

**ALCOHOLISM AND COMPLICATIONS ON  
PSYCHIATRIC DEPARTMENT OF GENERAL  
HOSPITAL BJELOVAR IN PERIOD  
1993 - 2003.**

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ALCOHOLISM AND COMPLICATIONS

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## **ABSTRACT**

The study deals with information about patients treated at the Psychiatric department Bjelovar GH, under the diagnosis of alcoholism in the period from 1993 until 2003. The aim of this study is to show the changes in the movement of the number of treated patients, to show the age and sex characteristics of treated alcoholics in the mentioned period of time and to investigate the subsequent complications. Results are displayed by a time tier, coefficient of determination R<sup>2</sup> and percentage. An average share of alcoholics in the total number of hospital treated psychiatric patients added up to 27,38%, (M:F=6:1), 19,92% of the alcoholics was pre-delirious or delirious (M:F=8,57:1), most of them aged from 30 to 59. 9,64% of hospital treated patients have had alcohol-withdrawal attacks, majority of which younger aged (75% of pre-delirious subjects are aged 20-29 and 72,17% of them 30-39 years of age.) Mortality of the delirious patients varied from 1 to 3 cases per year. Results of the study show a stagnation of the number of hospital treated alcoholics. Considering the current social-economics crisis in Croatia and the fact that social crises are accompanied by increased consumption of alcohol or a relapse of earlier addictions we can expect an increase of the number of hospital treated alcoholics in the following period of time.

**Key words:** alcoholism, delirium, epilepsy

## SAŽETAK

Rad obrađuje podatke o bolesnicima liječenim na Odjelu za psihijatriju OB Bjelovar pod dijagnozom alkoholizma u razdoblju od 1994. do 2003.g. Cilj rada je prikazati promjene u kretanju broja liječenih bolesnika, prikazati dobna i spolna obilježja liječenih alkoholičara u tom razdoblju te istražiti komplikacije. Rezultati su prikazani vremenskim nizom, koeficijentom determinacije  $R^2$  i postocima. Prosječni udio alkoholičara u ukupnom broju bolnički liječenih psihijatrijskih bolesnika iznosio je 27,38%, (M:Ž=6:1), 19,92% alkoholičara je bilo predelirantno ili delirantno, (M:Ž=8,57:1), pretežno u dobi 30-59 godina. Alcohol-withdrawal napade imalo je 9,64% bolnički liječenih alkoholičara, pretežno mlađe dobi (75% predelirantnih ispitanika dobi 20-29 godina i 72,17% ispitanika dobi 30-39 godina). Smrtnost delirantnih bolesnika kretala se od 1 do 3 slučaja godišnje. Rezultati studije pokazuju stagnaciju broja bolničkih liječenja alkoholičara. Obzirom na aktualnu društveno ekonomsku krizu u Hrvatskoj i činjenicu da su društvene krize praćene pojačanim pijenjem alkohola ili recidivom ranije ovisnosti možemo očekivati porast broja bolnički liječenih alkoholičara u narednom razdoblju.

**Ključne riječi:** alkoholizam, delirij, epilepsija

## INTRODUCTION

In the last 2 years, an increase in the consumption of hard liquor by 10% was noted in Croatia, and an increase in the consumption of beer by 10-15%. Every Croatian citizen, regardless of age and sex, consummates an average of 3 liters of hard liquor, 76 liters of beer and 12 liters of wine per year. In the European Union, according to the information of the World Health Organization, one citizen consummates an average of 2,5 liters of hard liquor and approximately 10 liters of wine per year (information available on WHO website: <http://www.who.int/>)

Alcohol addiction infects all spheres of an individual's life, in time making him insufficient in family, work and even broader social surroundings. Except for that, alcohol addicts are more prone to some comorbidity disorders than the larger population.<sup>1</sup>

Women are more often consummates of alcoholic drinks, they start drinking later than men, and the symptoms of withdrawal develop later in relation to the beginning of drinking.<sup>2</sup>

The most important complication in hospital conditions is without a doubt the delirium, which has to be recognized in time because it is, as a complication, still highly related to mortality.<sup>3,4</sup> The clinical symptoms of the delirium have been described almost 200 years ago, but unfortunately morbidity and mortality haven't changed significantly in the last 100 years.<sup>5</sup>

Alcoholics have a significantly larger risk of premature death as regards to the rest of the population.<sup>6</sup>

The study deals with information about patients treated in the Psychiatric department Bjelovar GH under the diagnosis of alcoholism from 1994 until 2003. The aim of the study is to show the changes in the movement of the number of treated patients, to show the age and sex characteristics of treated alcoholics in the mentioned period of time and to investigate the subsequent complications.

