Arch. Biol. Sci., Belgrade, 67 (1), 291-294, 2015 DOI:10.2298/ABS141121041A

BIOLOGICAL AND BEHAVIORAL ASPECTS REGARDING COMBINED SYSTEMIC MANAGEMENT OF ALCOHOL DEPENDENCE

Ovidiu Alexinschi[1], Roxana Chirita[1], Padurariu Manuela[1], Alin Ciobica[2,3], Romeo Dobrin[1], Daniel Timofte[1], Emil Anton[1,*], Raluca Prepelita[1], Carmen Anton[1] and Vasile Chirita[1]

[1]*"Grigore T. Popa" University of Medicine and Pharmacy,* 700115, Iasi, Romania
[2] *"Alexandru Ioan Cuza" University,* Iasi, 700506, Romania
[3]*Center of Biomedical Research of the Romanian Academy,* Iasi Branch, Romania

[*]Corresponding author: emil.anton@yahoo.com

Abstract - Although there are numerous ideas on the management of alcohol dependence, ranging from various schemes of pharmacologic treatment to specific psychotherapeutic approaches, the reviews and *meta-analyses* reveal only modest effects of these approaches. Another approach regarding the problem of alcohol is based on the behavioral biology, specifying that consumption of alcohol is actually a type of behavior, a way of life. The results presented in this report provide evidence to support the idea that the systemic, ethological approach of alcohol-related and complex problems brings additional value when complementing the standard medicinal therapy, both in terms of achieving and maintaining abstinence, as well as in improving the quality of life for the patients.

Key words: alcohol; behavioral biology; systemic

Received November 21; **Accepted** December 1, 2014

INTRODUCTION

The diversity of suffering caused by alcoholism and the complex medico-socio-familial consequences of it, as well as the frequency of alcohol-related complex problems requires a more efficient biological approach (Alexinschi et al., 2014). The consumption of alcohol is responsible for 2.3 million deaths per year worldwide, and in the United States alone, more than 12 in 100 adults have met the criteria of DSM-IV for alcohol dependence at some point in their life (Friedman et al., 2013). Generally, there are two notions that are associated with consumption in excess of alcohol: addiction and abuse (Abraham et al., 2011).

Pharmacological treatment of alcoholism involves withdrawal treatment entailing detoxification, maintaining abstinence, but also the therapy of the medical complications (either somatic or psychiatric). The most commonly used drugs in alcoholism are benzodiazepines, mood stabilizers, B-complex vitamins and pharmacological medication for maintaining abstinence. In this category belong *antidipsotropic* medications such as disulfiram, as well as medicines acting on opioid receptors and the GABAergic system (Cutler et al., 2005). Although there are numerous studies on the treatment of alcohol dependence, ranging from various schemes of pharmacologic treatment to specific psychotherapeutic approaches, the reviews and *meta-analyses* reveal only

modest effects of these approaches, in many cases with the costs exceeding benefits. The crystallization and practical transposition of the ideology that consumption of alcohol is actually a type of behavior is represented by the Clubs of Alcoholics in Treatment (Hudolin et al., 1990; Mann et al., 1993).

The present paper is a prospective comparative study between associated management (behavioral systemic therapy plus standard therapy) versus the standard therapy alone of patients with alcohol addiction, as quantified by maintaining abstinence for 12 months and through the quality of life indicator's dynamics during treatment.

MATERIALS AND METHODS

The present study involved the clinical therapeutic evaluation of 90 patients with alcohol dependence within a period of 12 months. The patients evaluated in the study were in the files of the Clinical Psychiatric Hospital Socola in Iaşi. The patients were diagnosed with alcohol dependency in accordance with the criteria DSM-IV tr. These patients either presented or did not psychiatric or somatic comorbidity (with the exception of those specified in the exclusion criteria). All patients received standard medication for alcoholism (mood stabilizers, benzodiazepines and vitamin therapy).

Patients included in the study were aged between 18 and 65 years, with alcohol dependency (according to DSM-IV tr), who expressed their desire to stop drinking. The following exclusion criteria were used: patients who had completed treatment or psychotherapy for alcohol dependence during the past 90 days, patients without discernment, other associated somatic decompensated conditions which could worsen the patient clinical status during the participation in the study.

