

The use of psychosocial intervention in combination with pharmacotherapy and treatment response among patients with alcohol addiction in Tirana, Albania

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Abstract

Aim: There has been an increase in the levels of alcohol intake in Albania, particularly among men. In recent years, the use of pharmacotherapy together with psychosocial interventions has enhanced the percentage of success in maintaining alcoholic patients in remission. The aim of this study was to describe an alcohol treatment program in Albania, as well as to assess the response to psychotherapeutic and pharmacologic treatment of alcohol-addicted patients in Albania.

Methods: This is a prospective study including 51 consecutive subjects admitted to the Clinic for the Treatment of Alcohol Addiction at the University Hospital Center “Mother Teresa” in Tirana, Albania, over the period September 2010 – September 2011. After the three week period of hospitalization all patients were followed up for one year after discharge.

Results: Mean age of the patients was 47.3 ± 9.8 years (range 31-60 years). About 96% of the patients were males. The most frequent disorders among patients were psychiatric disorders in 41 (80%) patients, followed by internal disorders in 36 (70%) patients and neurological disorders in 15 (30%) patients. Patients with high dependence were 3.2 times more likely to manifest anxiety and general depressive disorders than patients with low dependence without a significant difference between them (OR=3.2, 95%CI=0.6-19.28, P=0.1). About 45% of the patients achieved one year abstinence (95%CI=33.2-58.6). About 55% (95%CI=41.3-67.7) of the patients relapsed to alcohol use. Divorced patients were 8.7 times more likely to relapse compared to the married counterparts (OR=8.7, 95%CI=1.7-66.4). Around 67% of married patients who relapsed manifested family/ spouse relationship difficulties (P<0.01).

Conclusion: The high rates of associated psychiatric disorders in patients with alcohol-use disorders require that alcoholic patients undergo careful psychiatric evaluation. Similarly, the treatment of alcohol-dependent patients with comorbid disorders is complex. The pharmacotherapy should not be considered as the only form of treatment, but as an integrated part of a multimodal approach including psychological and social support.

Keywords: alcohol, behavioral and mental disorder, dependence, diagnosis, psychotherapy, treatment.

Background

As in many countries, the consumption of alcohol beverages is becoming ever more culturally present and socially accepted behavior. Alcohol consumption is rising in many developing countries and in Central and Eastern Europe. Based on food balance data, Albania has one of the lowest levels of annual alcohol consumption in Europe (1). This is questionable as alcohol consumption is underestimated from official statistics due to high levels of unrecorded production in Albania. These and other observations consider that there has been an increase in levels of alcohol intake in Albania, particularly among men who face greater challenges during this transitional period. The Ministry of Health reported that alcohol abuse was becoming more widespread, especially in Tirana. There is no national epidemiological data collection system on alcohol intake (2,3). Although there are no data on binge drinking for Albania, and overall standardized mortality data suggest that there is not a major problem of alcohol abuse, rates of alcohol-related external causes of death such as road accidents and homicides have increased, hinting at an increase in binge drinking among young-to-middle-aged men (4). According to a study conducted by Burazeri (4) assessing the prevalence and determinants of binge drinking in the middle-age population of transitional post-communist Albania, for which data were previously unavailable, resulted that binge drinking was related to low educational level, financial loss in the pyramid collapse and religiosity (inversely) in both Muslims and Christians. Anyway, religion does not seem to have a strong impact because social disadvantage and financial stress appear to promote alcohol abuse (which is rare in women), and traditionalism may be protective. Before the 1990's Albania was an atheist country and religion did not have any apparent impact on alcohol consumption. Alcohol consumption was a custom (mostly raki, the traditional drink from grapes) during events or everyday meetings with friends. What is more of concern is that often, drinking culture is replaced by the "culture of drunkenness" after the 1990's, of course with the subsequent consequences, such as physical violence, verbal violence, crimes, fires, drowning, accidents, health consequences, unemployment, etc. So the pattern of alcohol consu-

mption in Albania is the "wet" Mediterranean drinking culture, where alcoholic beverages have permeated into everyday life in a multitude of ways, and social survival requires command of a very variable cultural code of the proper use of appropriate drinks in appropriate contexts. Greater "freedom and choice" for the consumer and, in turn, generate a more civilized attitude towards alcohol consumption.

