



ALCOHOL ABUSE, DRINKING BEHAVIOURS AND PARTICULARITIES AMONG YOUNG PATIENTS

ANDREEA SĂLCUDEAN¹, ANDREEA-GEORGIANA NAN², MARIA-ANDREEA GHERGHEL³,
MARIUS-CĂTĂLIN COSMA⁴, MARIA-MELANIA COZMA⁵, BIANCA-LARISA ABALĂȘEI⁶,
ELENA-GABRIELA STRETE⁷

^{1,5,6,7}“George Emil Palade” University of Medicine and Pharmacy, Sciences and Technology of Târgu Mureș, ²Clinical County Hospital of Târgu Mureș, ^{3,4}Emergency County Hospital of Târgu Mureș,

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Abstract: Alcohol is considered the most common and widespread drug around the world, with an alarmingly high prevalence among young patients. According to Centres for Disease Control and Prevention, more than 80% of alcohol-attributable deaths involved adults aged 35 or older, consuming large amounts of alcohol leading to death causes such as poisoning, suicide and car accidents. It is known that drinking patterns and behaviours are affected by a number of factors including demographic, socio-cultural, economic and psychological factors. In our study, we aimed to describe drinking particularities such as prevalence, patterns and possible consequences of abusive drinking regarding young patients. The presence of addictive behaviours, the quantitative and qualitative modification of the cognitive, affective-instinctual, volitional and moral functions have serious organic and psychic repercussions on the individual in question. The faster the abusive consumption of ethanol is discovered and treated, the greater the chance that the young person will regain his personal, social and professional integrity.

INTRODUCTION

Alcohol is considered to be the most common and widespread drug in the world.(1) Substance abuse is best described by the “use of a substance in amounts or methods that can cause harm to the individual or others, involving psychological and somatic changes that can disappear when the substance is removed from the body. The variability of mental changes is correlated with the type of personality of the consumer and the particularities of the drug. The term abuse is formed by the synergism of the following two concepts: The term *hazardous use* and the term *harmful use*.(2) The International Classification of Diseases Tenth Revision differentiates these two terms by their ability to carry a significant risk of impairment of physical and mental functions in the future: harmful consumption already affecting the psychosomatic functionality of the individual. An episode of ethanol abuse sets in within minutes or hours of ingestion and lasts an average of several hours.

Regarding the gender distribution of abusive drinking onset, for men, the onset is generally dated in late adolescence or at the beginning of the second decade of life. Some atypical onsets have been described in patients over 60 years of age, but onset over 45 years of age is considered to be rare. The onset in women tends to be later than in men. Individuals who have a concomitant antisocial personality disorder appear to have an earlier onset of abusive drinking, usually during adolescence.(3)

According to Diagnostic and Statistical Manual of Mental Disorders the diagnostic criteria for alcohol intoxication include: clinically significant changes that occur during or shortly after alcohol ingestion and that are psychologically and behaviourally problematic, at least one of the following signs and symptoms during or shortly after alcohol ingestion: slurred

speech, disorder of motor coordination, gait instability, nystagmus, attention and memory deficit, stupor and coma, the signs and symptoms presented by the patient cannot be attributed to another medical condition, other mental disorder, especially intoxication with another substance.(4)

If at the onset of mild intoxication, when the blood alcohol level rises, the individual experiences a state of euphoria, at high amounts of alcohol, the individual may experience impaired coordination and psychomotor skills, decreased attention, ataxia, impaired judgment, poor speech and emotional lability and short-term amnesia-blackout. Stupor and coma are very dangerous stages of alcohol intoxication that can rapidly become fatal if the patient does not get proper immediate medical assistance.(5)

Understanding the disease and especially the patient’s desire for cooperation and collaboration are indispensable variables for increasing adherence to specific treatment and for preventing relapses. It is often necessary to overcome the patient’s illness denial, so it is imperative to obtain a qualitative social support network and sometimes even participation in group therapy.

Hospitalization is recommended in case of acute intoxication associated with comorbidities or somatic and psychiatric complications. Medical assistance include the following therapy options: support of vital functions, hydric and electrolytic rebalancing (0.9% NaCl solution), combating hypoglycemia and neuro-robortant treatment, glucose solutions (5-10% with 10 IU Insulin), optimization of carbohydrate and protein metabolism, Vitamin B1 (100 mg / 2ml IV), B6 (250 mg / 5ml IV), Folic acid 5mg 3x1 / day orally, optimization of liver detoxification and cyto-protection with Vitamin C 20-30 mg and Aspatofort 10 ml / day intravenously, Silymarin 150 mg 3x1 /