After screening, the patients were divided into two approximately equal groups (based on their consent to participate in the therapy carried out in the Clubs of Alcoholics in Treatment). Forty-four patients with alcohol dependence received standard medical treatment and entered a program of Hudolin behavioral systemic intervention and 46 patients received only standard medical treatment.

The evaluation of patients with alcohol dependence was performed using the AUDIT scale (Alcohol Use Disorders Identification Test, Saunders et al., 1993) and the quality of life scales (QOL 16).

RESULTS AND DISCUSSION

First the period of abstinence was evaluated. A significant ($F(1,66)=4.29$, $p=0.04$) difference of almost two months of abstinence between our study groups was recorded, since the group which benefited from behavioral systemic plus standard therapy had an average of almost 7 months of abstinence (6.92±3.2 months), as compared to the group that received only standard medication (5.1±3.8 months) (Fig. 1).

Comparison of the 6-month evolution for the quality of life scale scores in the two groups of patients can be seen in Fig. 2. It can be seen that even if both groups of patients start with almost equal means values, after a month there is already a significant difference that persists during the subsequent months ($F(7,252)=21.25$, $p<0.01$).

These data are also supported by other studies showing the benefits of the systemic management. Some studies indicated an abstinence rate that goes up to 80% at 2 and 5 years associated with an increase in the quality of life in individual, marital, family, social and professional life (Gaöie et al., 1992).

Improved quality of life is another beneficial change and a progress indicator in the treatment of alcohol dependence. If the abstinence indicator is linked to consumption-associated behavior, the quality of life is more a marker of global change, which concerns not only giving up alcohol, but also beneficial changes in the personal life, family and social background of the individual. This indicator suggests a change in the patient's general behavior, a breakthrough, a personal development and spiritual growth and maturity. In assessing the effectiveness of

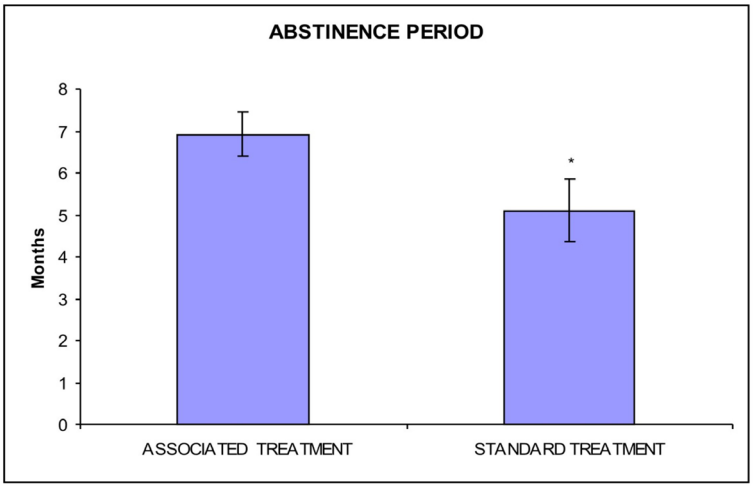

Fig. 1. Comparison of abstinence period for the two groups of patients. The abstinence period for the two groups (behavioral systemic management plus standard therapy versus the standard therapy alone), as expressed in months. The values are mean ± SEM (n = 44 in the standard therapy group, n= 46 in the behavioral systemic management group). *p = 0.04. A comparison between the 6-month evolution of QOL16 scale for the two groups (behavioral systemic management plus standard therapy versus the standard therapy alone). The values are mean ± SEM (n = 44 in the standard therapy group, n= 46 in the behavioral systemic management group).