Approximately 2% of the population is alcohol-dependent. Recent data show that in Albania the annual consumption of alcohol per person (over 15 years) is 2.01 litre (1). About 4.8% of women of reproductive age can be classified as regular users of alcohol. A study conducted by the Institute of Public Health in 2011 shows that 52% of 3000 school age children had consumed alcoholic beverages: beer, wine, strong drinks. Meanwhile, the number of young people who drink alcohol is increasing faster when they turn the age of 15 or 16 years, while among adults the figure is even more alarming. About 20% of consumers over 15 years old use alcohol above the normal allowed level. In other words, 1 in every 5 citizens in the capital city use alcohol above the permitted levels. 2% are considered addicted to alcohol (1).

Psychiatric disorders occur more often among alcoholics than among the general population (6). The evaluation of psychiatric symptoms in alcoholic patients is complicated by the multiple relationships that exist among heavy drinking, psychiatric symptoms, and personality factors. In the past the therapy for patients affected by alcoholism was based mainly on the psychological approach. In recent years, the use of pharmacotherapy together with psychosocial interventions has enhanced the percentage of success in maintaining alcoholic patients in remission.

Until a few years ago, the Psychiatric Service was more engaged in problems of treatment of disorders related to alcohol abuse and recently our center for treatment of alcohol addiction (established in November 2009) (5). There is still no geographical division of provision of services and a dedicated referral system in this field. The primary care services are still in their initial preparatory stage for providing services, especially prevention services in this area, even though their role has been defined

both in the service package and on the strategic relevant documents.

Aim of the study

The aim of this clinical pilot study was to investigate the treatment response and the pattern of psychiatric, neurologic and internal co morbidities. Assessment of severity of alcoholism, socio-economic status, abstinence and relapse rate and family interaction pattern and life events preceding relapse.

Methods

Study site and population

This is a prospective study including 51 consecutive subjects admitted to the Clinic for the Treatment of Alcohol Addiction at the University Hospital Center "Mother Teresa", in Tirana, Albania, over the period September 2010 – September 2011. The study was approved by the Albanian Committee of Medical Ethics in 2010.

Principal diagnosis of the admitted patients was: advanced alcoholic dependence.

Patients come not only from the capital, Tirana, but also from other cities of Albania because our center is the only one specialized for alcohol dependence treatment and rehabilitation and also is the only center with national importance in promotion and media information in this field. Patients come according to a reference system from general practitioner to neuropsychiatry and then to the Clinic for the Treatment of Alcohol Addiction. Some patients bypass this reference system and come directly for consultation to the clinic (professional references, media information etc).

Hospitalized patients were subjected to a three week intensive treatment that was designed to integrate psychotherapy with pharmacotherapy. Treatment stages followed the HUDOLIN scheme. This method was implemented in Albania in cooperation with European School of Alcoholology and Ecological Psychiatry (5). This was because Albania is near the other countries which perform this method (Croatia, some regions of Italy, etc.) and the second reason, but very important, is the fact that in Albania social structures which support our patients are in the first step of development, therefore family support has been very important.

Socio-demographic and socioeconomic characteristics were collected:

- 1) Marital status;
- 2) Educational level;
- 3) Employment, Economic level;
- 4) Psychiatric health.

After the three week period of hospitalization all patients were followed up for one year after discharge. The study did not include a control group. Follow-up period: After hospitalization the ex-patients maintained contact with the social worker of the Clinic who monitored the abstinence through two Alcoholic Clubs' weekly meetings.

Abstinence definition: Abstinence was defined as a complete refraining from the use of any alcoholic beverages and relapse-free status for a 1 year period. All patients were available to examine three months, six months and one year after inpatient treatment and evaluate the number of alcohol-free days, weeks and months.

