carefull assessment of both dependences on admission (23). Alcoholisc smokers evidenced shorter alcohol treatment duration and poorer outcome compare to to their nonsmoking counterparts (24). The debate about treating tobacco dependence during early alcohol abstinention have continued. Some researches showed that concurent treatment does not increse risk for alcohol relaps, and suggest the integrating smoking cessation services in treatment program during early alcohol remission are needed to enhance smoking cessation outcomes in this population (25).

The family history (FH+) of alcohol dependence among first-degree relatives was significant more frequent among alcoholics (77.9%) compared to controls (26,6%). The male gender and FH+ of AUD present inherited high risk factors which contibute to heterogenity of alcohoholics (26, 27). Also, adult psychopathology are proposed as risk factors for AUD, especially depression, anxiety and personality disorders (28). Nicotine dependence considers as a general marker of psychiatric comorbidity, and the patients suffering from alcohol and nicotine dependence should be carefully assessed for other mental disorders (29). There are findings that negative affect is a strong relapse predictor (30). The association of smoking and depression explored with findings that former smoking and persistent smoking predict all depression dimensions (31). On the baseline total alcoholics sample reveal average mild depression score compared to normal mood level among controls and after four weeks of abstinention the half of alcoholics (Ad

subgroup) showed persistent depression according cut off score on HDRS (Table 1). The findings from general population survey sugested that gender and measurement are key issues in the interpreting the relationship between depression and alcohol. This relationship is stronger for women than for men only when measured major depression diagnose, but not when measured only recent depressed affect (32).

The exploring drinking pattern from three urban Eastern European populations showed that problem drinking was associated with approximately a 2-fold increase risk for depressive symptoms in both sexes (33). The central serotonergic (5-HT) function is related to alcohol dependence among the bouth gender with positive family history of alcoholism. Among them the gain-of-function 5-HTTLPR genotype is related to higher score of depression and neuroticism, so that may contribute to a compensatory drinking for these affective tendencies (34). For comorbid alcoholism and smoking various explanations were provided including genetics, pharmacodynamic and pharmacokinetic interactions such as rewarding and mood effects (35). Chronic haevy alcohol use may precipitate depressive-like behavior, however nicotine may block the depressogenic effects of alcohol (6). The early recovery alcoholics with comorbid depression are in the higher risk for tobacco smoking for mood modulating than alcoholics without depression (36). The depression is associated with relapse to drinking and there is need for early recognition and concurent tretment among alcoholics (25). Susceptibility to addiction may impact by individual differences (37). Neuroticism is useful marker of non-specified general risk for common mental disorders and is product of the genetic and environmental factors, with heritability estimates range from 40% to 60% (38, 39). In this paper, the EPQ personality dimensions did not expressed significant differences between alcoholics and control groups except neuroticism which was more than two-fold higher scored among alcoholics (Figure 1). However, depressive alcoholics (Ad) subroup was characterised by significant higher neuroticism and psychoticism, but lower extraversion compared to non-depressive alcoholics (And). The most prominent differences was registered for neuroticism which was three fold vs. two-fold higher among Ad vs. And alcoholics compared to controls 15,07 ±4,89 vs. 10,37±4,40 vs. 5.00±3.36 respectivelly (Figure 1, Figure 2). These results were consistent with findings of other researches that the alcohol-dependent patients showed high neuroticism, extroversion, anxiety, depression as compared with healthy control subjects (10,38). The patients with alcohol-dependency also obtained significantly higher scores on the neuroticism dimension (40). This indicates that they are significantly

more emotional, frequently anxious and/or depressed, moody and tense. Similar results were reported in earlier studies (18).