²Corresponding author: Andreea-Georgiana Nan, B-dul Cetății, Nr. 1, Târgu Mureș, România, E-mail: nandree96@yahoo.com, Phone: +40754 576181

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day orally.(1)

One of the most important public health problems in the world is represented by the medical consequence of alcohol abuse. Alcohol abuse is responsible for a various number of somatic comorbidities including: neurological complications, gastrointestinal complications (ex. impaired liver function with early onset of hepatic steatosis), cardiovascular complications, immunological complications, hormonal complications, nutritional complications and others.(6)

AIM

The aim of this study was to gather as much information as possible about the particularities of alcohol abuse in young patients (18-55 years). We wanted to evaluate the variables related to age, sex, socio-cultural background, personal and hereditary background. We assessed the frequency of occurrence of organic and psychiatric comorbidities, the psychological profile, complications, receptivity to treatment and the number of relapses, as well as determining causal relationships between those listed above.

MATERIALS AND METHODS

The target population was represented by all patients admitted to the Psychiatry Department I of the Târgu Mureş County Clinical Hospital, between 01.01.2018-31.12.2019, who presented the diagnosis of hospitalization of ethanol abuse. The criteria for inclusion in the study represented the patients of both genders, aged 18-55 years who had one or more days of hospitalization related to the diagnosis of ethanol abuse (according to DSM-IV-TR). The exclusion criteria from the study represented patients younger than 18 years old, respectively older than 55 years old at the time of hospitalization, the discrepancy between the diagnosis of hospitalization and the 24-hour diagnosis on the background of another psychiatric pathology.

The study design was longitudinally retrospective.

The investigated variables were of the nominal qualitative type, dichotomous qualitative, primary quantitative and followed the course of a clinical observation sheet, so we classified them into 3 categories as presented below:

General data: the patient's initials, sex, age, environment, professional status, marital status, number days of hospitalization. Data related to psychiatric evaluation: primary diagnosis, secondary diagnosis, family medical history, personal medical history, previous psychiatric hospitalizations, personality disorders, complete mental examination, treatment, evolution and effectiveness of therapy.

Data related to the psychological evaluation: the psychological examination performed by the clinical psychologist.

The extracted data was entered into an Excel database and statistically processed using Statistical Package for Social Sciences (IBM SPSS) and GraphPad Prism 8. Frequency tables were used to identify absolute frequency, relative frequency and calculate the relationships of variables via the Chi-Square and T-Student test. The tests were interpreted against the significance threshold of the value of the statistical function $p = 0.05$, and the statistical significance was considered for the p values lower than the significance threshold.

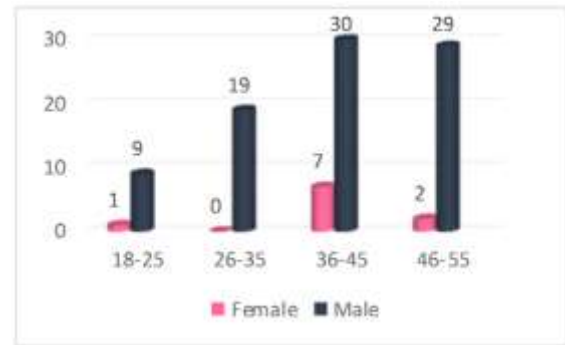
RESULTS

Patients' characteristics

According to the medical records, in the period between 2018-2019, 97 patients diagnosed with ethanol abuse were hospitalized in the Psychiatry Clinic I. The vast majority was represented by men (90%) and the most frequent age range was 36-45 years with a total of 37 patients (including both

females and males) (figure no. 1).

Figure no. 1. Distribution of patients according to age and gender



Regarding the environment, 55.57% of the patients were living in rural areas and 44.43% were living in urban areas.

Regarding the professional status, we observed that 51% of the patients were unemployed, 31% were employed and 14% were retirees. Marital status indicated that 60% of the patients were unmarried at the time of the admission and 40% were married.

Medical data

Regarding relapse, we observed that 57 % of the patients were hospitalised for alcohol abuse prior to the current admission. Forty-nine males and 6 females had relapses. We wanted to determine if there is an association between sex and alcohol abuse recurrence. The results of the Chi-Square test, applied to determine the association between sex and recurrence of ethanol abuse in a total sample of 55 patients who had recurrence and a sample of 42 patients who did not have recurrence, are as follows in table no. 1:

Table no. 1. Correlation between sex and alcohol abuse recurrence

| | |
|----------------------|--------|
| Relative Risk (RR) | 0.93 |
| Odds Ratio (OR) | 1.61 |
| P value significance | 0.0049 |

The results are highlighting a statistically significant correlation between males and the occurrence of recurrences.