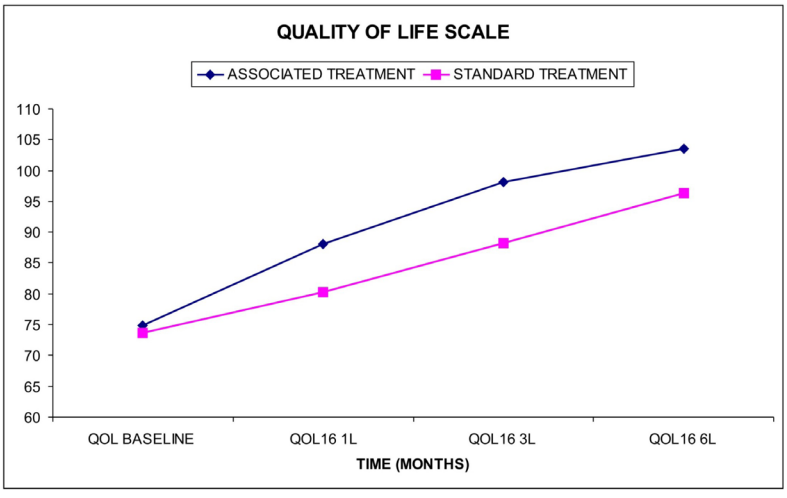

Fig. 2. Comparison of evolution of QOL16-6 months between the two groups of patients. A comparison between the 6-month evolution of QOL16 scale for the two groups (behavioral systemic management plus standard therapy versus the standard therapy alone). The values are mean ± SEM (n = 44 in the standard therapy group, n= 46 in the behavioral systemic management group).

systemic therapy, the use of this indicator of transformation is most appropriate, since this therapy aims precisely to improve the patient's personal life, growth and progress. In addition, these data were consistent with results obtained in the context of other observational studies (Alexinschi et al., 2006).

Together with an increased abstinence index, the better quality of life clearly shows the benefits brought by systemic multi-behavioral and biological therapy in patients addicted to alcohol.

REFERENCES

Abraham, A.J., Knudsen, H.K. and *P.M. Roman* (2011). A longitudinal examination of alcohol pharmacotherapy adoption in substance use disorder treatment programs: patterns of sustainability and discontinuation. *J. Stud. Alcohol. Drugs.* **72**, 669-77.

Alexinschi, O. and *C. Stefanescu* (2006). Management of alcohol addictions in post-hospital stage. The Romanian experience of Hudolin's method implementation. *Bridging Eastern and Western Psychiatry.* **6**, 1-8.

Alexinschi, O., Chirita, R., Ciobica, A., Padurariu, M., Dobrin, R., Prepelita, R., Serban I.L. and *V. Chirita* (2014). The relevance of oxidative stress status in one week and one month alcohol abstinent patients. *J. Med. Biochem.* **33**, 284–290.

Burckhardt, C.S., Anderson, K.L., Archenholtz, B. and *O. Hägg* (2003). The Flanagan Quality Of Life Scale: evidence of construct validity. *Health Qual. Life Outcomes.* **1**, 59-64.

Cutler, R.B. and *D.A. Fishbain* (2005). Are alcoholism treatments effective? The Project MATCH data. *BMC. Public Health.* **5**, 75-79.

Daeppen, J.B., Smith, T.L., Danko, G.P., Gordon, L., Landi, N.A., Nurnberger, J.I. Jr., Bucholz, K.K., Raimo, E. and *M.A. Schuckit* (2000). Clinical correlates of cigarette smoking and nicotine dependence in alcohol-dependent men and women. The Collaborative Study Group on the Genetics of Alcoholism. *Alcohol. Alcohol.* **35**, 171-5.

Dolman, J.M. and *N.D. Hawkes* (2005). Combining the audit questionnaire and biochemical markers to assess alcohol use and risk of alcohol withdrawal in medicalinpatients. *Alcohol. Alcohol.* **40**, 515-9.

Donovan, D.M., Kivlahan, D.R., Doyle, S.R., Longabaugh, R. and *S.F. Greenfield* (2006). Concurrent validity of the Alcohol Use Disorders Identification Test (AUDIT) and AUDIT zones in defining levels of severity among out-patients with alcohol dependence in the COMBINE study. *Addiction.* **101**, 1696-704.

Friedmann, P.D. (2013). Alcohol Use in Adults. *N. Engl. J. Med.* **368**, 365-373.

Gaöie, B. (1992). Belgrade systemic approach to the treatment of alcoholism: principles and interventions. *J. Family Therapy.* **14**, 103-122

Hudolin, V., Accettulli, A., Brentel, E. and *S. Ticali* (1990). Verso un nuovo stile di vita con i Club degli alcolisti in trattamento, Trieste, Editre Edizioni.

Leeman, R.F., Schepis, T.S., Cavallo, D.A., McFetridge, A.K., Liss, T.B. and *S. Krishnan-Sarin* (2010). Nicotine dependence severity as a cross-sectional predictor of alcohol-related problems in a sample of adolescent smokers. *Nicotine Tob. Res.* **12**, 521–524.

Mann, K. and *A. Batra* (1993). Community based management of alcohol dependent patients. Evaluation of a combined inpatient and ambulatory treatment concept. *Psychiatr. Prax.* **20**, 102-5.