## **SUBJECTS AND METHODS**

The examinees were made up of a group of psychiatric patients treated under the diagnosis of alcoholism. They were treated at the Psychiatric department of the Bjelovar General hospital in the period from January 1st 1994 until December 31st 2003.

The information is gathered by an overview of medical documentation. We have isolated and analyzed the following parameters: the number of patients treated under the diagnosis of alcohol, sex, mortality, the frequency of pre-delirium/ delirium complications and alcohol induced epilepsy, the age and sex of the patients with mentioned complications. We have used diagnostic criteria of the MKB, except for the diagnosis of "pre-delirium", which we consider is more appropriately described in the DSM-IV. The diagnostic criteria DSM-IV for F10.3 "alcohol withdrawal" includes the emergence of disturbances after the interruption (or reduction) of hard and long-lasting consumption of alcohol, and the withdrawal syndrome itself includes two or three of the following symptoms: autonomous hyperactivity (for example sweating or pulse higher than 100), enhanced hand tremor, insomnia, nausea or vomiting, occasional visual, tactile or auditory hallucinations, psychomotorical agitation, anxiety and grand mal seizures.

Statistical interpretation is done by the display of the time tier- index at a constant basis (the basic year is the first year of the study) the coefficient of determination  $R^2$  and percentage.

## RESULTS

In the period from January 1st 1994 until December 31st 2003, 8599 patients were treated at the Psychiatric ward of the Bjelovar General hospital, 2354 of which alcoholics.

The percentage of alcoholics in the total number of hospital treated psychiatric patients in the observed period, varied from 24,32% (year 2001) to 30,45% (year 1997), amounting to an average of 27,38% of hospital treated patients. Under the diagnosis of alcoholism a total of 2019 man and 335 women were treated. The proportion of man and women alcoholics varied from 4,35:1 (year 1996) to 11,10:1 (year 1994), and summed up to an average of 6,02:1:

A total of 469 patients were treated under the clinical diagnosis of delirium and pre-delirium, of which 420 men and 49 women. A share of pre-delirious and delirious patients in the group of alcoholics moved from 13,44% (year 2003) to 23,76% (year 1999), and amounted to an average of 19,92%. The proportion of men and women in the group of pre-delirious and delirious varied from 4,33:1 (year 2000) to 19,5:1 (year 1994), and on average came out to 8,57:1. Most of these subjects (81,02%) were aged between 30 and 59, none of them younger than 20 years, and 13 of them older than 70. Pre-delirious and delirious complications with women occurred more frequently at an older age than with male subjects.

The number of treated female alcoholics oscillated significantly, but never reduced under the number of treated in the year 1994.

As for male alcoholics, during the whole observed period, we don't find significant exceptions with regard to the initial year (figure 1.) The trend of values for the total number of hospital treated alcoholics in the mentioned period shows a minor downfall ( $b=-2,57$ ). With regard to the initial year of the study, the total number and the number of male pre-delirious/ delirious alcoholics doesn't show significant

changes during the study. The number of pre-delirious/ delirious female patients oscillates, with an exceptional increase in the year 1996 and 2000. (figure 2.) The total trend of values for pre-delirious/ delirious alcoholics shows a minor downfall in the observed period ( $b=-1,65$ ):

There is no correlation between the number of hospital treated alcoholics and the number of pre-delirious/ delirious patients (coefficient of determination for the entire specimen=0,117; coefficient of determination for the group of females=0,093; coefficient of determination for the group of males=0,066).

Mortality of the delirious patients was low: 1994(0), 1995(1), 1996(0)1997(2), 1998(0), 1999(1), 2000(1), 2001(0), 2002(3), 2003(0).

The number of patients with alcohol-withdrawal attacks oscillated from 8 or 3,16% of hospital treated alcoholics (year 2003) to 42 or 15,91% of hospital treated alcoholics (year 1995), and summed up to an average of 22,7 (9,64% of hospital treated alcoholics), that is, in the group of pre-delirious/ delirious subjects 48,40% had epileptic seizures. Examined according to the age groups the highest prevalence of AW attacks are found with younger subjects. 75% of pre-delirious subjects aged 20- 29 had a registered AW attack, 72,17% of the subjects aged 30- 39, 44,15% aged 40- 59 and 23,38% of the subjects older than 60.

## **DISCUSSION**

Social and cultural changes in roles of men and women result in changes of alcohol related behavior in men and women.<sup>7,8,9</sup> The influence of family is stressed, especially in the initiation to drinking<sup>10</sup> while biological factors would determine the differences in frequency and quantity of drinking<sup>11,12</sup> with a different genotypic

expression for men and women.<sup>13,14,15</sup> The information found in literature confirms an increase of alcoholism in women.<sup>16</sup>

The lack of correlation between the number of hospital treated alcoholics and the number of pre-delirious/ delirious patients shows a tendency to the admission of alcoholics to hospital treatment before the development of major withdrawal disturbances, as well as to the admission of alcoholics due to other reasons (detoxication, medico legal issues..)

