Correlation and characteristics of self-rating and clinically rating depression among alcoholics in the course of early abstinence

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Abstract

Background/Aim. Depression is an alcoholism relapse risk factor, but frequently stays underdiagnosed among treated alcoholics. The correlation and characteristics of self-reported and clinically assessed depression in the course of early alcohol abstinence were explored. Methods. A total of 100 inpatient, primary male alcoholics (20–60 years) diagnosed according to Diagnostic and Statistical Manual of Mental Disorders (ICD-10) and Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) were recruited consecutively. The Hamilton Depression Rating Scale (HDRS) and Beck Depression Inventory (BDI) were scored on admission (T1), after 4 weeks (T2) and after 8 weeks (T3). Student's t-test, repeated measures ANOVA and Pearson's correlation between the scores were done (p < 0.05). Factor analyses of symptoms were performed. Results. On HDRS T1, T2, T3 90.7%, 39.5%, 17.4% alcoholics were depressive, respectively. The mean HDRS vs BDI scores on T1, T2 and T3 were 15.16 ± 6.34, 7.35 ± 4.18, 4.23 ± 2.93 vs 14.20 ± 9.56, 8.14 ± 7.35, 5.30 ± 4.94, respectively. Depression severity significantly lowered in the course of abstinence (ANOVA). The HRDS and BDI correlations on T1, T2 and T3 were significant (r1 = 0.763, r2 = 0.684, r3 = 0.613 respectively). Dysphoric mood, anxious, vegetative and cognitive HDRS subscales on T1, T2 and T3 were detected, but not BDI factors, thus BDI symptoms were analysed. Conclusions. The majority of alcoholics had depression on admission. A predominant mild-degree with a significant lowering of depression severity and positive significant correlations between HRDS and BDI scores in the course of abstinence were detected. The dysphoric mood on the HDRS subscale, and self-blame, anhedonia and guilt BDI symptoms were most prominent and persisted. The BDI could be a useful tool not only for routine screening and reassessment of depression, but also for exploring emotional content during early abstinence and planning tailored integrative therapy and relapse prevention for alcoholics.

Key words: alcoholism; depression; comorbidity; psychiatric status rating scales; self-evaluation programs.

Apstrakt

Uvod/Gilj. Depresija predstavlja faktor rizika za relaps alkoholizma, ali je često nedijagnostikovana kod lečenih alkoholičara. Ispitani su povezanost i karakteristike samo procene i procone depresije kod alkoholičara u toku rane apstinencije. Metode. U ispitivanje je bilo uključeno 100 primarnih alkoholičara muškog pola, starosti 20–60 godina (diagnostikovani prema Međunarodnoj klasifikaciji bolesti – MKB-10 i Diagnostičko-statističkim priručnikima – DSM-IV). Depresija je bila procenjena Hamiltonovom skalom (HDRS) i Bekovim upitnikom (BDI) na prijemu (T1), posle četiri (T2) i osam nedelja (T3). Razlike skorova bile su testirane Studentovim t-testom i ponovljenim merenjima ANOVA. Primenjena je i Pearsonova korelacija (p < 0.05), kao i faktorska analiza simptoma. Rezultati. Na HDRS skali u vremenima T1, T2, T3 bilo je depresivno 90.7%, 39.5%, 17.4%, odnosno 17.4% alkoholičara. Prosečni skrovi HAMD vs BDI u vremenima T1, T2 i T3 bili su 15,16 ± 6,34, 7,35 ± 4,18, 4,23 ± 2,93 vs 14,20 ± 9,56, 8,14 ± 7,35, 5,30 ± 4,94. Opadanje težine depresije na ANOVA i korelacije između HRDS i BDI u vremenima T1, T2 i T3 (r1 = 0.763, r2 = 0.684, r3 = 0.613) bile su značajne. Na sva tri merenja bile su prisutne sve četiri HDRS supskale (disforično raspoloženje, anksioznost, vegetativna i kognitivna), ali BDI faktori nisu nadeni, pa su analizirani BDI simptomi. Zaključak. Na prijemu, većina alkoholičara imala je prosečno blagu depresiju. U toku osam nedelja, značajno je opao intenzitet depresije sa pozitivnom korelacijom između HDRS i BDI. Posle osam nedelja perzistirala je kao najprominjenija Hamiltonova supskala disforičnog raspoloženja, a na BDI simptomi samooptuživanje, osećaji gubika zadovoljstva i krivice. BDI bi mogao biti koristan ne samo za rutinsko ispitivanje i praćenje depresije, već i za procenu unutrašnjeg sadržaja depresije u ranoj apstinenciji radi planiranja integrativnog lečenja i prevencije relapsa kod alkoholičara.