We observed that 67 patients stated that they have a qualitative social support network, while 30 patients had a deficient social support network. We applied the Chi-square test to determine if there is a correlation between the social support network and relapse (table no.2). The results indicated that the quality of social support network influences treatment adherence and relapse frequency.

Table no. 2. Correlation between social network support and relapse frequency

| | Relapse | Without relapse | Marginal Row Totals |
|---|----------------------|----------------------|---------------------|
| Qualitative social support | 36 (40.75) (0.55) | 31 (26.25) (0.86) | 67 |
| Deficient social support | 23 (18.25) (1.24) | 7 (11.75) (1.92) | 30 |
| Marginal Column Totals | 59 | 38 | 97 (Grand Total) |
| The chi-square statistic is 4.5745. The p-value is .032452. Significant at $p < .05$ | | | |

We observed that 68% of the patients had a comorbid organic personality disorder.

The average number of hospitalization days was 7.762. Most of the patients (13 patients) were hospitalized in the Psychiatry Department only one day (the minimum hospitalization days), the maximum days of hospitalization for

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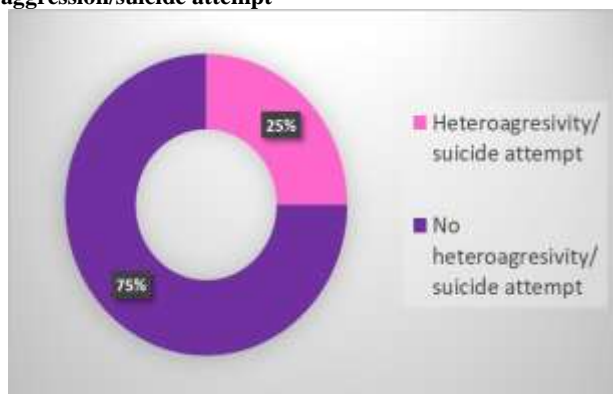
alcohol abuse was 27 days (1 patient).

Regarding the family history of risky drinking behaviours, we observed that only 14% of the patients had family members who were abusive alcohol drinkers, while 86% patients negatively responded when asked if they have a family medical history of abusive drinking.

We observed that 10% of the patients were diagnosed with epilepsy, while 90% had no history of epileptic seizures.

It is important to highlight that 25% of the patients presented hetero-aggression/suicide attempt at the time of the admission (figure no. 2).

Figure no. 2. Distribution of patients regarding hetero-aggression/suicide attempt



Psychiatric evaluation and psychic functions

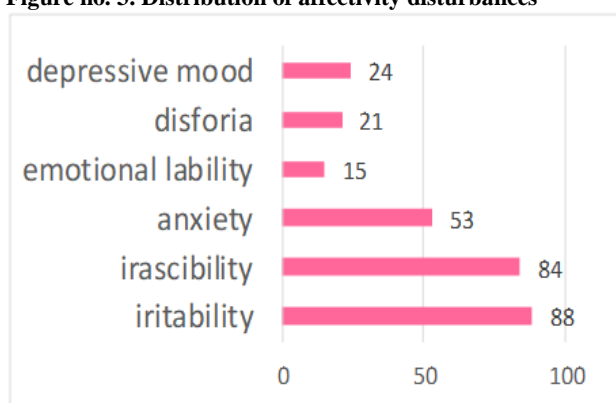
Cognitive status was assessed by determining cognitive functions such as attention, memory and temporal and spatial orientation as well as auto and allopsychic orientation.

The results indicated that 70 patients had a reduced ability to attend or concentrate (hypoprosexia), 88 patients had altered memory (hypomnesia-76 pts, hypermnesia-12 pts), 19 patients were temporo-spatial, auto and allopsychically disoriented.

We observed that 65% of 97 patients had altered consciousness at the time of the admission.

Regarding affectivity, figure no. 3 presents the mood and emotional disturbances observed in our studied group.

Figure no. 3. Distribution of affectivity disturbances



Fifty-six percent of the patients had globally diminished instincts (maternal, dietary, defensive, etc.) while 44% had increased defence instinct.

Eighty-seven patients reported sleep disturbances, mixed insomnia being the most frequently encountered sleep disorder (81 patients).

Psychological evaluation

Treatment options

All the admitted patients received supportive therapy.