Women start drinking alcohol intensively later than men do<sup>2</sup>, because of which with men, we find a greater occurrence of pre-delirious and delirious complications after thirty years of age, and with women after forty years of age.

The results of the study show a stagnation in the number of hospital treatments of alcoholics, i.e. pre-delirious and delirious hospitalizations of medical treated alcoholics in the observed period. It is known that social changes expose an individual to crises which result in an enhanced consumption of alcohol or a relapse of an earlier addiction<sup>17,18</sup>, because of which we can expect an increase in the number of hospital treated alcoholics in the following period.

During the drinking the body, especially the brain, adapts to the presence of alcohol.<sup>19,20,21,22,23</sup> An increase of the quantity of consummated alcohol increases the risk of developing abstinence disturbances.<sup>24</sup> Abstinence results in hyper excitability of CNS, which clinically manifests itself with symptoms of withdrawal.<sup>25,26,27</sup> The information from literature show a prevalence of delirium between 6,9% and 24% of hospital treated alcoholics<sup>28,29,30</sup>, which is congruent with our results. It is understandable that more delirious complications were found with male subjects, considering their domination in the total sum of hospital treated alcoholics.

Difference should be made between alcohol epilepsy and epileptic seizures as a result of abstinence syndrome (alcohol-withdrawal seizures).<sup>31,32</sup> In a group of chronic alcoholics an occurrence of epileptic seizures was determined as a result of withdrawal syndrome (withdrawal seizures) in 10%<sup>33</sup>-18,1% of subjects<sup>34</sup>. Our results

also move within this range , although information in literature show a possibility of epileptic seizures as a result of withdrawal syndrome in a quite larger range, that is with a bigger or smaller number of subjects.<sup>35,36,37</sup> Epileptic seizures in the withdrawal syndrome occur more often with male alcoholics.<sup>2</sup> Epileptic seizures can lead to development of the delirium.<sup>38</sup>

Delirium is more common with older patients<sup>39</sup> and epileptic seizures as a result of withdrawal syndrome occur more often with younger patients<sup>40</sup>, which is congruent with our observation. We distinguish the general mortality of alcoholics to the mortality of alcoholics in delirium, and the mortality of the delirious patients is still high- it reaches up to 15% of delirious patients.<sup>5,41,42,43,44</sup> Mortality of our subjects is relatively low (1,70%).

## **CONCLUSION**

In the analyzed sample we determined a stagnation in the number of hospitalizations of alcoholics. Social and economic crisis are accompanied with an increase of alcoholism, so in the following period we expect an increased number of hospitalizations of alcoholics. The information in literature shows an increase of alcoholism in the female population, which is confirmed by our results.

The frequency of pre-delirious and delirious complications among our subjects (19,92% of hospital treated alcoholics) corresponds to the information found in literature, as does the frequency of alcohol-withdrawal attacks (9,64% of hospital treated alcoholics). We have noted that the pre-delirious and delirious complications of highest frequency occur with women later than with men, which we connected with the fact that women start intensively drinking alcohol on average later than men. AW (alcohol-withdrawal) attacks are more frequent with younger subjects.

Mortality of our subjects is low, near the bottom line of the average mortality rate of delirious patients, according to the information found in literature.

