

THE DEVELOPMENT OF ETHANOL DEPENDENCE: RESULTS OF A STUDENT SURVEY**Badr Adouani*¹, Youssef Moutaouakil², Mina Ait Elcadi², Rachid Eljaoudi², Ahmed EL Yaakoubi², Yassir Bousliman²**¹Pharmacology and Toxicology Laboratory, Faculty of Medicine and Pharmacy, Hassan II University of Casablanca, Morocco.²Pharmacology and Toxicology Laboratory, Faculty of Medicine and Pharmacy, Mohammed V University of Rabat, Morocco.***Corresponding Author: Dr. Badr Adouani**

Pharmacology and Toxicology Laboratory, Faculty of Medicine and Pharmacy, Hassan II University of Casablanca, Morocco.

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ABSTRACT

Regular alcohol use is a prevalent public health issue with detrimental effects. University students are a population whose alcohol use has received minimal research and is still often misunderstood. However, this group has a significant role to play in terms of prevention and health education. The purpose of our study was to identify the characteristics, knowledge, and attitudes about alcoholism among college students. A survey was conducted on the alcohol drinking patterns of a sample of university students. The total number in our sample study was 431. According to the methods used, the total prevalence of alcohol intake was 12%. Alcoholic beverages include beer, wine, whiskey, and vodka. Thirty-three percent of alcoholics report having 10 drinks at a time. Alcoholism is a global medicosocial problem, and there is an immediate need to protect both current and future generations from the negative effects of alcohol on their health as well as on society, the environment, and the economy.

KEYWORDS: Ethanol, dependence, University students, prevalence of alcohol.**INTRODUCTION**

Regular alcohol use is a prevalent public health issue with detrimental effects. Despite therapy, alcoholism is a chronic and highly relapsing condition, particularly when accompanied by anxiety or depression symptoms.^[1] The World Health Organization (WHO) classifies alcoholism as a disease and describes it as "mental and behavioural abnormalities" connected with excessive alcohol use. This loss of control is often accompanied by a physical dependency shown as a withdrawal symptom upon cessation of intake.^[2] This addiction is defined by the need to use it again and again, and yearning is its main symptom.^[3]

Alcohol abuse dates back to antiquity; in the 1970s, the average daily intake was 48 g of pure alcohol.^[4] It is an etiological factor in more than 200 illnesses and injuries and is responsible for 3.35 million fatalities annually, or 5.9% of global mortality. Individuals and society as a whole might incur substantial economic and social losses due to alcohol consumption. In the 20–39 age range, alcohol is responsible for over 25 percent of all fatalities.^[5] There is a causal link between alcohol abuse and a variety of behavioural and mental problems, noncommunicable illnesses, and injuries.^[6]

University students are a population whose alcohol use has received minimal research and is still often misunderstood. However, this group has a significant role to play in terms of prevention and health education.

The purpose of our study was to identify the characteristics, knowledge, and attitudes about alcoholism among college students. This research is likewise concerned with demonstrating the scope of the issue and also aims to raise students' awareness. We will also talk about how alcohol affects the brain and how it is like a drug, as well as the most important effects of alcoholism and how to treat it.

MATERIAL AND METHOD

A survey was conducted on the alcohol drinking patterns of a sample of university students. The data was gathered by means of a self-questionnaire, which included fifteen questions (Appendix N°). It offered information on alcohol intake and statistics (years of study, gender, age, living standard, extracurricular activities, residence, etc.). The age at the start of consumption, the frequency of consumption, and the peers' company were crucial to comprehending the beginning of consumption. At the time of data collection, anonymity was assured. We managed it without supervision, preserving the privacy

of the data. Statistical analysis is performed using SPSS V19 software.

RESULTS

The total number of university students in our sample study was 431. The participation percentage (N = 371) was 86.1%. The female sex predominated, with a sex ratio (male/female) of 0.4. The average age was 21 years old, with extreme ranges ranging from 19 to 30 years old. In our sample, the 20–22 age group was highly represented. We noticed that the recurrence rate was higher than 11% (N = 40). Only 27% (N = 100) of the pupils participated in an extracurricular activity, while

40% (N = 148) of the students lived remotely from their families.