Exploring the relationship between personality dimensions and depression among depressive alcoholisc showed that only neuroticism significantly correlated with depression ($r= 0.487$, $p<0.001$). Other authors suggested that since depression in male alcoholisc is more related to neuroticism, strategies tailored stress or mood management would be usefull (38). The researches of assotiations of alcoholism and personality reported that the most vulnerable to alcoholism may be the persons with high neuroticism/negative emotionality (41). Furthermore, in this paper the results indicated negative correlation between neuroticism and extarverion, without significant differences between other personality dimensions. The prominent extraversion are characterized with sociability, activity, assertiveness and under-aroused, thus substance use disorders may consider as a form of stimulation (42).

The expression of personality traits may be influenced by other factors, thus potentially biasing the results. The gender differences in personality traits across cultures showed significantly higher impulsivity and lower neuriticism among men than women (43). Also, the age of participants should be taken into consideration because personality may be not fully established before age 30 (37). In this paper all subjects were midle aged male, so the gender and age differences did not influenced the personality traits results. When consider personality vulnerability and depression among alcoholics there is need for taking account the previous research which suggested that treatment seeking alcoholics often have greater alcohol-related problems and psychiatric distress than those who do not seek treatment (28).

There are several limitations of the generalizability the findings in this study. The cross-sectional design was used in relative small sample, thus the observed differences in the personality traits do not provide explanation whether they are the causes or consequences of alcohol dependence development. Furthermore, the inpatient are likely to have more severe psychopatology and comorbities compared to general population. Also, patients' personality traits scores were not pre-morbid and chronic AUD may modify the assessment of personality traits. The larger prospective study with both gender subjects is need for further sudy of complex interplay between alcoholism, tobacco smoking, depression and personality traits. Thus, these findings maith inform early interventions and treatments that target alcoholics at risk for developing persistent depression in the early alcohol recovery.

Conclusion

These findings showed that male alcoholics significantly earlier started smoking with more daily cigarettes smoking and were significantly more depressive with prominent neuroticism compared to healty subjects. The primary male treatment-seeking alcoholics characterised with higher neuroticism may experience persistent depression, thus requiring more intensive interventions and relapse prevention approaches.