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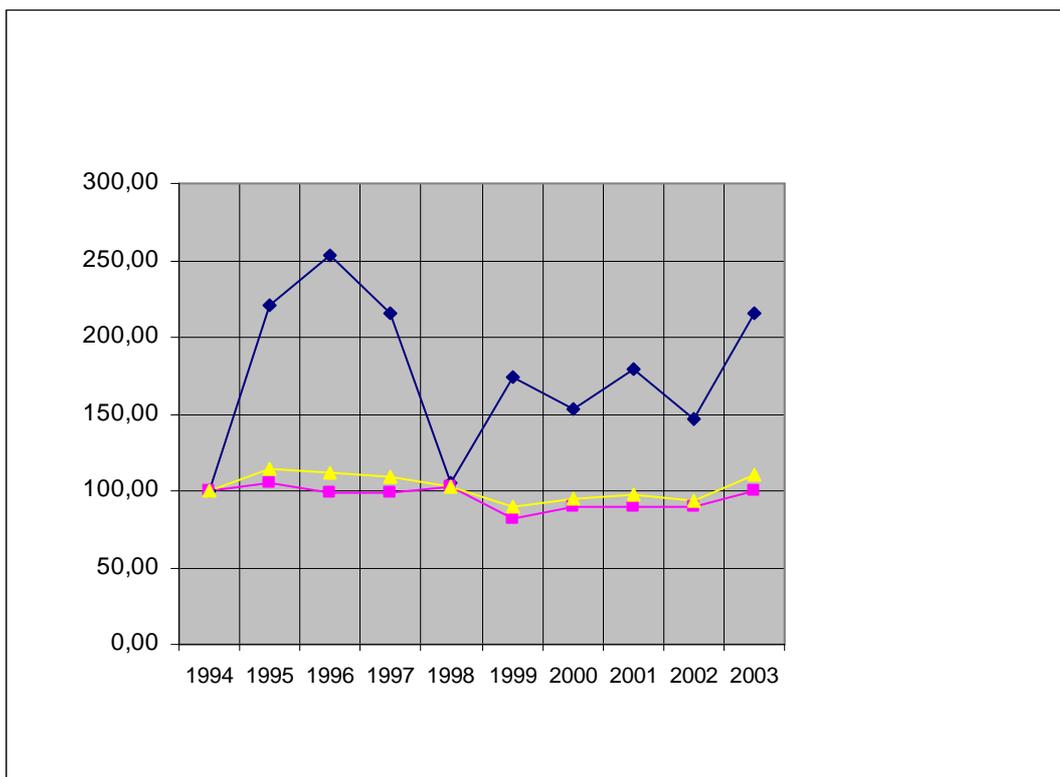
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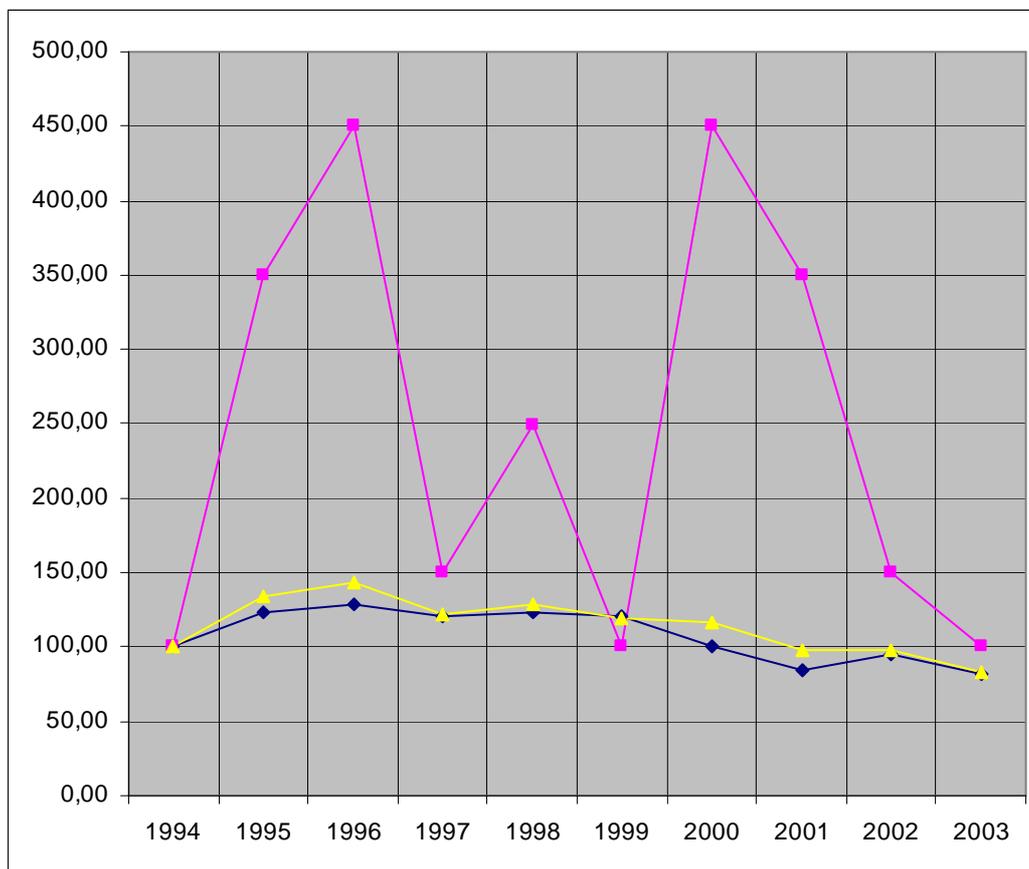
**Figure 1.** INDEXES OF HOSPITALIZATIONS OF ALCOHOLICS ON THE PSYCHIATRIC DEPARTMENT OF BJELOVAR GH



Indexis1994=100

-◆- male    -■- female    -▲- total

**Figure 2. INDEXES OF THE DELIRIUM COMPLICATIONS OF ALCOHOLICS ON THE PSYCHIATRIC DEPARTMENT OF BJELOVAR GH**



Indexis1994=100

-◆- male    -■- female    -▲- total