

Drug use, risk perceptions and attitudes towards drug use amongst medical and dentistry students

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Abstract

Aims: To analyse the use of psychoactive substances and the risk perceptions amongst odontology and medical students. To study their perceptions, attitudes and knowledge, and to evaluate their motivation when helping their patients to stop using these substances.

Methods: A cross-sectional study was conducted amongst 962 students in Spain, using validated questionnaires on an anonymous basis.

Results: Amongst these students, drug use varies and increases with age as assessed by the DAST and CAST tests, with more problematic use being observed as the academic cycle progresses ($p < .001$). Participants in the 2nd cycle presented higher consumption than those in the 1st cycle, in the univariate model (OR = 1.77, IC 95% 1.27–2.48, $p = .001$) and in the adjusted model (OR = 1.86, IC 95% 1.32–2.62, $p < .001$). Regarding CAST, non-problematic use in the 1st cycle versus the 3rd cycle presented an OR = 8.69 (IC 95% 4.50–16.78, $p < .001$) and for low risk use it presented an OR = 15.18 (IC 95% 1.83–14.68). Only 46.7% considered using marijuana on a regular basis as a high risk, whilst 60.5% stated that smoking a pack of cigarettes represents a high risk. Alcohol was the substance for which the risk perception was lowest. 66.2% are in the maintenance stage “I provide my regular drug-using patients help to give up,” with women being more likely to be in this stage ($p = .012$).

Conclusions: High risk of drug use increases after the 1st cycle in Dentistry and in Medicine. Training programmes should be implemented in both degrees, focusing on the 1st years in order to simultaneously prevent drug use amongst students.

KEYWORDS

attitude, drug use, medical and dentistry students, risk perceptions

1 | INTRODUCTION

Drug use worldwide is on the increase, both in general terms, and also in terms of the proportion of the global population that uses

these substances. Around 269 million people used drugs on at least one occasion in 2018, that is to say, 5.3% of the global population aged from 15 to 64 years.¹ Substance use has significant social and health consequences, which is why it is so important to continue

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working to reduce its incidence. Health professionals play an important role in this work, and, as such, their attitudes towards drug use prove decisive when it comes to advising their patients to stop using these substances. As a result, numerous studies have analysed substance use amongst medical students since the 1980s.^{2,3} As future health workers, it is important that they are aware of the negative consequences that using these substances can have on health, because of the crucial role they will play in detecting drug use and in counselling their patients.⁴ Several studies have reported a high prevalence of psychoactive substance use amongst medical⁵⁻⁹ and nursing¹⁰ students. Colomer-Pérez et al.¹¹ recently observed that exposure to substances in this group was linked to a greater presence of social and personal problems. A study on dentistry students from the UK, determined that 2.6% males and 0.5% females were regular cannabis users. According to this study, other commonly used substances were ecstasy, LSD, cocaine, inhalants and ketamine.¹² As has been observed with tobacco use, the role of odontology professionals in detecting drug use and in providing subsequent counselling to their patients is fundamental.¹³ The dental environment is increasingly recognised as a useful site for detecting multiple problems.^{14,15} With regard to the role played by dentists in this field, in other studies they have been asked whether or not they ask their patients about substance use when taking their medical records,¹⁶ whether they agree that identifying patients who use substances forms part of their role as professionals,^{16,17} and, what skills they think are required to deal with said patients.^{17,18} Said studies have concluded that there is a significant lack of awareness of the relevant role that dentists may play when addressing this issue. When it comes to other medical specialists, a study conducted in Spain observed that resident interns are provided with a considerable amount of advice on this topic, in particular regarding alcohol and tobacco. These studies determined that the frequency with which they are provided with this type of clinical advice depends on the speciality studied, and on certain characteristics of their personal consumption. It has been observed that there is a direct relationship between the use of illegal drugs and the age at which individuals begin to consume alcohol or to smoke.¹⁹

Previous studies on this group²⁰ have observed that a high percentage of students in these faculties presented problematic alcohol consumption, and despite being aware that their job requires them to be able to detect problems related to alcohol consumption, nonetheless, they did not consider that they had the necessary skills to do so. Very few studies have actually provided any insight into the attitudes of odontology and medical students, who are the future health workers, regarding drug use.²¹ Therefore, studying the use of psychoactive substances amongst this population, as well as determining their risk perception, and their knowledge, attitude, and motivation when helping their patients is essential. Thus, the objectives of this study were (1) to analyse the use of psychoactive substances and the risk perceptions amongst odontology and medical students; (2) to study their perceptions, attitudes and knowledge and (3) to evaluate their motivation when helping their patients to stop using these substances.