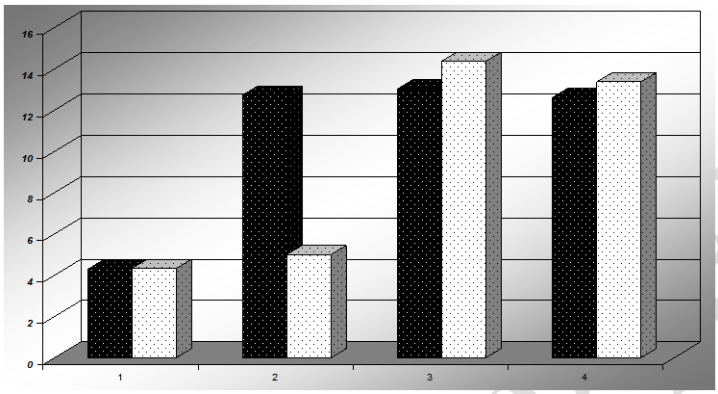
References

1. Grant BF, Stinson FS, Dawson DA, Chou SP, Dufour MC, Compton W, Pickering RP, Kaplan K. Prevalence and co-occurrence of substance use disorders and independent mood and anxiety disorders: results from the National Epidemiologic Survey on Alcohol and Related Conditions. Arch Gen Psychiatry. 2004; 61(8): 807-16.
2. Mendelsohn C. Smoking and depression. A review article. Australian family physician. 2012; 41(5): 304-7.
3. Hsiao-ye Yi, Ph.D.; and Susanne Hiller-Sturmhöfel, Ph.D.An Epidemiologic Analysis of Co-Occurring Alcohol and Tobacco Use and Disorders Findings From the National Epidemiologic Survey on Alcohol and Related Conditions . Alcohol Research & Health. 2006; 29 (3): 162 -171.
4. Hertling I, Ramskogler K, Dvorak A. Craving and other characteristics of the comorbidity of alcohol and nicotine dependence. European Psychiatry. 2005; 20: 442–450.
5. Jang, M.H.; Shin, M.C.; Lee, T.H.; et al. Alcohol and nicotine administration inhibits serotonin synthesis and tryptophan hydroxylase expression in dorsal and median raphe of young rats. Neuroscience Letters. 2002; 329:141–144.
6. Olubukola K, Bhatti B, Taylor R, Tizabi Y. Nicotine Blocks the Depressogenic Effects of Alcohol: Implications for Drinking-Smoking Co-Morbidity. J Drug Alcohol Res. 2013; 2: 235709.
7. Hurley L, Taylor R and Yousef Tizabi Y. Positive and Negative Effects of Alcohol and Nicotine and Their Interactions: A Mechanistic Review Neurotox Res. 2012; 21(1): 57–69.
8. Kodl MM, Fu SS, Willenbring ML, Gravely A, Nelson DB, Joseph AM.The impact of depressive symptoms on alcohol and cigarette consumption following treatment for alcohol and nicotine dependence. Alcohol Clin Exp Res. 2008 ; 32(1): 92-9.
9. Hasin DS, Stinson FS, Ogburn E, Grant BF. Prevalence, correlates, disability, and comorbidity of DSM-IV alcohol abuse and dependence in the United States: results from the National Epidemiologic Survey on Alcohol and Related Conditions. Arch Gen Psychiatry. 2007; 64(7): 830-42.

10. Kimberly S. Walitzer, Ph.D. and Ronda L. Dearing. Characteristics of Alcoholic Smokers, Nonsmokers, and Former Smokers: Personality, Negative Affect, Alcohol Involvement, and Treatment Participation Nicotine Tob Res. 2013; 15(1): 282–286.
11. NoëlX, Brevers D, Bechara A, Hanak C, Kornreich C, Verbanck P, Le Bon O. Neurocognitive Determinants of Novelty and Sensation-Seeking in Individuals with Alcoholism. Alcohol and Alcoholism. 2011; 46 (4): 407-415.
12. Ait-Daoud N, Lynch W.J, Penberthy J.K. Treating smoking dependence in depressed alcoholics. Alcohol Research & Health. 2007; 29(3): 213–220.
13. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. Washington, DC: American Psychiatric Association; 1994.
14. Hamilton M. A rating scale for depression. J Neurol Neurosurg Psychiatry 1960; 23: 56-62.
15. Selzer ML.The Michigan alcoholism screening test: the quest for a new diagnostic instrument. Am J Psychiatry. 1971 ; 127(12): 1653-8.
16. Barrett PT,Petrides KV, Eysenck SBG, Eysenck HJ. The Eysenck Personality Questionnaire: an examination of the factorial similarity of P, E, N, and L across 34 countries. Personality and Individual Differences 1998; 25 (5): 805–819.
17. Eysenck S. B. G, Eysenck H. J, Barrett P. A revised version of the psychoticism scale, Personality and Individual Differences. 1985; 6: 21–29.
18. Chaudhury S, Das SK, Ukil B. Psychological assessment of alcoholism in males. Indian J Psychiatry. 2006; 48(2): 114–117.
19. Kalman D, Kim S, DiGirolamo G, Smelson D, Ziedonis D.Addressing tobacco use disorder in smokers in early remission from alcohol dependence: the case for integrating smoking cessation services in substance use disorder treatment programs. Clin Psychol Rev. 2010; 30(1): 12–24.
20. Kendler KS, Gatz M, Gardner CO, Pedersen NL.Age at onset and familial risk for major depression in a Swedish national twin sample. Psychol Med. 2005; 35(11):1573-9.
21. DeWit DJ, Adlaf EM, Offord DR, Ogborne AC. Age at first alcohol use: a risk factor for the development of alcohol disorders. Am J Psychiatry. 2000; 157(5):745-50.
22. Dani JA, Harris RA.Nicotine addiction and comorbidity with alcohol abuse and mental illness. Nat Neurosci. 2005; 8(11): 1465-70.
23. John U, Meyer C, Rumpf HJ. Strength of the relationship between tobacco smoking, nicotine dependence and the severity of alcohol dependence syndrome criteria in a population-based sample. Alcohol Alcohol 2003; 38: 606-12.
24. Dearing RL, Barrick C, Shyhalla K.Tobacco Smoking Among Male and Female Alcohol Treatment-seekers: Clinical Complexities, Treatment Length of Stay, and Goal Achievement. Subst Use Misuse. 2015; 50(2): 166-73.
25. Joseph AM, Willenbring ML, Nugent SM, Nelson DB. A randomized trial of concurrent versus delayed smoking intervention for patients in alcohol dependence treatment. Journal of Studies on Alcohol.2004; 65: 681–691.
26. Petry NM, Kirby KN, Kranzler HR. Effects of gender and family history of alcohol dependence on a behavioral task of impulsivity in healthy subjects. J Stud Alcohol. 2002; 63:83–90.
27. Larkins JM1, Sher KJ. Family history of alcoholism and the stability of personality in young adulthood. Psychol Addict Behav. 2006; 20(4): 471-7.
28. Eddie D, ; Email:ude.sregtur.icr@nietspebCohn AM. Pathways to Vulnerability for Alcohol Problem Severity in a Treatment-Seeking Sample. Addict Disord Their Treat. 2015; 14(2): 82–94.