According to the methods used, the total prevalence of alcohol intake was 12% (N = 44). Fourteen percent of the students (N = 19) who have tried alcohol say they drink it at least once a week, while sixteen percent (N = 16) drink it twice as often. Depending on the production mode and the desired level of intoxication, there are a number of distinct alcoholic beverages available for consumption. Alcoholic beverages include beer, wine, whiskey, and vodka (Figure 1).

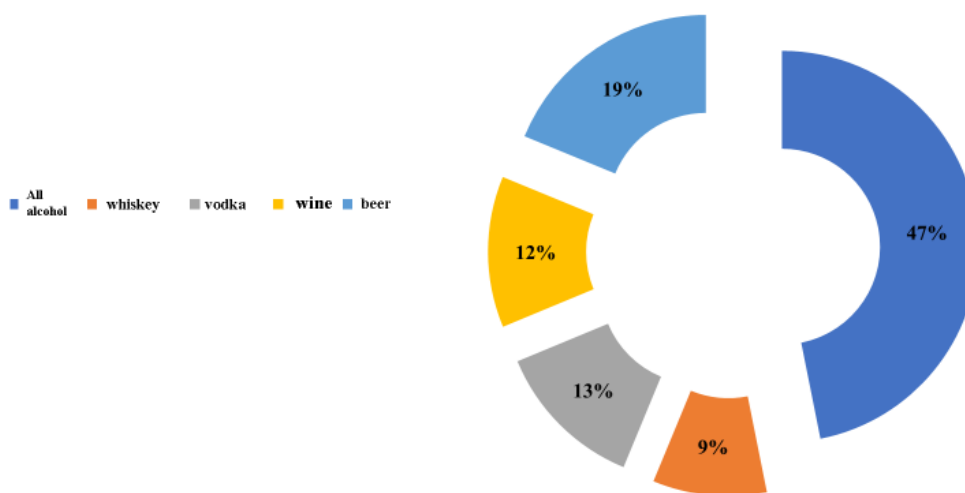


Figure N. 1: Alcohol consumption prevalence by type of alcohol.

Thirty-three percent (N = 14) of alcoholics report having 10 drinks at a time (Figure 2).

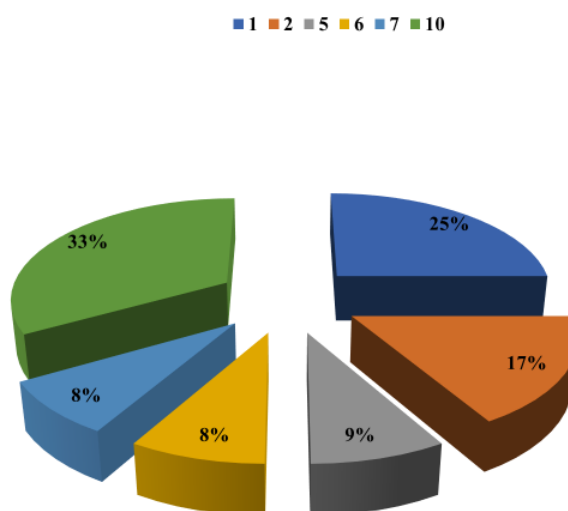


Figure N°2: Distribution of the amount of alcoholic beverages consumed each day.

There were 34 percent of drinkers (N = 15) who had 10 or more drinks. All of them are male and heavy cannabis smokers and users; half of them have tried the substance

more than once, and many of their friends also use drugs (see Figure 3). College students above the age of 25 had a lower average frequency of alcohol use.