2 | METHODS

2.1 | Participants

The final sample was comprised of 962 undergraduate and postgraduate students from the Faculty of Dentistry and the Faculty of Medicine of de University of Santiago de Compostela, of which 73.1% were female, 25.8% male and 1% marked "other," with an average age of 20.90 years (DE = 3.27 years).

2.2 | Sample size calculation

The sample size estimation was done based on the difference in the expected proportions between academic cycles. Thus, for an expected proportion of 10% in population 1 (2nd cycle), and 5% in population 2 (1st cycle), for a sample size ratio of 1, a confidence level of 95% and a power of 80%, the required sample size would be 435 in each population group, making a total of 870 participants. This calculation was done using Epidat 4.2 (SERGAS).

2.3 | Questionnaire

The questionnaire was divided into eight sections: (I) Socio-demographic data are as follows: age, gender, faculty and year. The 1st- and 2nd-year students were grouped together in the 1st cycle; the 3rd, 4th and 5th years were grouped in the 2nd cycle, and the postgraduate, odontology PhD and 6th year students (additional, with very specific characteristics and medical internships) were grouped in the "postgraduate" group. (II) Tobacco consumption (yes/no), age at which they started consuming tobacco and number of cigarettes per day. (III) Drug Abuse Screening Test (DAST), designed by Skinner in 1982²² and validated in Spanish,²³ which evaluates substance use and the consequences derived from said consumption. This test consists of 20 items, and a score of 5 or over is considered as problematic use. (IV) Cannabis Abuse Screening Test (CAST): a six-item questionnaire used to detect problematic patterns of cannabis use and cannabis use disorder (CUD), providing a total score that ranges from 0 to 6. In the case in which a respondent attains a score of 4 or more, they are considered to have problematic consumption.^{24,25} (V) Assessment of the frequency of psychoactive substance use. Adaptation of the items used in the EDADES study²⁶ to assess the prevalence of the use of different psychoactive drugs (hypnotics, opioids, cannabis, cocaine, ecstasy, GHB, amphetamines, methamphetamines, hallucinogens, magic mushrooms, heroin and volatile inhalants), through the use of four time indicators: at least once in my lifetime, in the last 12 months, in the 30 days prior to the survey, and every day in the 30 days prior to the survey. (VI) Assessment of the perception of risks associated with drug use. Adaptation of the items used in the study published by the Spanish National Drugs Plan²⁷ to assess the perception of risks associated to drug use. We analysed the following behaviours: smoking one pack

of cigarettes per day, regular use of marijuana, using ecstasy at the weekend, using LSD once a month, drinking two alcoholic beverages per day, and drinking more than four alcoholic beverages in a single sitting. The scale used was: 1 no risk to 4 high risk. (VII) Assessment of the attitudes and knowledge of health professionals when advising their patients to give up drugs. Adaptation of the alcohol assessment described by Ntouva et al.²⁸ We used the Likert scale (1 strongly disagree–5 strongly agree). Aptitudes: “I always ask about narcotic substance use when taking a patient's medical history,” “I feel like it is part of my job to identify patients that use substances and advise them.” Knowledge: “I can correctly give advice to my patients about the use of different drugs and their effects on health,” “I am familiar with the drug use screening tools.” (VIII) Assessment of the students' motivation to give their patients advice about giving up drug use. We prepared the items following the assessment of the stages of change according to Prochaska & DiClemente's transtheoretical model, later adapted by Daley²⁹: “I do not provide my patients with assistance to help them to give up drugs and I do not intend to do so” (pre-contemplation); “I do not provide my patients with assistance to help them give up drugs, but I have thought about doing so” (contemplation); “I provide my patients with assistance to help them give up drugs every now and then” (action); “I provide my regular patients with assistance to help them give up drugs” (maintenance). Odontology students from 1st to 2nd year, and medical students from 1st to 3rd year do not undertake clinical activity, for that reason we asked them whether they intended to carry out said activities when they did eventually see patients.