Figure no. 4. HAM-D (Hamilton Depression Rating Scale) Scores

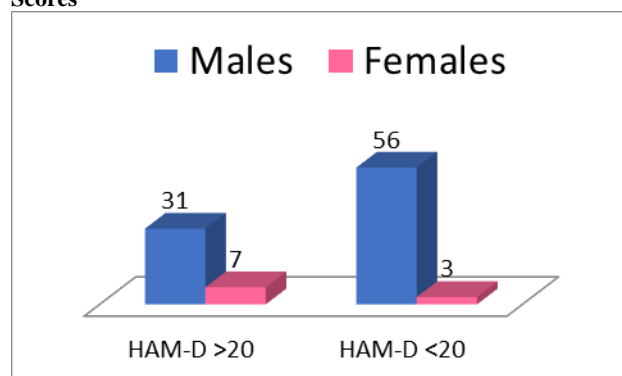


Figure no. 5. Pharmacological treatment options

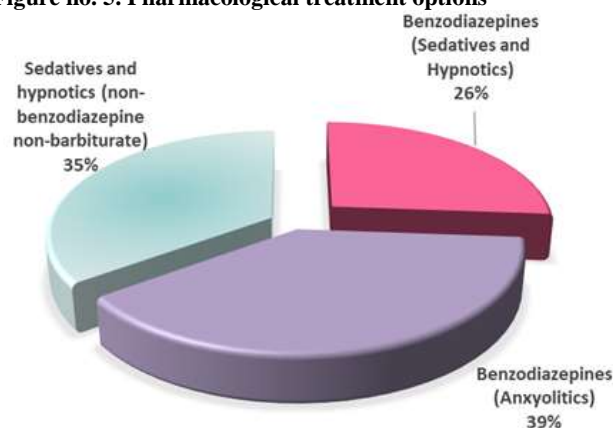


Table no. 3. Adjuvant pharmacological treatment

| Class | Number of patients |
|----------------------|--------------------|
| Antipsychotics | 37 |
| Anticonvulsants | 27 |
| SSRI Antidepressants | 19 |

DISCUSSIONS

In most societies, the acceptance of alcohol use and abuse is definitely much more tolerated for male sex.(3) Thus, the incidence of ethanol abuse is twice as low in women as in men.(7)

It is generally known that men consume more alcohol than women and they are more prone to alcohol-use related accidents and long-term consequences. The prevalence of alcohol abuse was significantly higher in the male group of our study compared to females. Recent studies discovered that the gap between genders is currently narrowing, with impressive rising prevalence of alcohol abuse among young females.(8)

In terms of environmental provenience, we observed that the majority of the patients were living in rural areas. Literature describes differences between alcohol-abuse and substance-use prevalence among different demographic areas. A contribution to this difference can be attributed to factors such as socio-demographic, culture, traditions, religion and economic development.(9,10)

It is well known that unemployment and alcohol abuse are major public health problems, but the comorbid association of the two situations can lead to greater risk for one individual. Studies have shown that alcohol use can easily lead to unemployment, as well as the other way round. Professional functioning is severely affected by alcohol consumption.(11) Our study indicated alarmingly high rates of unemployment among abusive-drinking patients, once again demonstrating the

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poor professional outcomes of alcohol consumers.

Research studies highlights that divorced and never married patients have a greater risk to develop alcohol-use disorders. Alcohol-use is described as a maladaptive coping mechanism. Studies also showed that the marriage with a spouse diagnosed with an alcohol-use disorder can increase the risk for subsequent alcohol-use disorder.(12,13) In our study, most of the abusive-drinking patients were not married.

Literature validates the ability of the social support network to increase the adherence to treatment and to prevent recurrence.(14) Although most of the patients in the study are unmarried, the qualitative social support network, made up in this context of parents and friends, has the ability to positively influence treatment adherence and subsequently to prevent possible relapses.

Alcoholic organic brain disease results from two interacting pathophysiological mechanisms: nutritional (thiamine) deficiency and neurotoxicity. Alcohol is neurotoxic and acts as a central nervous system depressant.(15)

The organic personality disorder, known as a persistent alteration of a behavioural pattern, is characterized by a change of premorbid behaviour due to an organic impairment or disease of the brain, or a general condition, the most common symptoms including depressive symptoms, emotional lability, irritability and impulsive behaviour, the same affective disturbances that our studied patients presented.(16)

The relationship between alcohol chronic use/alcohol abuse and degeneration of the brain continues to be a very debated issue. It is known that increased daily alcohol consumption increases the risk for seizures. Studies have shown that individuals who regularly consume large amounts of alcohol can increase their risk of seizures by abruptly reducing or stopping consumption (known as alcohol withdrawal seizures). Alcohol withdrawal seizures can occur within a few hours up to 72 hours after stopping alcohol consumption. In addition, people with comorbid epilepsy diagnosis tend to have a higher risk to develop seizures at smaller amounts of alcohol and shorter period of consumption that those without epilepsy.(17)