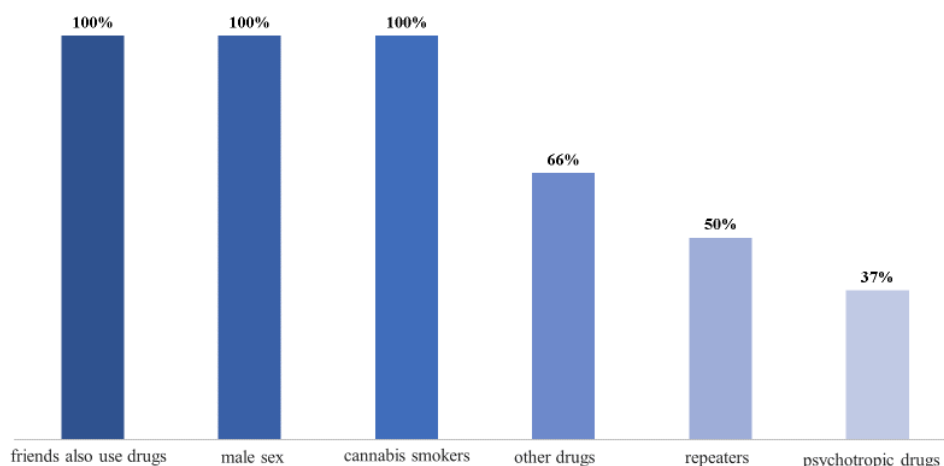


Figure N. 3: Characteristics of consumers of 10 or more drinks of alcohol.

DISCUSSION

The results of taking part in this epidemiology research were quite encouraging. The total response rate was 86.1%. It is true that this substantial engagement was made possible through a wide-ranging sensitization of instructors and pupils.

According to the survey's findings, this university's students drink alcohol, however, at varying rates, with a tendency toward higher rates among males. Additionally, they are more prone to consume it in unsafe and harmful ways. In fact, the findings of the national study on the prevalence of mental problems and drug addiction show that young people are using toxic substances more and more often.^[7]

We also see that the environment and psychological restrictions are the causes of these actions in females. Boys drink alcohol for many different reasons, like to have fun, try new things, fit in with their peers, or deal with stress.

Overall, 12% of alcohol consumers drank more than the WHO-recommended limit, and 49% of alcoholics consumed more than the WHO-recommended tolerance level of 5 alcoholic drinks for men and 4 for women on a single occasion.^[8]

Approximately 2% of the nation's general population used alcohol, according to nationwide research.^[9] Evidently, our figures for alcohol usage are regrettably higher than the national average.

Approximately 25% of users do not anticipate abstinence or a permanent cessation of usage. The danger of transitioning from regulated and infrequent use to addiction varies from person to person. Some people might develop a dependency immediately after their first use. Some people may be more likely to become addicted to legal or illegal substances because of certain genetic risk factors.^[10]

Neurobiology of Drug Addiction

According to neurobiological studies, people who take psychoactive substances do so to experience pleasure. The reward system and dopaminergic medications are two of these mechanisms. Endogenous chemicals (endorphins, endocannabinoids, GABA, etc.) regulate dopamine neurons by stimulating receptors to boost dopamine and cause individuals to desire to repeat the positive emotions and sensations of well-being.^[11] The hedonistic system, also called the "reinforcement" reward system, is involved in this process. The hedonic system is a basic mammalian system that is found in the brain along the median bundle of the forebrain.^[12]

Dopaminergic Circuit

Dopaminergic projections from the subcortical ventral tegmental area to the basal ganglia (the nucleus accumbens, which is involved in the mesolimbic dopaminergic reward circuit) and to the prefrontal cortex are the neurobiological bases of reward circuits and learning circuits (the orbitofrontal cortex and anterior cingulate, involved in the mesocortical dopaminergic circuit and in the intensity of the behavioural response). Under the impact of repeated consumption, cortical structures, particularly the prefrontal, and the mesolimbic dopaminergic system would see long-term alterations in neuronal plasticity. After the start of addiction, a drive to consume may linger for a number of years, even after the cessation of use.^{[13],[14]}

Different people have different chances of becoming addicted to a drug after using it moderately or rarely at first. Some people are predisposed to developing an addiction to drugs from their very first experience with them. There is a possibility that genetic risk factors are responsible for the addictive potential of both legal and illegal substances in some individuals. On the other hand, there isn't much known about how these factors of vulnerability interact with each other or with environmental factors.^[10]

Toxic characteristics of alcohol

The fermentation of sugar-rich plants or distillation are the two processes that result in the production of alcohol, which is a liquid substance that comes from natural sources (ethyl alcohol). Alcohol is a component of alcoholic beverages such as wine, cider, beer, rum, distilled spirits, vodka, and whiskey. These drinks are consumed for the euphoric and incapacitating effects that alcohol produces. Since alcohol does not undergo metabolism, it is directly absorbed into the bloodstream from the digestive system. Within a few minutes, the substance will have spread throughout the whole body thanks to the blood's circulation.