2.4 | Proceedings

We conducted a descriptive study that was approved by the USC Bioethics Committee (Ref. USC-24/2020). All 1st to 5th year and postgraduate dental students, and 1st- to 6th-year medical students were invited to participate. The assessment instruments were administered in an online format using Microsoft Forms, and they were distributed by the academic authority via a link or zappa code. The participants had free access to the questionnaire between October 2020 and January 2021. Participation was anonymous and voluntary, in compliance with the ethical and data protection requirements.

2.5 | Instrument validation

We conducted a pilot study with a sample of 50 students who were randomly selected in order to assess the reliability of the instrument and determine the time needed to complete it. The average time taken to finish the evaluation was 7 min. Cronbach's alpha test was used to determine the reliability of the final task. Stratification in thematic blocks was used and the weighted average value for this study was 0.86. This data enabled us to ensure high reliability.

2.6 | Statistical analysis

We collected the data in a database designed ad hoc. The data were statistically analysed using the SPSS v.24.0 software (IBM, Statistics). The categorical variables were described through frequencies and percentages, and the quantitative variables were determined through averages and standard deviation. We studied the relationship between the categorical variables using the chi-square and Kruskal–Wallis tests. To assess the effects that the quantitative variables had on the qualitative variables, we used a parametric statistic for the ANOVA test, and Bonferroni's post hoc correction was used for the multiple comparisons. The degree of correlation of the quantitative variables was analysed using Pearson's correlation coefficient (CC). Kappa index was computed for questions of both CAST and DAST questionnaires. Univariate and adjusted binomial and multinomial logistic regression models were constructed in order to determine the odds ratio (OR) for drug use and for stage of change in relation to the covariates: gender, cycle and faculty. The significance level was established at $p \leq .05$.

3 | RESULTS

3.1 | Data of use

The sample consisted of 962 participants, 15.5% were smokers, and the average age at which they began to smoke was 14.96 years ($DE = 5.47$). The descriptive data are shown in Table 1. Tables S1 and S2 show the descriptive data for DAST-20 and CAST respectively. The most used substance amongst the participants was cannabis, with 25.4% stating that they had used it once, 11% that they had used it in the last year, and 8.6% that they had used it in the last week. Therefore, it was possible to deduce that 55% of the sample had never used cannabis, compared to a percentage of greater than 92% for the rest of substances, as is shown in Table S3. Exploring cannabis consumption and its relationship with sociodemographic factors in depth, it is observed that there is no relationship between consumption and gender and faculty of origin; however, there are differences in terms of course ($p < .001$), age ($p = .032$) and cycle ($p < .001$). Thus, 18.9% of the first-year students and 28.6% of the second-year students have ever consumed in their lifetime, and 24.7% of the sixth-year students and 23.5% of the second-year students have consumed in the last 7 days. As for the cycle, 61.5% of students in the first cycle have never consumed cannabis, but 43.3% in the second cycle have consumed in the last 12 months. In relation to the mean age, the highest was for the group who have consumed in the last 7 days (21.47 years IC 95% 20.96–21.98) and the lowest for those who have never consumed, 20.62 years (IC 95% 20.30–20.94). In relation to grams of cannabis per month, there were no differences in terms of gender ($p = .262$), or faculty ($p = .312$), although there were differences again in terms of course ($p < .001$) and cycle ($p < .001$). Thus,

TABLE 1 Descriptive data from the sample.