Treatment

Treatment stages followed the HUDOLIN scheme:

- Clinical-pharmacological treatment
- Clinical psychotherapy
- Health education
- Group therapy
- Multi familiar community psychotherapy
- Post clinical therapy

Clinical-pharmacological treatment

Diagnosis of alcoholic dependence and multi-dependence was done according to ICD10 criteria. The treatment was focused on:

- Monitoring and treatment of pathologies especially psychiatric ones using the approach: diet nutrition and rehydration and medication.
- Detoxification (of mild, moderate and aggravated stages) with perfusions (physiologic and glucose) and alcohol antagonists (Nalorex).
- Use of SSR anti depressive medicaments.
- Domination of crisis of abstinence.

The clinical treatment lasted approximately three weeks.

Clinical psychotherapy

Clinical psychotherapy and multi-familiar community psychotherapy where all family participates in sessions

in groups of 10 families called CLAB-Cat to achieve and sustain the abstinence.

Post-clinical therapy

The psychosocial treatment has used a combination of social, cultural, familial, religious, and administrative factors, in order to achieve the maximum efficacy of treatment.

Outcome Measurements. The primary outcome or study endpoint was the abstinence rate.

Secondary outcome measures included relapses, accidents, deaths.

Statistical analysis

Data were analyzed using SPSS for Windows, version 16.0. Kolmogorov-Smirnov test was used to test the distribution of the continuous variable "age". Chi-square (χ^2) was used to compare the proportion between categories of variables. Odds ratio was used to assess the association between level of alcohol dependence and psychiatric disorders. Point estimations were reported along with their 95%CI. Non parametric Spearman correlation test was used to assess the correlation between psychiatric and internal disorders with socio-demographic variables. Statistical significance was set at $\alpha \leq 0.05$. All tests were two-tailed.

Results

The age of patients was normally distributed with a mean of 47.3 ± 9.8 years (range 31-60 years).

There were 49 male patients and 2 female patients. The age distribution of participants was (Table 1): 16 patients belong to age group 31 – 40 years old; 15 patients belong to age group 41 – 50 years old; 17 patients belong to age group 51 – 60 years old; 2 patients belong to age group 61 – 70 years old; 1 patient belong to age group >70 years old.

There was a statistically significant difference in the number of patients regarding age group ($\chi^2 = 24.9$, $P < 0.01$). The vast majority of patients, 32 (62.7%) of them were married with a significant difference with the other categories of civil status ($\chi^2 = 44.6$, $P < 0.01$). There were 5 patients who were single, 13 were divorced and 1 patient was widower. There were 15 patients who had accomplished the

elementary school (8-12 years), 28 patients had accomplished the high school (9-12 years), and 8 patients had accomplished the university studies (>12 years). There is a significant difference between categories with regard to educational level, $\chi^2 = 12.1$, $P = 0.002$. Most of the patients, 26 or 51% were unemployed with a significant difference with the other categories ($\chi^2 = 20.1$, $P < 0.01$). There were 23 employed individuals, whereas two patients were in retirement. There were 17 (33.3%) patients with a low economic status, 26 (51.0%) with a middle economic status and only 8 (15.7%) with a high economic status. The difference between categories was statistically significant ($\chi^2 = 9.2$, $P = 0.009$). There were 32 (62.7%) patients residing in urban areas and 19 (37.3%) patients residing in rural areas ($P = 0.09$). Comprehensive clinical assessment: diagnostic interviews, physical examination, investigation of clinical and biological markers, and gathering of collateral information about the patient motivation to change, alcohol consumption pattern and severity of dependence, alcohol-related harms (such as physical and psychological health problems, relationship problems, occupational problems and legal problems) family factors, cognitive functioning. The most frequent disorders among patients were:

- Psychiatric disorders PTSD;
- Neurological disorders;
- Internal diseases.

The majority of patients 41 (80%) manifested mood disorders followed by generalized anxiety in 31 (60%) patients and major depressive disorders in 20 (40%) patients, $\chi^2 = 7.1$, $P = 0.02$ (Table 2).

