

## Original Article

# Drug-Related Behaviors and Knowledge and Beliefs about Drugs in a Sample of Students in Crete, Greece

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### Abstract

**Background:** Drug abuse among students is a rising phenomenon worldwide.

**Purpose:** To investigate the students' history of drug usage, knowledge, and perceptions about drugs during the COVID-19 pandemic.

**Methods:** A cross-sectional study was conducted with a sample of 174 students in Heraklion, Greece (April-May 2022). The questionnaire used included sociodemographic data and questions about the knowledge and perceptions of the drugs. The analysis was performed by SPSS v.26.

**Results:** Most of the participants were females (63.6%) and students of nursing (32.7%). 47.7% had used cannabis at least once and 26% of them had their first use during the COVID-19 pandemic. The most frequent reasons for starting using drugs were curiosity (27.4%) and stress (11.3%). The vast majority knew the concept of drugs and the problems that they cause in health. The most common source of information about drugs was Internet (63.8%) and family (56.9%). Cannabis was concerned as the easiest-to-find drug (65.1%) and entertainment rooms (35.5%) and parks (14%) were concerned as easy-to-find drug places

**Conclusion:** The students reported various beliefs about drugs and many of them used them during the COVID-19 pandemic. Future research is suggested to examine this study's results further.

**Keywords:** drugs, students, knowledge, beliefs, COVID-19

### Introduction

Drug abuse and addiction is an issue that has concerned the human population for many years. Over the years there has been an increase in the use of drugs worldwide, in all social classes, genders, and ages (Giannakariou & Nikolopoulou, 2021). According to the National Survey on Drug Use and Health (NSDUH), a large percentage of people in the United States aged 12 or older had a substance use disorder in

2019, with approximately 8.0 million people having an illicit drug use disorder (Substance Abuse and Mental Health Services Administration, 2020). There are many definitions of drugs, and each science investigates this phenomenon differently. Scientists in the fields of chemistry and pharmacology define drugs as natural and technical substances, which act and change the psychology and way of thinking of the person

who consumes them (Menelaus, 2017).

Drug abuse and addiction are significant public health concerns that can have negative effects on individuals, families, and communities and can affect people of all ages, genders, races, and socioeconomic backgrounds. Drug abuse and addiction can have negative effects on physical health, mental health, social relationships, and overall well-being.

Users of these addictive substances over time develop strong feelings of indifference and tolerance, which can often lead them to careless and dangerous behaviors in terms of use. These behaviors increase the chances of certain infections occurring, which pose great risks to the physical integrity of these individuals. Also, drug use is likely to cause various disorders, such as depression, anxiety, and psychosis (Spiliopoulou & Eftaxiadis, 2020).

It also has a great impact on the social life of individuals, because in some cases they are unable to work, find housing, and often resort to illegal actions and activities. Drug trafficking can also constitute such an action. Finally, death is also common and is caused by long-term use, which is often accompanied by an overdose of narcotic substances (Molymbakis & Prindziou, 2021).

There are several risk factors for drug abuse and addiction, including genetics, family history, trauma, stress, and mental health conditions (Dennhardt et al., 2013, Clayton, 1992). The use of specific addictive substances is a problem, for which various factors may be responsible, such as society, the economic situation, the family, and the psychology of the individual (Skourou, 2016).

The increasing use of drugs among students has become a rising and disturbing phenomenon all over the world (Emmons et al., 1998). Clinical education causes stress for nursing students (Rezaei et al., 2018). Moreover, previous surveys have shown that nursing and medical students have high rates of mental health disorders such as burnout, stress, depression, and anxiety (De Cavalcante et al., 2016; Tung et al., 2018; Wahed & Hassan, 2017). Several surveys have shown that stressed and depressed students tend to use recreational drugs often as a coping strategy (Kumar, 2016). The reasons for which students consume recreational drugs

include relaxation, pleasure, and peer influence (Panthee et al., 2017).