Categorical variables		N (%)
Demographic data		
Gender	Male	248 (25.8)
	Female	702 (73.1)
	Other	10 (1)
Faculty	Dentistry	222 (23.1)
	Medicine	737 (76.9)
Year	1st	224 (23.3)
	2nd	283 (29.4)
	3rd	133 (13.8)
	4th	83 (8.6)
	5th	98 (10.2)
	6th	108 (11.2)
Cycle	Postgraduate	31 (3.2)
	1st cycle	507 (52.8)
	2nd cycle	314 (32.7)
Tobacco consumption	No	810 (84.5)
	Yes	149 (15.5)
	Problematic use	58 (6)
CAST	Score 0–1	861 (89.5)
	Score 2–3	43 (4.5)
	Problematic use	58 (6)
DAST-20	Non-problematic	747 (77.7)
	Problematic use	214 (22.3)
Risk perception		
1 pack of cigarettes/day	No risk	9 (0.9)
	Low risk	47 (4.9)
	Moderate risk	323 (33.7)
	High risk	580 (60.5)
Regular use of marijuana	No risk	6 (0.6)
	Low risk	75 (7.8)
	Moderate risk	430 (44.9)
	High risk	447 (46.7)
Ecstasy at the weekend	No risk	3 (0.3)
	Low risk	14 (1.5)
	Moderate risk	201 (21.1)
	High risk	736 (77.1)
LSD once a month	No risk	10 (1)
	Low risk	66 (6.9)
	Moderate risk	284 (29.8)
	High risk	593 (62.2)
2 alcoholic beverages/day	No risk	35 (3.7)
	Low risk	281 (29.4)
	Moderate risk	447 (46.7)
	High risk	194 (20.3)
4 alcoholic beverages/occasional	No risk	37 (3.9)
	Low risk	266 (27.7)
	Moderate risk	403 (42)
	High risk	253 (26.4)

TABLE 1 (Continued)

Categorical variables		N (%)
Attitudes and behaviour		
Asking about drug use when taking the patient's medical history	Strongly disagree	34 (4)
	Disagree	58 (6.9)
	Undecided	148 (17.6)
	Agree	170 (20.2)
Identifying drug users	Strongly agree	431 (51.2)
	Strongly disagree	9 (1)
	Disagree	32 (3.6)
	Undecided	89 (10.1)
Advising about drug use and its effects	Agree	236 (26.8)
	Strongly agree	516 (58.5)
	Strongly disagree	31 (3.6)
	Disagree	107 (12.3)
Knowledge of screening tools	Undecided	236 (27.1)
	Agree	199 (22.8)
	Strongly agree	298 (34.2)
	Strongly disagree	264 (30)
Stages of change	Disagree	246 (27.9)
	Undecided	212 (24.1)
	Agree	91 (10.3)
	Strongly agree	68 (7.7)
Stage of change	Pre-contemplation	17 (2.3)
	Contemplation	156 (20.7)
	Action	81 (10.8)
	Maintenance	498 (66.2)
Quantitative variables	Average (DE)	Min-Max
Sum DAST- 20	3.14 (2.15)	0–15
Sum CAST	0.17 (0.72)	0–6
Start of tobacco consumption (age)	16.70 (2.05) years old	12–24 years old
No. cigarettes/day	4.04 (3.91)	0–20
Grams of cannabis/month	4.91 (7.53)	0.5–35

the highest consumption was for sixth-year students with 9.6 gr (95% CI 5.4–13.8) and the lowest for third-year students with 0.9 gr (95% CI 0.6–1.2). The highest consumption was for students in the third cycle with 8.2 gr (95% CI 4.5–11.8) compared to those in the second cycle with 1.3 gr (95% CI 0.8–3.8). In relation to age and grams of cannabis, there was a low but statistically significant correlation by using non-parametric approach (Spearman's $Rho = 0.270$) ($p = .002$).

According to CAST, 6% of the participants presented a problematic use of cannabis (CUD). Hypnosedatives were the 2nd most used substance after cannabis, followed by opioids, magic mushrooms and ecstasy. With regard to cocaine, 98.1% stated that they have never taken it.

TABLE 2 Comparative analysis from the drug use tests depending on gender, faculty and cycle. Chi-square statistical test.

Variables	N (%)				p			
	DAST-20		CAST					
	Non-problematic use	Problematic use	0-1	2-3				
Gender								
Male	192 (77.4)	56 (22.6)	248 (25.9)	219 (88.3)	16 (6.5)	13 (5.2)	248 (25.8)	.352
Female	544 (77.6)	157 (22.4)	701 (73.1)	630 (89.7)	27 (3.8)	45 (6.4)	702 (73.1)	
Other	9 (90)	1 (10)	10 (1)	10 (100)	0 (0)	0 (0)	10 (1)	
Faculty								
Dentistry	181 (81.5)	41 (18.5)	222 (23.2)	199 (89.6)	15 (6.8)	8 (3.6)	222 (23.1)	.045
Medicine	563 (76.5)	173 (23.5)	736 (76.8)	659 (89.4)	28 (3.8)	50 (6.8)	737 (76.9)	
Cycle								
1st cycle	416 (82.2)	90 (17.8)	506 (52.8)	471 (92.9)	20 (3.9)	16 (3.2)	507 (52.8)	<.001
2nd cycle	227 (72.3)	87 (27.7)	314 (32.7)	286 (91.1)	15 (4.8)	13 (4.1)	314 (32.7)	
Postgraduate	103 (74.1)	36 (25.9)	139 (14.5)	103 (74.1)	8 (5.8)	28 (20.1)	139 (14.5)	