Ključne reči: alkoholizam; depresija; komorbiditet; psihiatrijski status, testovi; samoprocena, programi.
**Introduction**

Alcoholism and depression often co-occur as confirmed in numerous both clinical and population investigations. Several decades ago depression was not treated in dependent alcoholics because clinicians experience was that depressive symptoms were transitory during alcohol withdrawal. Alcohol-induced depression withdraws after the four-week abstinence and explains almost one half of depression episodes prevalence in alcoholics lives and it does not require treatment. A prospective study showed that after a year of abstinence, male alcoholics were at more than twofold increased risk of severe depression comparing to general population. A study on relapse prevention has shown that the most frequent determinant for relapse in the treatment of alcoholics was depressive mood in the early phase of abstinence. Follow-up of the treated relapse in the treatment of alcoholics was depressive mood. The intervention has shown that the most frequent determinant for depression are a particular problem because those with depression in the course of early abstinence phase and to analyze its content with the purpose to improve integrative program for alcoholics.

The aim of this study was to examine correlations and characteristics of clinical rating and self-rating depression among alcoholics in the course of early abstinence.

**Methods**

**Study design**

The study was performed prospectively in the 8-week period at the Department for Psychiatry of the Military Medical Academy, Belgrade. The depressive symptoms were assessed at the three following times: on admission (T1), repeated after 4 weeks (T2) and after 8 weeks (T3) of the abstinence period. The patients underwent the period of 4 weeks in-patient and 4 weeks abstinence-focused day integrative program for alcoholics.

**Subjects**

A total of 100 male alcoholics, aged between 20 and 60 years, consecutively recruited on admission in a closed ward for 4 weeks and in the day program unit for the next 4 weeks were studied. Inclusion criteria were alcohol dependence syndrome diagnosed according to Classification of Mental and Behavioural Disorders – ICD-10 (World Health Organisation, 1992) and Diagnostic and Statistic Manual of Mental Disorders – DSM-IV (American Psychiatric Association, 1995). The subjects were primary alcoholics and the time-line meted was used for depression and primary alcoholism distinction. Exclusion criteria were a lifetime history of any DSM-IV Axis I disorder included depressive disorder and any psychiatric comorbidity or additional illegal substance abuse. Medical disorders were excluded by a clinical history, routine blood tests and complete physical exam. Examination was done independently by two physicians. The psychotropie medication, other than benzodiazepines and disulfiram were not allowed. Nine participants were excluded due to relapse and 5 had missed follow-up data resulting in a final sample of 86 alcoholics. Alcohol and drug screen were monitored.

The study protocol was approved by the Local Ethics Board and prior to the investigation written informed consents from all the subjects were obtained. The investigation was carried out according to the principles of good clinical practice and according to the Declaration of Helsinki.

**Procedures**

Sociodemographic characteristics and the pattern of alcohol use were obtained by the semistructured clinical interview on the baseline.

**Assessment for depressive symptoms**

Depression was evaluated and monitored by the Hamilton Rating Scale for Depression (HDRS) and Beck Depression Inventory (BDI).

The Hamilton Rating Scale for Depression is a clinician-rated semi-structured interview. Severity of depression was assessed by independent trained psychiatrist using the 21-item HDRS. Score sum can range from 0 to 63, and measures a normal range between 0 and 7, mild depression between 8 and 16, moderate depression between

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17 and 24 and over 24 indicate severe depression. The 4 HDRS factors were extracted: dysphoric mood, anxiety/agitation, vegetative, and cognitive symptoms according Brown et al. 20.

The BDI is a paper and pencil questions survey which completion by patient require 5–10 minutes 21. Items are scored on 4-point scale value of 0–3. Score sum indicates degree of severity: 0–9, no or minimal depression; 10–16, mild depression, 17–29, moderate depression and 30–63, severe depression. Factor analysis of BDI symptoms extracted only mood factor interpretable in this sample, so we analyzed each BDI symptom severity.

Statistical Analysis

Descriptive statistics were calculated for all the variables and all data were expressed as mean ± SD. The difference between depression characteristics was calculated using the Student t-test. The p values of 0.05 or below were defined as statistically significant. Correlations were calculated using Pearson’s correlation coefficient. The analysis of variance (ANOVA) for repeated measures was applied to examine differences of the mean depression rates at each time point (T1, T2, T3). Data were analyzed in Statistical Package for Social Sciences (SPSS) for Windows.