The pandemic of coronavirus disease (COVID-19) caused unprecedented disruption worldwide. Immediately after the appearance, no effective intervention can stop the dispersion of the virus in addition to applying universal lockdowns. (Wu, 2021).

Amid a pandemic, where there were long periods of curfews or other severe restrictions, it was observed that students in Greece who were quarantined reported an increase in their negative emotions (e.g. anxiety, depression) and their suicidal ideation (Karapounaki et al., 2020). Another study conducted at the same time on students showed that post-traumatic stress, confusion, and physical and psychological exhaustion increased significantly. Such changes are associated with frustration, confinement, boredom, financial disparities, and lack of information (Brooks et al., 2020).

Current data show that drug use by students during the COVID-19 pandemic increased (Guevara, 2010). In another cross-sectional survey conducted among 244 students in the nursing department in Israel during the third week of a national lockdown revealed high levels of anxiety and increased usage of sedative drugs and alcohol (Savitsky et al., 2020). In an online survey conducted in five public university campuses involving undergraduate students enrolled in 33 courses in Brazil, most of the students presented symptoms of depression (60.5%), anxiety (52.5%), and stress (57.5%), and 40.8% of the total sample reported having increased the use of drugs, medications, tobacco or food during the pandemic (Lopes & Nihei, 2021).

Consequently, the present study builds on COVID-19-related research conducted at Hellenic Mediterranean University during the period January and May 2022. More specifically, this study aimed to investigate the knowledge and perceptions of the students of the Hellenic Mediterranean University towards drugs. The research also aims to study the relationship that students have with drugs, as well as the reasons that lead them to use them during the pandemic period of COVID-19.

#### **Method**

**Design:** A cross-sectional study was conducted with

a convenience sample of 174 students of those departments of the Hellenic Mediterranean University that are located in Heraklion, Greece: Department of Nursing, Social Workers Department, Department of Business Administration & Tourism, Department of Accounting and Finance, Department of Agriculture, Department of Electronic Engineering, Department of Mechanical Engineering. The duration of the study was two months (April- May 2022).

The questionnaires were distributed online through e-mail and the Google Forms platform. The participants were selected based on the following eligibility criteria: 1) students of the Hellenic Mediterranean University and 2) wishing to participate voluntarily in the research. Persons who were not students, students who didn't study at the Hellenic Mediterranean University, and those who didn't wish to participate voluntarily in the research were excluded from the study.

A composite questionnaire was used. The first part included sociodemographic data and information about the participants' studies. The second part consisted of questions about the students' perceptions, attitudes, and knowledge of the drugs.

#### **Measures**

**Demographic Information:** Participants reported their gender, age, level of education, place of family residence, marital status, and their parents' marital status. They were also asked if they had children

**Information about their studies:** Participants were asked questions about the university department, in which they were enrolled and answered a question about the semester of their studies. They also reported if they had completed any other educational/training/ lifelong learning programs.

**Questions about the students' perceptions, attitudes, and knowledge of the drugs:** The second part of the questionnaire consisted of questions aimed at gathering students' knowledge about drugs. There were six questions related to the following:

- knowledge of the meaning of drugs
- if drugs can cause problems in the person's physical health and mental health
- whether they affect the person's sociability
- if the drugs used for medical purposes should be consumed individually.
- source of their information about the meaning and effects of drugs on the human body.

Finally, the third part of the questionnaire consisted of 27 questions aimed at investigating the attitudes and perceptions of the students of the Greek Mediterranean University of Heraklion about drugs. There were also questions about whether they had ever used drugs, what led them to do so, and how they felt during the use. In addition, questions asked if they believed that the period of restrictive

measures increased the need for use and which drugs they considered more harmful to physical health.

**Data analysis:** The statistical program SPSS 26.0 was used for the analysis of data. The analysis included the descriptive statistics (frequencies and percentages) and their presentation in graphs.