According to DAST-20, 22.3% of the participants presented a problematic use of substances. When analysing the results from the questionnaires in order to assess the problematic use of psychoactive substances, no significant differences were found in terms of gender. However, significant differences were found in terms of age. According to DAST-20, the average age of the participants who presented non-problematic use was 20.79 years old (DE = 3.4 years, IC 95% 20.5–21 years). That is to say, there was a lower percentage of problematic use amongst participants from the 1st cycle 17.8% ($p = .002$). Cannabis use also varied and according to the CAST assessment it also rose. The average age of the participants who presented problematic use was 20.8 years old (DE = 3.3 years, IC 95% 20.5–21 years), with low risk at 21.6 years old (DE = 3.2 years, IC 95% 20.6–22.6 years) and high risk at 22.5 years old (DE = 2.3 years, IC 95% 21.9–23.1 years), showing significant differences between non-problematic and high-risk use (Bonferroni test, $p < .001$). Problematic use was greater in students in the later academic cycles ($p < .001$) and there was a higher problematic use of cannabis amongst medical students (6.8%) than dentistry students (3.6%) ($p < .01$). The full data are shown in Table 2.

Regarding the efficiency of the different instruments, for the CAST in relation to cannabis use, considering three possible options non-problematic (never or ever in life), low (monthly) and high risk (weekly), the kappa coefficient using Crombach's alpha was 0.391 ($p < .001$). For the ability to detect problematic use using the CAST, the sensitivity was 62.5% and the specificity was 95.9%. For the DAST, in relation to non-prescription drug use (no, non-problematic and yes, problematic use) the kappa coefficient was 0.464 ($p < .001$), sensitivity 94.8% and specificity 68.4%.

3.2 | Risk perception

The substances that the participants considered to be a higher risk were ecstasy, when used weekly, followed by LSD, when used monthly. Less than half of the sample (46.7%), considered using marijuana on a regular basis as a high risk, whilst more than half of the participants stated that they believed that smoking a pack of cigarettes represents a high risk (60.5%). Alcohol was the substance for which the risk perception was lowest. Full descriptive data are shown in Table 1 and Figure 1.

3.3 | Attitudes, knowledge and stage of change

With regard to the attitudes and knowledge studied, as shown in Figure 2, the majority of students always ask their patients about these issues when taking their medical history (51.2%) and feel capable of identifying regular users (58.5%). However, only 34.2% advise them about the effects of drugs, and only 7.7% stated that they were familiar with the different screening tools. No significant differences were found in terms of gender regarding any of