Results

Participant characteristics

Sociodemographical characteristics showed that the average age of male alcoholics was (X ± SD) 43.3 ± 7.3 years. They had the mean 13.7 ± 1.95 years of education. The majority of them (87.1%) were employed and were married (83.7%). The following data from the pattern of alcohol use were gathered: the first alcohol related problems occurred 10.3 ± 7.5 years ago, the average alcohol consumption in the month before the assessment was 65.5 ± 27.5 alcohol units per day.

Depression characteristics

The average mild-degree depression severity was detected by both scales on admission. The mean scores for HDRS and BDI were 15.16 ± 6.34 and 14.20 ± 9.56, respectively. The mean scores decreased in the course of the study. After 4 weeks they were 7.35 ± 4.18 for HDRS and 8.14 ± 7.35 for BDI. Finally, after 8 weeks the mean scores were 4.23 ± 2.93 for HDRS, and 5.30 ± 4.94 for BDI.

One-way repeated measures ANOVA were conducted to compare the scores for each scale. There were a significant differences between each repeated time points; for HDRS Wilks’ Lambda = 0.44, F (84) = 53.71, p < 0.01; and for BDI Wilks’ Lambda = 0.834, F (84) = 203.82; p < 0.01.

Depression was assessed in the majority of alcoholics on admission: in 90.7% on HDRS (mild 51.2%, moderate 31.6% and 7% severe degree) and 59.3% on BDI (mild 22.1%, moderate 29.1% and 8.1% severe degree). After 4 weeks (T2) depressive were 39.5% alcoholics on HDRS (mild 36.0%, and moderate 3.5% degree) and 30.2% on BDI (mild 15.1%, moderate 12.8%, and 2.3 % severe degree). After 8 weeks (T3) there were only 17.4% mild depressive alcoholics on HDRS, and 16.3% on BDI (mild 10.5%, moderate 4.6%, and 1.2 % severe degree).

A significant positive correlation between the mean HDRS and the mean BDI sum scores was detected at all the 3 measuring points: r = 0.763 (T1), r = 0.684 (T2), r = 0.613 (T3), respectively (p < 0.01 for all correlations).

Figure 1 showed the all 4 HDRS subscales presented in the course of 8 weeks of abstinence that decreased from baseline (T1) to T 2 and T3 time points.

![Figure 1](image_url)

Fig. 1 – Mean values of Hamilton Rating subscale scores at 3-time measurement (T1, T2, T3)

Subsclases: 1. Dysphoric mood; 2. Dysfunctional cognitions; 3. Vegetative symptoms and 4. Anxiety/agitation.

The mean value of BDI symptoms decreased from the time point T1 throughout the study (Figure 2). On admission the most prominent symptoms were self-blame (item 8), punishment (item 6), anhedonia (item 4), agitation (item 11), irritability (item 17), guilt (item 5), insomnia (item 16), sadness (item1), fatigue (item 20).

![Figure 2](image_url)

Fig. 2 – Mean values of the Beck Depression Inventory (BDI) items scores at the 3-points of measurement (T1 – on admission; T2 – after 4 weeks; T3 – after 8 weeks. BDI 21 items: 1. sadness; 2. hopelessness; 3. past failure; 4. anhedonia; 5. guilt; 6. punishment; 7. self-dislike; 8. self-blame; 9. suicidal thoughts; 10. crying; 11. agitation; 12. loss of interest in activities; 13. indecisiveness; 14. worthlessness; 15. loss of energy; 16. insomnia; 17. irritability; 18. decreased appetite; 19. diminished concentration; 20. fatigue; 21. lack of interest in sex.

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Discussion

The depression prevalence in the treated alcoholics is quite irregular, which can be partly explained by various evaluation instruments and treatment settings. Major depression was assessed by HDRS among 33.4% of the treated alcoholics on admission and varied from 29% to 53% in different clinical researches. By combination of the cut-off score on HDRS and BDI moderate up to severe depression was detected in 33.3% of outpatient alcoholics. In this paper the average severity of depression at the beginning of abstinence on the upper level of mild degree was detected with a significant decrease of the HDRS sum and BDI sum scores during the 8 week abstinence. Other authors have also reported reducing depression severity within the period of inpatient detoxification and abstinence.