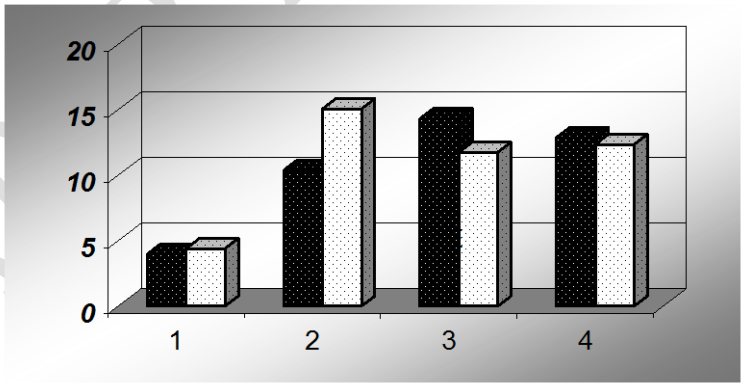
29. Le Strat Y, Ramoz N, Gorwood P. In alcohol-dependent drinkers, what does the presence of nicotine dependence tell us about psychiatric and addictive disorders comorbidity?Alcohol Alcohol. 2010; 45(2): 167-72.
30. Heffner J, Mingione C, Thomas J. Blom T, Robert M. Anthenelli R. Smoking History, Nicotine Dependence, and Changes in Craving and Mood during Short-Term Smoking Abstinence in Alcohol Dependent vs. Control Smokers.Addict Behav. 2011; 36(3): 244–247.
31. Korhonen T, Koivumaa-Honkanen H, Varjonen J, Broms U, Koskenvuo M, Kaprio J. Cigarette Smoking and Dimensions of Depressive Symptoms: Longitudinal Analysis Among Finnish Male and Female Twins.Nicotine & Tobacco Research 2011; 13 (4): 261-272.
32. Graham K, Massak A, Demers A, Rehm J. Does the association between alcohol consumption and depression depend on how they are measured? Alcohol Clin Exp Res. 2007; 31(1):78-88.
33. Bell S, Britton A, Kubinova R, Malyutina S, Pajak A, Nikitin Y, Bobak MDrinking pattern, abstention and problem drinking as risk factors for depressive symptoms: evidence from three urban Eastern European populations. PLoS One. 2014; 13; 9(8):e104384.
34. Lovallo WR, Enoch MA, Yechiam E, Glahn DC, Acheson A, Sorocco KH, Hodgkinson CA, Kim B, Cohoon AJ, Vincent AS, Goldman D. Differential impact of serotonin transporter activity on temperament and behavior in persons with a family history of alcoholism in the Oklahoma Family Health Patterns Project. Alcohol Clin Exp Res. 2014; 38(6): 1575-81.
35. Hurley LL, Taylor RE, Tizabi Y. Positive and negative effects of alcohol and nicotine and their interactions: a mechanistic review. Neurotox Res. 2012; 21:57–69.
36. Currie SR, Wiley J, Yates WR: Influence of depression and gender on smoking expectancies and temptations in alcoholics in early recovery. J Subst Abuse.2001; 13(4): 443-58.
37. Zilberman ML, Tavares H, el-Guebaly N. Relationship between craving and personality in treatment-seeking women with substance-related disorders. BMC Psychiatry. 2003 Jan 13;3:1. Epub 2003 Jan 13
38. Ormel J, Jeronimus BF, Kotov R, Riese H, Bos EH, Hankin B, Rosmalen JG, Oldehinkel AJ. Neuroticism and common mental disorders: meaning and utility of a complex relationship. Clin Psychol Rev. 2013; 33(5): 686-97.
39. Flint J. The genetic basis of neuroticism. Neuroscience and Biobehavioral Reviews. 2004; 28(3): 307–316.
40. Mulder RT.Alcoholism and personality. Aust N Z J Psychiatry. 2002; 36(1): 44-52.
41. Roy A. Neuroticism and depression in alcoholics. J Affect Disord. 1999; 52(1-3): 243-5.
42. Eysenck HJ, Mohan J, Virdi PR. Personality of smokers and drinkers. J Indian Assoc Appl Psychol.1994; 20:39–44.
43. Costa PT, Terracciano A, McCrae R. Gender differences in personality traits across cultures: robust and surprising findings. J Pers Soc Psychol. 2001; 81: 322–33.