There were 11 (21.6%) patients who had attempted suicide. Post traumatic stress disorder was diagnosed in 10 patients, bipolar disorder in six patients, borderline and social character disorder in seven patients and alcoholic psychosis was diagnosed in three patients. Polyneuropathy was the most frequent neurological disorder diagnosed in 15 (30%) patients followed by alcoholic epilepsy in eight patients and ischemic stroke in two patients after binge drinking, $\chi^2 = 10.1$, $P = 0.006$. Three out of eight patients had undergone frequent seizure crisis. Arterial hypertension – HTA was diagnosed in 36 (70%) patients, dilated cardiomyopathy in five patients, viral hepatopathy (B and C) in 13 patients, hepatic cirrhosis in four patients whereas hepatic steatosis

Table 1. Socio-demographic and socioeconomic characteristics of study participants

Variable	N	Percentage	P
Gender			<0.01
Male	49	96.1	
Female	2	3.9	
Age group, years			<0.01
31-40	16	31.4	
41-50	15	29.4	
51-60	20	39.2	
Civil status			<0.01
Married	32	62.7	
Single	5	9.8	
Divorced	13	25.5	
Widower	1	2.0	
Educational level			<0.01
0-8 years	15	29.4	
9-12 years	28	54.9	
>12 years	8	15.7	
Employment status			
Employed	23	45.1	
Unemployed	26	51.0	
Retired	2	3.9	
Economic status			<0.01
Low	17	33.3	
Middle	26	51.0	
High	8	15.7	
Residence			0.09
Urban	32	62.7	
Rural	19	37.3	

predominates in 41 (80%) patients $\chi^2 = 61.9$, $P < 0.001$. Three out of four patients with hepatic cirrhosis had developed oesophageal varices. Other concurrent pathologies, such as rheumatic arthritis, peptic ulcers, allergic dermatitis, and respiratory infections, were diagnosed among 12 (23.5%) patients. A significant positive correlation was found between psychiatric disorders (generalized anxiety; major depressive disorders) and the civil status "divorced" (Spearman $\rho = 0.72$, $P = 0.006$); unemployment ($\rho = 0.85$, $P < 0.001$); low economic status ($\rho = 0.62$, $P = 0.02$) and educational level "0-8 years" ($\rho = 0.59$, $P = 0.03$). Also, a significant positive correlation was found between increasing age and the occurrence of HTA ($\rho = 0.67$, $P < 0.001$) and hepatic steatosis ($\rho = 0.63$, $P < 0.001$).

Patients with moderate dependence were 1.5 times more likely to manifest anxiety and general depressive disorders than patients with low dependence without a significant difference between them (OR=1.5, 95%CI=0.2-9.8, $P = 0.6$).

Patients with high dependence were 3.2 times more likely to manifest anxiety and general depressive disorders than patients with low dependence, without a significant difference between them (OR=3.2, 95%CI=0.6-19.28, $P = 0.1$).

There were 11 patients who were >55 years old. Patients >55 years old had fewer problems than the younger patients in employment, family and mental health.

There were 23 patients or 45.1% (95% CI 33.2 – 58.6) who achieved one year abstinence.

Table 2. The most frequent disorders among study participants

Disorders	N	Percentage
Psychiatric disorders PTSD		
Disorders of humor	41	80
Generalized anxiety	31	60
Major depressive disorders	20	40
Post traumatic stress disorders	10	20
Bipolar disorders	6	12
Borderline and social character disorders	7	13
Alcoholic psychosis	3	6
Neurological disorders		
Polyneuropathy	15	30
Alcoholic epilepsy	8	16
Ischemic stroke	2	4
Internal diseases		
Arterial Hypertension – HTA	36	70
Dilated cardiomyopathy	5	10
Hepatic steatosis	41	80
Viral hepatopathy (B and C)	13	25
Hepatic cirrhosis	4	8

Table 3. The association between alcohol dependence and anxiety and general depressive disorders

Dependence	N (%)	OR (95%CI)	P
Low (N=9)	3	1 (reference)	-
Moderate (N=18)	8	1.5 (0.2 - 9.8)	0.6
High (N=24)	15	3.2 (0.6 - 19.2)	0.1

Conversely, 28 (54.9%) (95% CI 41.3 – 67.7) of patients relapsed to alcohol use; five out of 28 patients relapsed within three months of the follow-up period; ten patients relapsed within six months of the follow-up period; and 13 patients relapsed after six months. It should be noted that three patients who relapsed had aggravated behavioral deficits.