Analyzing the frequency of depression severity levels in our sample it was observed that the majority of alcoholics were depressive on admission (HDRS vs BDI: 90.7% vs 59.3%) with the presence of mild, moderate and severe depression levels. After 4 weeks the HDRS confirmed persistent only mild (36%) and moderate depression (3.5%), and after 8 weeks only mild depression persisted in 17.4% alcoholics. Another researchers found severe depression on HDRS among 25% vs 44% in-patient male alcoholics on admission and 11.4% vs 6% after the 4-week treatment.

Various instruments for clinical evaluation of depression in alcoholics were used by many investigators. HDRS is a golden rule in diagnostics of depression and this observer rating scale was used to minimise influences on the self rating depression scale. When used for the clinical sample of male alcoholics HDRS showed sensitivity of 100% and specificity of 96%, while BDI showed 67% of sensitivity and 69% of specificity and HDRS and BDI correlation was significant \( r = 0.29 \). This paper determined statistically significant positive correlation for BDI and HDRS in all the three points of measurements with \( r_1 = 0.763 \) (T1), \( r_2 = 0.684 \) (T2) and \( r_3 = 0.613 \) (T3).

Depressive syndrome represents a constellation of symptom groups, but except for the screening and evaluation of depression severity, attention is not sufficiently paid to some symptoms, so plenty of the obtained items is left unused for exploration of depression content. In this study the most prominent HDRS subscale through all the 3 measurements was dysthmic mood, followed by anxiety, vegetative and cognitive subscale and it was found that each of them decreased in T2 and T3 reassessments. Another author found that the more prominent were anxiety and vegetative subscale among male alcoholics after 4 weeks of abstinence. Our results with less prominent vegetative and anxiety subscales suggested that it was unlikely that the association of depression is highly influenced by alcohol withdrawal syndrome.

Factor analysis of BDI symptoms was performed, but except depressive mood, other factors were not found in this study. Other authors reported inconsistent findings of the factor model of the BDI in clinical sample of alcoholics. For this reason the BDI items were analyzed in order to recognize depression quality in alcoholics on the basis of their self-rating. After 8 weeks the most persistent and prominent BDI symptoms were: self-blame, anhedonia and guilt, and after 4 weeks the most prominent symptoms together with the aforementioned ones were also punishment and past failure. However, at the beginning of abstinence the following symptoms together with the aforementioned persistent ones were: insomnia, sadness, irritability, agitation and fatigue. The alcohol withdrawal through the psychobiological stress mechanisms and changed neuroadaptation results in marked symptoms of anxiety as well as of vegetative ones which most often withdraw spontaneously within 3 weeks. Depression and outcome of the treated alcoholism are significantly associated, but there is no evidence of the strong, direct causative correlation. In male alcoholics with more expressed depression at the beginning of abstinence, relapse was more often noticed after 5 months. In our sample mild depression on admission was observed, on average. In clinical practice attention is mostly paid to major depression, but the mild one is often overlooked and underestimated. However, the presence not only of major but also of mild depression in alcoholics has predictive importance concerning the course and outcome of their treatment. In a year follow-up after inpatient treatment, the male alcoholics with mild to moderate depression evaluated on admission by the BDI had 2.9 times and with severe depression 4.9 times higher risk of relapse in comparison to non-depressive alcoholics.

Comorbid depression has unfavourable affect upon the outcome of treated alcoholism so that integrative psychosocial and pharmacological treatment of dependence is recommendable together with the combination of antidepressive agents and cognitive-behaviour therapy. The focus is on the treatment of dependence and antidepressive agents show moderate effect. The first step is early diagnosis of depression even on admission. Taking into consideration that antidepressive therapy was not included in this study, partial remission of depression should be attributed to discontinued alcohol withdrawal as well as to the absent toxic effect of alcohol.

This study is limited to data from the small clinical sample of male alcoholics and also to the short follow-up period. Further investigations regarding the course of depression, and the impact on possible therapeutic consequences with large samples of both genders and within the longer period of time are needed.

Conclusion

The majority of male alcoholics were depressive on admission and had a mild-degree of severity both on Hamilton Rating Scale for Depression and Back Depression Inventory scales. A significant positive correlation between rating (HDRS) and self-rating (BDI) of depression was established. A significant decrease of rating and self-rating of depression severity was detected together with the most prominent and persistent dysthmic mood HDRS subscale. Self-blame, anhedonia and guilt were the most persistent and prominent BDI symptoms among alcoholics in the course of early abstinence. The BDI could be a useful tool not only for routinely screening and reassessment of depression, but also for exploring emotional content during early abstinence and planning tailored integrative therapy and relapse prevention for alcoholics.

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