The effects might vary widely depending on factors such as the amount of alcohol that was consumed, the person's health status, the degree to which they are addicted to alcohol, their weight, their sexual identity, the presence of other substances, and so on. When inhaled, each normal drink raises blood alcohol concentration by 0.20-0.25 g/l, or around 0.10-0.12 mg/l.

Locations

Evidence of signs and symptoms is required in order to arrive at a diagnosis of an alcohol-related condition. Because a patient's history is the most crucial factor in diagnosis, it is essential to collect data on their drinking habits, drug use, and other relevant issues. After the consumption has been recorded, the next step is to search for its effects, particularly on the physical manifestations, the general and professional relations, and the emotional and psychological states of the individual.^[15]

The Most Serious Consequences of Chronic Alcoholism

Among the complications of alcohol addiction, we cite trauma, mental and behavioural disorders, gastrointestinal disorders, cancers, cardiovascular pathologies, immunological disorders, skeletal pathologies, reproductive disorders, and alcoholic embryofetopathies.

Additionally, alcohol addiction is responsible for a high premature mortality rate, which accounts for approximately 49,000 deaths each year. The liver and the brain are the two organs that are most negatively impacted by drinking an excessive amount of alcohol over a long period of time.^[1]

One of the four most frequent risk factors for noncommunicable diseases that may be managed and avoided is hazardous alcohol consumption. Other risk factors include smoking, obesity, and a poor diet. According to recent findings, drinking alcohol is one of the factors that adds to the burden of illness caused by communicable diseases like TB and HIV/AIDS.^[15]

Depression is a typical symptom among alcoholics, particularly in the period leading up to withdrawal. Schuckitaa M.A.^[16] says that 80% of drinkers show signs

of depression, and 30% of patients meet all the criteria for severe depression, which are sadness, lack of interest, slowing down, sleep problems, and loss of appetite.

Support and Treatment

Treatment for addiction is a lengthy process. The primary goal should be to break the habit or stop using the substance. The difficulty stems from an individual's inability to avoid relapsing into compulsive or substance use after a period of sobriety. Because of this, most of the work will be about keeping people sober and keeping them from using again in the long run.

The treatment of addiction is a challenging endeavor. Despite this, the increased understanding of the neurobiological processes that are involved in this illness has made it feasible to discover attractive pharmaceutical targets at the level of the reward circuit as well as the areas that are linked with this circuit. Therapies that are currently effective are based on the interaction that occurs between the short-term effects of the drug on dopaminergic transmission, the reactivation of the reward circuit in the absence of drugs, the reduction of withdrawal symptoms, and the interaction with systems that are related to the reward circuitry. At the level of these systems, neurotransmitters, including GABA and glutamate, as well as endogenous opioids, play an important role in the development of addiction.^[17] Substitution, cognitive-behavioral (psycho-behavioral) therapy, social support, dating diversification, and activity participation are all key parts of drug addiction treatment.^[136]

In the context of alcohol withdrawal, benzodiazepines are often administered orally for a maximum period of between 8 and 10 days, with the potential of adjusting the dose based on the patient's response. The suggested duration of treatment is between 8 and 10 days. It is possible to make use of a variety of benzodiazepines, each of which has its own unique half-life and hepatic metabolism. The parenteral route, which is available for diazepam and dipotassium clorazepate, is only used for severe forms that need precise monitoring conditions to be carried out in a medical environment.^[18]

Neuroleptics, which are also called dopaminergic antagonists, are not used to prevent withdrawal syndrome. Instead, they are an important part of treating the symptoms of withdrawal, like hallucinations and agitation that are made worse by quitting.

CONCLUSION

Alcoholism is a global medicosocial problem, and there is an immediate need to protect both current and future generations from the negative effects of alcohol on their health as well as on society, the environment, and the economy. We can cut down on the health problems and other problems caused by this addiction if we all work together and make sure our efforts are coordinated.

Conflicts of interest declared: None.

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