After relapse: five patients had undergone road

traffic accidents: four of them had non-fatal injuries, whereas one did not survive.

One patient manifested neurological complications and died from ischemic cerebral insult. One patient murdered his wife in the state of aggravated alcoholic intoxication. Nine patients exercised violence in family especially toward the wife. Three patients created troubles in the community where they lived and also had problems with justice.

The rate of relapse was significantly higher among divorced patients. Eleven of 13 divorced patients relapsed compared to 12 married patients with a significant difference between them ($P < 0.01$).

Divorced patients were 8.7 times more likely to relapse compared to married patients ($OR = 8.7$, $95\% CI = 1.7-66.4$, $P < 0.01$).

Eight of the married patients who relapsed manifested family/spouse relationship difficulties ($P < 0.01$).

Discussion

A limitation of our study is the relatively small sample size. Also, our study did not include a control group to compare the outcome of the treatment; however, it may have a positive effect in opening a window of research in alcohol treatment in Albania. In this study, we evaluated the response to inpatient treatment of alcohol addicted individuals. This is our first experience in Albania and we report the outcome for the first cohort of patients admitted at our Clinic. We found high rates of associated psychiatric disorders among patients with alcoholic dependence, such as mood disorders (80%), generalized anxiety (40%) and major depressive disorders (40%). Also, patients manifested various neurological and internal co-morbidities. The alcohol-use disorders require that alcoholic patients undergo careful psychiatric evaluation.

However, the diagnosis of a psychiatric disorder in the context of alcohol dependence is complicated by the interactive effects of heavy drinking and psychiatric symptoms. Similarly, the treatment of alcohol-dependent patients with co-morbidity disorders is complex, because these patients require help in becoming abstinent from alcohol, concomitant with stabilization of their co-morbid psychiatric, neurologic and internal diseases symptoms. Our results compare favorably with studies by Grant and Hasin (6) that there is a significant co-morbidity associated with alcohol dependence, and mood disorders including depression and bipolar affective disorders have a lifetime rate of 13.5% and 3.3%, respectively.

Also, Potash, Dreissen and Burns (7,8,9) concluded that there is evidence that co-morbidity of alcohol dependence with affective disorders has a negative impact upon prognosis measured in terms of rates of remission, relapse and risk of suicide.

The rate of one year abstinence in our study was 45.1% and the rate of relapse was 54.9%. The rate of abstinence in our study is somewhat higher than the study conducted by Geoffrey (10) reporting that the proportions of continuous abstinence are similarly low for the persistent and "newly" depressed-about one third reporting abstinence at three months post treatment, falling to roughly 15% at 12 months. The transiently depressed had higher rates of continued abstinence at every follow-up than those with no depression. The non depressed group ranged from 59% continuously abstinent at three months to 28% at 12 months. The range for the transient group was from 73% at three months to 35% at 12 months.

The rate of relapse in our study is consistent with previous research by Gregory (11) in which relapse outcomes at 6-, 12-, and 18-month intervals were compared between clients randomly assigned to day versus residential drug abuse treatment. The six-month relapse rate among individuals in residential treatment 62.6%, whereas one-year rate was 47.9%. Miller et al. (12) combined the results of seven diverse multisite trials conducted in the United States with individuals with a broad range of problem severity and other personal characteristics. Despite the complexities related to different samples and treatment methods, they sought to provide an indication how people feel, on average, after treatment for alcohol use disorders. They found that, in 12-month follow-ups, the average abstinence rate was 24%. Michael et al. (13) evaluated the alcohol use outcomes among a treatment sample of drug abusers. After five months of inpatient treatment the one year abstinence rate was 37.8%, which is lower than in our study. Terra et al (14) reported that among patients with social phobia, 35.4% remained abstinent at three months follow-up and without social phobia 36.6%. At six months follow-up, 21.3% with social phobia remained abstinent. The results of alcohol treatment are variable. For example, Weisner et al (15) found that among 371 alcohol-dependent adults entering public and private addiction programs, 57% were abstinent one year after admission, which is similar with our result. Frederic et al (16) reported that the proportion of abstainer in older adult treatment outcome following elder-specific inpatient was 55.9% after six months.