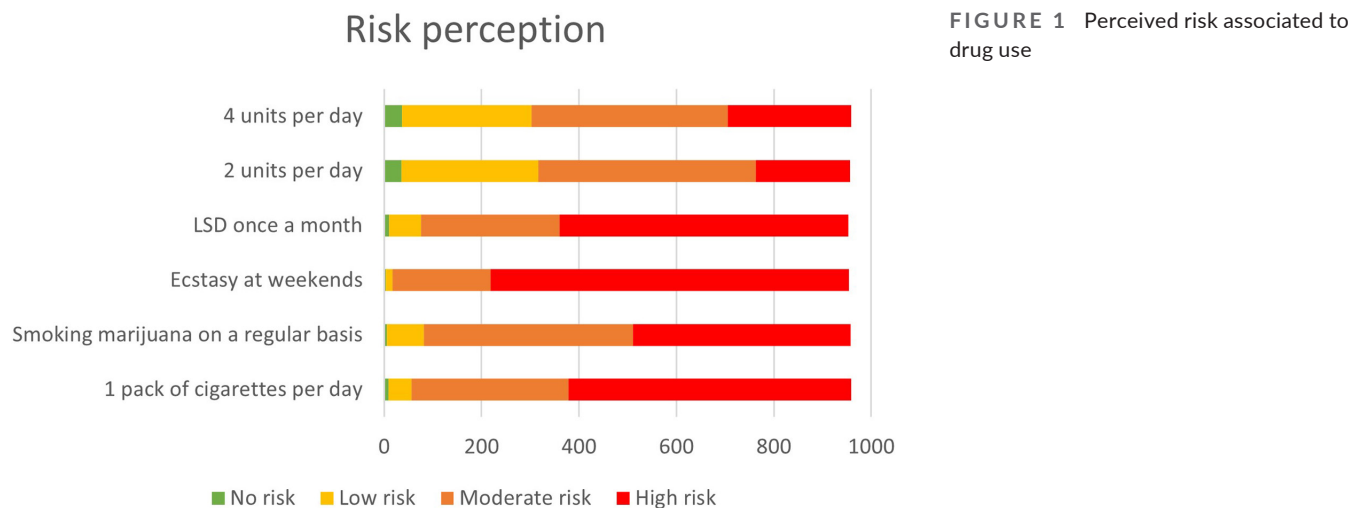


FIGURE 1 Perceived risk associated to drug use

Assessment of the attitudes and knowledge of health professionals

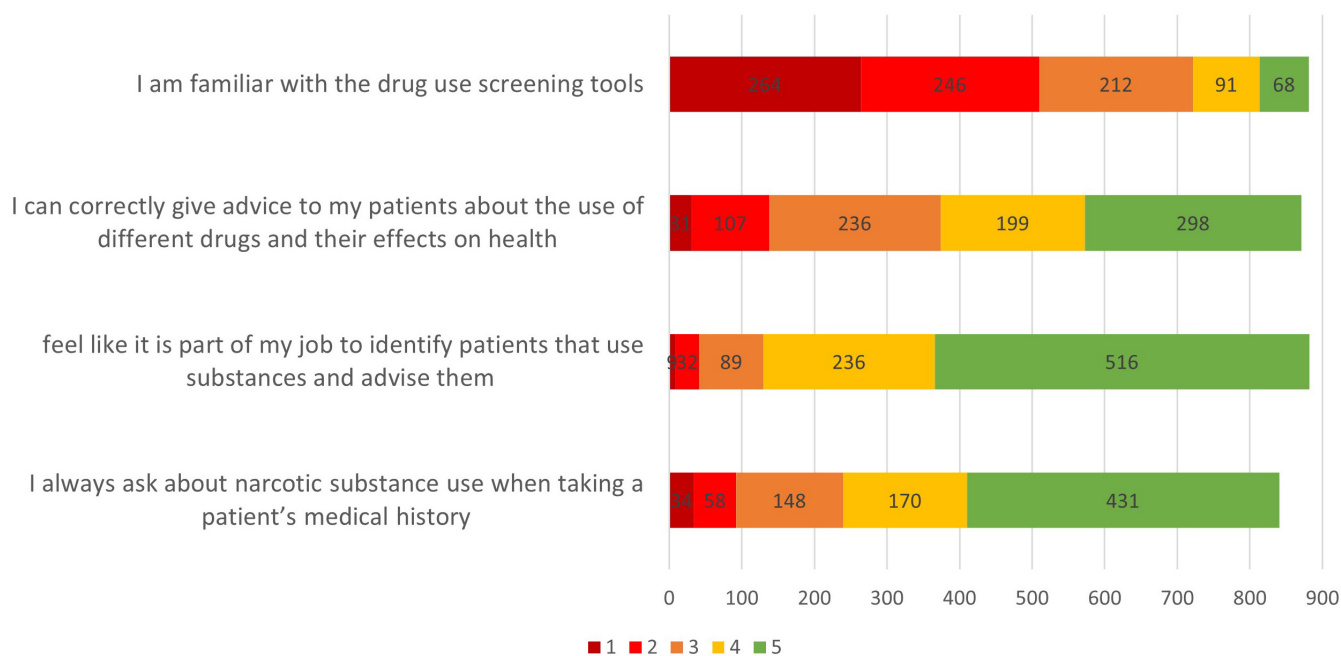


FIGURE 2 Assessment of the attitudes and knowledge of health professionals when advising their patients to give up drugs.

these variables. With regard to the faculty where the participants study, 58.6% of dentistry students always (level 5 Likert scale) ask their patients about drug use when taking their medical history, compared to 48.9% of medical students ($p = .006$), whilst 51.7% of dentistry students feel that it is part of their job to identify and advise drug-using patients, compared to 60.5% of medical students ($p < .001$).