**Ethics:** A signed informed consent was obtained from all research participants, who took the questionnaire on hand. Participants were informed in detail about the purpose of the study and were given assurances of anonymity and confidentiality. They were also assured that the collected data would be used only for the purpose of the study. In the case of online completion, they read about the aim of the study from an information sheet and clicked the "Click here to proceed" button to give their consent. Then they were free to complete the questionnaire. They were then taking part in the survey, if they wanted to quit, participants had the option to close the browser, and in this way, they withdrew. All participants took part voluntarily, without taking any compensation.

#### **Results**

According to the eligibility criteria, 174 students were asked to participate in the study, and all of them accepted (response rate=100%). The demographic characteristics of the sample are presented in Table 1.

#### **History of drug use and drug-related behaviors**

About half of the participants (47.7%) answered that they had used cannabis for at least one time. Furthermore, 11.6% of them answered that they had used other types of drugs, too. Concerning the place of finding drugs, the students believed that it is easy to find drugs in entertainment rooms (35.5%). Parks (14%) and schools/universities (8.7%) are also regarded as easy-to-find-drugs places.

The most frequent feelings during drug use were calmness (26.7%), pleasure (23.3%), and discomfort (14.7%). 5.2% answered that they did not feel anything during drug usage, while a small percentage answered that they felt insecure and stressed (0.9%) and that their feelings were consistent with their mood. 38.4% answered that their mood has changed since they started using drugs, while 36.4% answered that their mood has not changed.

The most frequent reasons for starting to use drugs were curiosity (27.4%), stress (11.3%) family problems (10.4%), pressure from their friends (9.4%), financial problems (4.7%), and

mourning (3.8%).

A percentage of 26% said that they had their first use during the COVID-19 pandemic. In contrast, 61% said that their first use was before the pandemic.

Concerning the attempts to stop using drugs, 37.6% answered that they had stopped using them, while 6.8% answered that despite trying, they did not succeed it. 12.8% answered that they do not need to stop using, while 7.7% answered that they do not feel ready for this step yet.

Concerning the reasons for stopping using drugs, 16.9% answered that they overcame the reason that led them to consume them, 4.5% that they had no money to buy drugs, 2.2% that they were afraid of being arrested, 14.6% that they had noticed changes in their behavior and feelings, while 4.5% had noticed changes in his physical health.

### **Knowledge about drugs**

Regarding the source of information about drugs, 56.9% have been informed by their family and 63.8% by the Internet. 48.9% have been informed by the school and 36.2% by their faculty. 35.1% have been informed by their friends and 29.9% by the Mass Media. 14.9% answered "from another source" and 2.3% have not been informed at all.

A very large percentage (74.3%) answered that they know the Therapy Center for Dependent Individuals "KETHEA", while 42.1% answered that they know the Organization Against Drugs (OKANA). It follows the therapeutic community for drug users "ITHAKI" (22.8%) and the PETHEA "ARGO" Alternative Therapeutic Program (7%). Still, 8.2% of students know the program "Renaissance", while 1.8% know another drug addiction center.

Finally, 8.8% of students know all of the above facilities, while 12.3% do not know any of the aforementioned drug addiction centers. Further knowledge about drugs is presented in Table 3. The vast majority knew the concept of drugs and knew that drugs can cause problems in a person's physical health. A great percentage (91.4%) knew that drugs have negative effects on mental health and can cause various mental disorders. The majority of the students (55.2%)

believed that the most dangerous drug is heroin. Smaller percentages were recorded for cocaine (33.1%), hallucinogens (30.8%), ecstasy (28.5%), tranquilizers (7%) and cannabis (6.4%). Interestingly, 34.9% answered that all the above drugs are dangerous for health. Cannabis was considered the easiest-to-find drug (65.1%). The students also answered that cocaine (18.6%), hallucinogens (12.2%), ecstasy (11.6%), and heroin (7.6%) are easy to find.