Figure 1: The personality dimensions assessed by Eysenck personality questionnaire (EPQ) among alcoholics and controls



1 EPQ Psychoticism 3 EPQ Extraversion
2 EPQ Neuroticsm 4 EPQ Control scale (lie)
■ alcoholics □ controls

Figure 2: The personality dimensions assessed by Eysenck personality questionnaire(EPQ) among depressive and non-depressive alcoholics



1 EPQ Psychoticism 3 EPQ Extraversion
2 EPQ Neuroticism 4 EPQ Control scale
■ □ non- depressive alcoholics depressive alcoholics

Table 1. The patterns of alcohol and cigarettes smoking and family history (FH+) among alcoholics and controls

	Alcoholics M±SD	Controls M±SD	t	p
Years of alcohol use	25.47 ± 8.35	26.40 ± 8.64	-0,367	n.s.
Alcohol units per week	65.52 ± 27.49	4.20± 5.53	19.585	< 0,01
Max alcohol units per occasion	13.93± 5.04	2.57 ±1.72	18.114	<0.01
Daily cigarettes number	27.91 ±17.29	14.17 ±14.39	3.903	<0.01
Years of smoking	20.20 ±10.46	11.93 ± 12.26	3.297	< 0,01
Family history (FH+)	% (n)	% (n)	$\chi 2$	p
FH+ for alcoholism	77.9% (67)	26.7% (8)	25.554	<0.01
FH+ for depression	9.3% (8)	0% (0)	2.997	n.s.
FH+ for suicide	10.5% (9)	16.7% (5)	0.806	n.s.

Table 2. The pattern of cigarettes smoking and alcoholism, the number of treatment and MAST score differences between non-depressive (And) and depressive (Ad) alcoholics

	And (n=43)	Ad (n=43)	t	p
Daily cigarettes number	27.21 ± 16.27	28.60 ± 18.43	-0,372	n.s.
Years of smoking	18.1± 10.46	22.28 ± 10.16	1.872	0.065
Number of treatment	1.14 ± 0.41	1.37± 0.66	-1.968	0.052

Received on July 19, 2016.
Accepted on July 25, 2016.
Online First October, 2016.