Estimated rates of relapse among individuals with substance use disorders alone have varied widely in relation to follow-up interval and definition of relapse, typically ranging from 40% to 60% within the first few months after treatment and as high as 70–80% by the end of the first year (17-19). Some longer follow-up studies of specific treatments for alcohol dependence have noted a 30% abstinence rate after three years (20) and up to 50% abstinence over one year with ongoing outpatient care utilizing disulfiram (21).

Prevalence of relapse in substance abuse treatment is so prevalent that De Leon (22) stated “Relapse is the rule” as opposed to the exception in substance abuse treatment. A meta-analysis of the success of alcoholism treatment across seven multisite studies and 8,000 patients found that, on average, 25% of patients maintained abstinence one year after treatment, with another 10% drinking moderately with no negative consequences (13). Definitions of relapse and moderation differed across studies. Individuals who relapsed experienced more negative life events, such as road traffic accidents where one of them died. They also exercised violence in family especially towards the wife, created troubles in the community where they lived and also had problems with justice. The rate of relapse was significantly higher among divorced patients. Also, 66.7% of married patients who relapsed manifested family/

spouse relationship difficulties.

These findings are consistent with previous work on both treated and untreated samples, and indicate that individuals with more ‘social capital’ are likely to show better short-term alcohol-related outcomes (23-26).

Alcoholics involve mainly accidents with associated injuries, episodes of deliberate self harm, and episodes of violence and assaults while being under the influence of alcohol (27-29).

Conclusions

The high rates of associated psychiatric disorders in patients with alcohol-use disorders require that alcoholic patients undergo careful psychiatric evaluation. However, the diagnosis of a psychiatric disorder in the context of alcohol dependence is complicated by the interactive effects of heavy drinking and psychiatric symptomatology. Similarly, the treatment of alcohol-dependent patients with comorbid disorders is complex, because these patients require help in becoming abstinent from alcohol concomitant with stabilization of their co-morbid psychiatric, neurologic and internal diseases symptoms. The pharmacotherapy should not be considered as the only form of treatment, but as an integrated part of a multimodal approach including psychological and social support.

Conflicts of interest: None declared.

References

1. World Health Organization. WHO Global Status Report on Alcohol; 2004.
2. Nuri B, Tragakes E. Health care systems in transition: Albania Copenhagen: European Observatory on Health Care Systems; 2002. www.who.dk/document/E80089.pdf.
3. Political document of Albanian strategy for preventing and Minimizing alcohol related harms (2011-2015).
4. Burazeri G, Kark JD. Prevalence and determinants of binge drinking in middle age in a transitional post-communist country: a population-based study in Tirana, Albania. *Alcohol and Alcoholism* 2010; 45:180-7.
5. WHO SAIMS report on prevention and treatment systems for drug related health disorders in Albania 2011.
6. Grant BF, Stinson FS, Hasin DS, et al. Prevalence, correlates, and comorbidity of bipolar I disorder and axis I and II disorders: results from the National Epidemiological Survey on Alcoholism and Related Conditions. *J Clin Psychiatry* 2005; 66:1205-15.
7. Potash JB, Kane HS, Chiu Y, et al. Attempted suicide and Alcoholism in bipolar disorder: clinical and familial relationships. *Am J Psychiatry* 2000;157:2048-50.
8. Dreissen M, Meier S, Hill A, et al. The course of anxiety, depression and drinking behaviors after completed detoxification in alcoholics with and without comorbid anxiety and depressive disorder.