### **Discussion**

The current study examined drug-related behaviors and knowledge and beliefs about drugs in a sample of 174 university students in Crete, Greece. Most of the participants were females, single, 21-25 years old, and students of nursing. The main result is that more than half of the students had used drugs, at least one time and reported various beliefs and knowledge about them. The result about the great percentage of drug use among students is similar to that found by Emmons et al. (1998), who state that the increasing use of drugs among students has become a rising and disturbing phenomenon all over the world. Previous surveys have also shown that nursing and medical students have high rates of mental health disorders such as burnout, stress, depression, and anxiety and that stressed and depressed students, tend to use recreational drugs often as a coping strategy (Kumar, 2016; De Cavalcante et al., 2016; Wahed & Hassan, 2017; Tung et al., 2018).

The students in our sample believe that it is easy to find drugs in entertainment rooms, parks, and schools/universities. The majority of them illustrate the experience of drug usage as positive (e.g. they feel calmness and pleasure). On the contrary, a smaller percentage depicts this experience as negative (e.g. they feel discomfort, insecure and stressed). Most of them answered that their mood has changed since they started using drugs.

The students reported several reasons for starting to use drugs (curiosity, stress, family problems, pressure from their friends, financial problems, and mourning). Interestingly, one out of four of the drug users had their first use during the COVID-19 pandemic.

**Table 1. Demographic characteristics of the sample**

		n (%)
<b>Gender</b>	Man	60 (34.4%)
	Woman	110 (63.6%)
	Other	4 (2%)
<b>Age group</b>	17-20 years old	71 (40.8%)
	21-25 years old	82 (47.1%)
	26-30 years old	13 (7.5%)
	>30 years old	8 (4.6%)
<b>Place of residence</b>	Capital	45 (25.9%)
	Second capital	15 (8.6%)
	Town	47 (27%)
	City	29 (16.7%)
	Rural areas	38 (21.8%)
<b>University department</b>	Department of Nursing	56 (32.7%)
	Social Worker Department	45 (26.3%)
	Department of Business Administration & Tourism	12 (7%)
	Department of Accounting and Finance	15 (8.8%)
	Department of Agriculture	14 (8.2%)
	Department of Electronic Engineering	19 (11.1%)
	Department of Mechanical Engineering	13 (5.9%)
<b>Semester/year of their studies</b>	1 <sup>o</sup>	21 (12.2%)
	2 <sup>o</sup>	53 (30.8%)
	3 <sup>o</sup>	31 (18%)
	4 <sup>o</sup>	47 (27.3%)
	>4 <sup>o</sup>	22 (11.7%)
<b>Marital status</b>	Single	93 (53.8%)
	In a relationship	68 (39.3%)
	Married	9 (5.2%)
	Divorced	3 (1.1%)
	Widow/widower	1 (0.5%)
<b>Parents' marital status</b>	Married/partnered	112 (64.7%)
	Separated	11 (6.4%)
	Divorced	31 (17.9%)
	Widow/widower	(9.8%)
<b>Having children</b>	Single parent	3 (1.2%)
	Yes	7 (3.5%)
	No	167 (96.5%)



<b>Studies in any other educational/training/lifelong learning programs.</b>	Yes	47 (26.6%)
	No	127 (73.4%)

**Table 2. History of drug use and drug-related behaviors**

	YES	NO	Don't Know/not answered
Does anyone in your family use drugs?	20.1%	70.1%	9.8%
Does any of your friends/in your social environment use drugs?	64.7%	31.8%	3.5%
Have you ever used cannabis?	47.7%	52.3%	0%
Do you use other drugs?	11.6%	87.3%	1.1%
Did you use drugs for the first time during the COVID-19 pandemic?	26%	61%	13%
Did you feel during this period that your need to use drugs increased?	41.7%	45.5%	12.8%

**Table 3. Knowledge about drugs**

	YES	NO	Don't Know/not answered
Do you know the concept of the drugs?	94.8%	3.5%	1.7%
Do you know that the drugs can cause problems in the physical health?	94.2%	4.6%	1.2%
Do you know that drugs can cause mental health problems (schizophrenia, anxiety disorders, etc.)?	91.4%	7.5%	1.1%