Alcohol has been widely associated with violent crimes, infractionality and domestic violence. Various etiological factors were linked to chronic alcohol use and violence including psychiatric comorbidities such as personality and mood disorders. Aggression is the precursor of violence and individuals prone to aggressive behaviours are more likely to be impulsive and to commit violent crimes, especially when under the influence of alcohol.(18) On the other hand, it is also well known that people diagnosed with alcohol-use disorders are more likely to commit suicide than the general population. On average, 1 person dies of suicide every 40 seconds and interesting is finding that one third of suicide victims in America had alcohol in their system.(19) The results of our study support the hypothesis that patients who consume alcohol are prone to have aggressive, violent and suicidal tendencies.

Alcohol-related cognitive impairment is highly prevalent among patients with alcohol-use disorders, especially long-term alcohol consumers. Alcohol consumption activates a neuroinflammatory mechanism response which, if sustained, can lead to substantial brain volume loss. This brain injury is associated with characteristic cognitive deficits, and in particular cases with dementia.(20) It is vital to early discover and diagnose cognitive impairments in alcoholic patients in order to treat or reduce the neurodegeneration and the development of further serious and concerning deficits.

The co-occurrence of insomnia and alcoholism is clinically significant because alcoholism can exacerbate the adverse effects of insomnia (e.g., emotional lability, asthenia

and decreased performance) and because insomnia in patients receiving treatment for alcoholism has been significantly associated with subsequent alcoholic recurrence (21)

Literature describes that alcohol use disorder and depressive disorders are among the most widespread psychiatric disorders and co-occur more frequent than expected. ICD-10 also recognizes alcohol-induced depressive disorder as a depressive-like syndrome (characterized by depressed mood or anhedonia) that occurs only during and shortly after alcohol intoxication or withdrawal, remits after 3 to 4 weeks of alcohol abstinence, and is associated with significant discomfort and deterioration.(22) The Hamilton Depression Rating Scale is the golden standard for depression scales. The scale cannot be used to establish a diagnosis, but it can be used to assess the severity of patients who have already been diagnosed with depression. A study conducted in Sweden found that half of the women participants in the study, with alcohol abuse diagnosis also had a depressive disorder, and 25% of women with depressive disorders were abusive alcohol-consumers.(23) Another study conducted in Romania showed that young students with risky drinking behaviours are more likely to develop depressive symptoms.(24)

In terms of treatment options, we observed that a high number of patients were prescribed benzodiazepines. Although the exact mechanism by which each benzodiazepine works is not fully understood, it is known that consequences are obtained by enhancing the effects of the gamma-aminobutyric acid (GABA) in the brain. This mechanism slows down nerve impulses throughout the body and reduces the output of other neurotransmitters that are necessary for alertness and memory, muscle tone, coordination, emotional responses, endocrine secretions, heart rate, blood pressure. The use of benzodiazepines impairs all of the above functions. Alcohol use damages the way the brain functions. The impairment becomes increasingly severe the longer the alcohol consumption and the greater the quantity. Alcohol withdrawal can be extremely painful and causes seizures, hallucinations, nightmares, palpitations, vomiting, and other systemic effects. In some situations, alcohol withdrawal can even be fatal.(25) Some clinical studies have tried to demonstrate the efficacy of barbiturate-based alcohol withdrawal treatment but further trials are warranted.(26)

Alcohol associated psychosis can occur with acute ethanol intoxication, alcohol withdrawal or chronic alcoholism. Alcohol-related psychosis is known as alcohol hallucinosis and described as the presence of psychotic symptoms during or shortly after heavy alcohol intake. Studies have shown that acute psychosis is best treated with neuroleptics such as Haloperidol but certain atypical antipsychotics have also been used to help sedate and treat patients with acute psychosis.(27)

CONCLUSIONS

Alcohol-abuse occurs more frequently in males, but further studies are required in order to analyse the increasing prevalence and potential risk factors of alcohol-use disorders in female group.

It is important to note that young adults who abusively consume alcohol are at high risk of early established neurodegenerative conditions if they continue to drink large amounts of alcohol for a long period of time. Early development of cognitive impairment can shorten the life expectancy of one individual.

The impact on global functionality (social, educational, professional etc.) represents an important global burden. This particular age-group (18-55 years old) represent the working-age population, the labour force of one country. The impact of the decreasing working-force can lead to serious

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economic repercussions as well.

One important aspect to be noted is that alcohol-use disorders and depressive disorders co-occur more frequent than expected. Further clinical studies are warranted in order to best describe the link between the two psychiatric conditions and the best management and treatment options.

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