In terms of motivation when it comes to informing patients about drug use, the majority of respondents are in the maintenance stage (66.2%) "I provide my regular drug-using patients help to give up." Regarding gender differences, women are more likely than men to be in this stage (68.6% vs. 59.9% $p = .012$). In terms of the degree,

57.8% of dentistry students stated that they were in this stage, compared to 68.8% of medical students ($p < .001$), and 76.5% of 1st cycle students, compared to 59.7% of 2nd-cycle students and 50.8% of postgraduate students ($p < .001$) (Table 3).

3.4 | Multivariate analysis

Binomial logistic models for DAST-20 were created and multinomial (for CAST and stage of change) univariate models, sequentially adjusted for gender, cycle and faculty models were created to determine the OR.

TABLE 3 Distribution of the stages of change according to the Prochaska-DiClemente model.

Variable		Stages of change <i>n</i> (%)				Total	<i>p</i>
		Pre-contemplation	Contemplation	Action	Maintenance		
Gender	Male	5 (2.5)	43 (21.5)	33 (16.5)	119 (59.9)	200 (26.6)	.012
	Female	11 (2)	112 (20.6)	48 (8.8)	374 (68.6)	545 (72.6)	
	Other	0 (0)	1 (16.7)	0 (0)	5 (83.3)	6 (0.8)	
Faculty	Dentistry	9 (4.9)	53 (28.6)	16 (8.6)	107 (57.8)	185 (24.7)	<.001
	Medicine	8 (1.4)	103 (18.2)	65 (11.5)	389 (68.8)	565 (75.3)	
Cycle	1st cycle	8 (2.2)	50 (13.9)	27 (7.5)	276 (76.5)	361 (48.1)	<.001
	2nd cycle	4 (1.5)	73 (27.2)	31 (11.6)	160 (59.7)	268 (35.7)	
	Postgraduate	5 (4.1)	33 (27)	22 (18)	62 (50.8)	122 (16.2)	
DAST-20	Non-problematic	15 (2.6)	116 (20.1)	61 (10.6)	385 (66.7)	577 (76.8)	.574
	Problematic use	2 (1.1)	40 (23)	20 (11.5)	112 (64.4)	174 (23.2)	
CAST	Score 0–1	12 (1.8)	138 (20.7)	69 (10.4)	447 (67.1)	666 (88.6)	.106
	Score 2–3	5 (13.9)	5 (13.9)	3 (8.3)	23 (63.9)	36 (4.8)	
	Problematic use	0 (0)	13 (26)	9 (18)	28 (56)	50 (6.6)	
Total (%)		17 (2.3)	156 (20.7)	81 (10.8)	498 (66.2)	962 (100)	

Note: The comparisons were carried out using the Kruskal–Wallis nonparametric test for ordinal variables.

TABLE 4 Univariate logistics regression analysis to determine the OR for drug use, assessed using DAST-20 and CAST.