- ders. *Alcohol and Alcoholism* 2001;36:249-55.
9. Burns L, Teesson M, O' Neill K. The impact of comorbid anxiety and depression on alcohol treatment outcomes. *Addiction* 2005;100:787-96.
 10. Curran GM, Flynn HA, Kirchner J, Booth BM. Depression after alcohol treatment as a risk factor for relapse among male veterans. *J Subst Abuse Treat* 2000;19:259-65.
 11. Greenwood GL, Woods WJ, Gudyish J, Bein E. Relapse outcomes in a randomized trial of residential and day drug abuse treatment. *J Subst Abuse Treat* 2001;20:15-23.
 12. Miller WR, Walters ST, Bennett ME. How effective is alcoholism treatment in the United States? *Journal of Studies on Alcohol* 2001;62:211-20.
 13. Gossop M, Browne N, Stewart D, Marsden J. Alcohol use outcomes and heavy drinking at 4–5 years among a treatment sample of drug misusers. *J Subst Abuse Treat* 2003;25:135-43.
 14. Terra MB, Barros HMT, Stein AT, Figueira I, Athayde LD, Spanemberg L, et al. Does co-occurring social phobia interfere with alcoholism treatment adherence and relapse? *J Subst Abuse Treat* 2006;4:403-9.
 15. Weisner C, Matzger H, Kaskutas LA. How important is treatment? One-year outcomes of treated and untreated alcoholdependent individuals. *Addiction* 2003;98:901-11.
 16. Blow FC, Walton MA, Chermack ST, Mudd SA, Brower KJ. Older adult treatment outcome following elder-specific inpatient alcoholism treatment. *J Subst Abuse Treat* 2000;19:67-75.
 17. Bradizza CM, Stasiewicz PR, Paas ND. Relapse to alcohol and drug use among individuals diagnosed with co-occurring mental health and substance use disorders: a review. *Clin Psychol Rev* 2006;26:162-78.
 18. McKay JR, Franklin TR, Patapis N, et al. Conceptual, methodological and analytical issues in the study of relapse. *Clin Psychol Rev* 2006;26:109-27.
 19. Walitzer KS, Dearing RL. Gender differences in alcohol and substance use relapse. *Clin Psychol Rev* 2006;26:128-48.
 20. Project MATCH Research Group, 1998.
 21. Krampe H, Stawicki S, Wagner T, et al. Follow-up of 180 alcoholic patients for up to 7 years after outpatient treatment: impact of alcohol deterrents on outcome. *Alcohol Clin Exp Res* 2006;30:86-95.
 22. De Leon G. What psychologists can learn from addiction treatment research. *Psychology of Addictive Behaviors* 1993;7:103-9.
 23. Armor DJ, Meshkoff JE. Remission among treated and untreated alcoholics. *Adv Subst Abuse* 1983; 3:239-69.
 24. McLellan AT, Alterman AI, Metzger DS, Grissom GR, Woody GE, Luborsky L, et al. Similarity of outcome predictors across opiate, cocaine, and alcohol treatments: Role of treatment services. *J Consult Clin Psychol* 1994;62:1141-58.
 25. Booth BM, Curran GM, Han X. Predictors of short-term course of drinking in untreated rural and urban at-risk drinkers: effects of gender, illegal drug use, and psychiatric comorbidity. *J Stud Alcohol* 2004;65:63-73.
 26. Babor TF, Steinberg K, Anton R, Del Boca F. Talk is cheap: measuring drinking outcomes in clinical trials. *J Stud Alcohol* 2000;61:55-63.
 27. Charalambous MP. Alcohol and the accident and emergency department: a current review. *Alcohol and Alcoholism* 2002;37:307-12.
 28. Raistrick D, Heather N, Godfrey C. Review of the effectiveness of treatment for alcohol problems. National Treatment Agency for Substance Misuse, 2012.
 29. Farren CK, McElroy S. Predictive factors for relapse after an integrated inpatient treatment programme for unipolar depressed and bipolar alcoholics. *Alcohol and Alcoholism* 2010;45:527-33.