**Table 4. Beliefs about drugs**

	YES	NO	Don't Know/not answered
Do you believe that drugs affect a person's sociability?	92.5%	5.8%	1.7%
Do you believe that the drugs used for pharmaceutical purposes should be consumed individually?	24.3%	56%	19.7%

### **Discussion contin.**

Many of them had stopped using them, but many others did not feel ready to stop using them, did not need to stop using them, or did not succeed. Concerning the knowledge about drugs, the vast majority knew the concept of drugs and that they can cause problems in the physical and mental health. This finding is very similar to what is reported in the scientific literature. That is, it has consistently been found by several studies that the drugs have a very negative effect on the physical and mental health of people who use them and are associated with death due to overdose, infections, strong feelings of indifference and tolerance, careless and dangerous behaviors in terms of use, depressive, anxiety, and psychotic disorders, etc (Spiliopoulou & Eftaxiadis, 2020).

Regarding the source of information about drugs, most of them had been informed by the Internet, by their family, or by their school. Previous research conducted on 213 Shiraz University students has shown that the majority of students wanted more information on drugs, and considered films and television the best source for providing information (Ghanizadeh, 2001). A large percentage answered that they knew the Therapy Center for Dependent Individuals "KETHEA", while lower percentages knew the Organization Against Drugs (OKANA) and other therapeutic programs (community for drug users "ITHAKI", the PETHEA "ARGO", Alternative Therapeutic Program, program "Renaissance, other drug addiction center). It seems that the students in the sample had adequate knowledge about the drugs, the problems that they cause, and the related therapeutic programs. A survey conducted at Sri Guru Ram Dass Institute of Medical Sciences, Amritsar among medical students showed that most of the participants were well aware of drug addiction and the role of a doctor and society in its prevention (Sood & Tanwar, 2023). Several beliefs about drugs were also recorded. The majority of the students believed that the most dangerous drugs are heroin, cocaine, and hallucinogens and the easiest-to-find drugs are cannabis, cocaine, and hallucinogens.

In addition, the students believed that drugs affect a person's sociability. Similarly, Molybakis & Prindziou (2021) also argue that drugs have a great impact on the social life of individuals because in some cases they are unable to work, find housing, and often resort to illegal actions and activities.

Another interesting belief that was recorded is that

the drugs used for pharmaceutical purposes should not be consumed individually. A previous study has shown that consuming drugs used for pharmaceutical purposes individually, without medical supervision, can have negative health consequences and increase the risk of substance use disorders, overdose, addiction, and other negative outcomes (Hughes et al.,2014). Finally, a study conducted by McCabe and his colleagues (2013) found that non-medical use of prescription drugs, such as stimulants and opioids, was associated with a greater risk of substance use disorders, suicidal behavior, and other negative outcomes among students.

As for the research limitations, it must be highlighted that this study had a cross-sectional design, in which only descriptive statistics were recorded (frequencies, percentages, etc.) and no correlation or possible differences between several groups. Another limitation is that the sample was recruited from only one university institution and the results have not great representativeness. Moreover, the prerequisite that the respondents submitted a written consent may have affected the answers provided.

Notwithstanding the limitations discussed above, the results of the research are useful enough to make suggestions for the convenient management of drug use among students. The healthcare professionals will be able to evaluate the extent of the problem, recognize the vulnerable groups of students, and plan convenient programs for drug prevention. Future research is suggested so that further investigation and clarification of the study's results to be possible. Various additional variables (eg. family income, completion of military service for the men, etc) could be examined. It is also significant to examine correlations and differences between several groups (e.g. between students of nursing and other technical fields). Furthermore, researchers could compare the knowledge and perceptions about drugs between students and a sample of young individuals from the general population. Also, further research is needed to explore the complex relationships between attitudes, beliefs, and knowledge about drugs in a large sample among different student populations, and to develop more effective drug prevention and intervention strategies. Finally, further research must be conducted in this area to explore the effectiveness of different drug education approaches, examine the influence of peers and parents on students' attitudes and knowledge/beliefs about drugs, and investigate how contextual and cultural factors

may shape these attitudes and beliefs.

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