Covariate	DAST-20 Problematic							
	Univariate OR (95% CI)	<i>p</i>	Adjusted OR (95% CI)	<i>p</i>				
Gender								
Male vs. Female	1.01 (0.72–1.43)	.955	0.96 (0.67–1.37)	.821				
Cycle								
2nd vs. 1st	1.77 (1.27–2.48)	.001	1.86 (1.32–2.62)	<.001				
3rd vs. 1st	1.62 (1.04–2.52)	.034	1.60 (1.02–2.52)	.040				
Faculty								
Medicine vs. Dentistry	1.36 (0.93–1.98)	.115	1.53 (1.04–2.26)	.032				
Covariate	CAST not problematic				CAST low-risk			
	Univariate OR (95% CI)	<i>p</i>	Adjusted OR (95% CI)	<i>p</i>	Univariate OR (95% CI)	<i>p</i>	Adjusted OR (95% CI)	<i>p</i>
Gender								
Male vs. Female	1.20 (0.64–2.27)	.568	1.55 (0.79–3.07)	.206	2.05 (0.86–4.91)	.107	2.46 (0.99–6.11)	.053
Cycle								
1st vs. 3rd	8.00 (4.17–15.33)	<.001	8.69 (4.50–16.78)	<.001	4.37 (1.57–12.19)	.005	15.18 (1.83–14.68)	.002
2nd vs. 3rd	5.98 (2.98–11.99)	<.001	6.01 (2.98–12.13)	<.001	4.04 (1.37–11.91)	.011	3.96 (1.33–11.83)	.014
Faculty								
Dentistry vs. Medicine	1.89 (0.88–4.05)	.103	1.85 (0.84–4.07)	.124	3.35 (1.26–8.88)	.015	3.12 (1.15–8.44)	.025

Note: The adjusted statistical analysis was carried out by means of a multivariate logistics regression adjusted by gender, cycle and faculty.

Abbreviation: OR, odds ratio.

With regard to consumption assessed through DAST-20, participants in the 2nd cycle presented higher consumption than those in the 1st cycle, both in the univariate model (OR = 1.77, IC 95% 1.27–2.48, $p = .001$) and in the adjusted model (OR = 1.86, IC 95% 1.32–2.62, $p < .001$) (Table 4). Regarding CAST, consumptions with a low and

moderate risk were preferential in the 1st cycle, both in the univariate and adjusted model. Thus, non-problematic use in the 1st cycle versus the 3rd cycle presented an OR = 8.69 (IC 95% 4.50–16.78, $p < .001$) and for low-risk use it presented an OR = 15.18 (IC 95% 1.83–14.68). Gender is not expressed as a significant covariate in drug use.

In terms of the stage of change, dentistry students appear to be at earlier stages than medical students, and in relation to the maintenance stage, in pre-contemplation for the adjusted model, dentistry students presented an OR = 5.06 (IC 95% 1.79–14.27, $p = .002$) and for the contemplation stage, they presented an OR = 1.61 (IC 95% 1.07–2.43, $p = .023$) (Table 5).

4 | DISCUSSION

With regard to drug use, cannabis is the 3rd most used drug worldwide, following alcohol and tobacco, and it was estimated that 192 million people used cannabis in 2018.¹ In our survey, 45% of the surveyed participants had tried cannabis at least once, although it should be noted that participants from dentistry and medicine have quite different characteristics in terms of workload and curriculum content. This is a higher percentage than the results of a recent meta-analysis in which this figure accounted for 31.4%, worldwide.³⁰ A possible drug-related disorder was observed in 6% of the students, representing a similar percentage to the one obtained by Fond et al.⁷ who obtained a 5.7% CUD in their sample of medical students, once the cut-off point had been established at 3 (it is also useful for its detection³¹). With regard to gender differences, Candido et al.⁶ observed that the use of different types of drugs, except for depressants, is more common amongst males. Some authors also determined that there is a higher risk of using cannabis and CUD amongst males.^{7,30} However, it has also been described that female drug use is different, and they are more likely to suffer from CUD.^{32,33} In our sample, no significant differences were found in terms of gender distribution. Thus, as other authors have shown, this could show an increase in substance abuse amongst women.³³

In the present study, the importance of the academic year was a novel discovery, given that the lowest percentage of drug-related problems was found amongst 1st-cycle students. This could provide a basis for establishing the point at which interventions should take place, as these are necessary in both degrees. It is important for these to take place during the 1st semester in order to prevent the increasing risks resulting from substance usage. With regard to cannabis, its use ranged from being non-problematic, to representing a high risk amongst young people aged 21–22; therefore, it is important to identify the problem amongst young people and set out preventive strategies before that period. Becoña et al.³⁴ defined a way of better predicting cocaine and ecstasy use amongst young people aged 14–25. Likewise, it was observed that, within this age group, the users of psychostimulants get drunk and develop risk behaviours much more frequently. Thus, specific training and prevention campaigns aimed at this group must be developed.³⁵

With regard to perceptions, attitudes and knowledge, 85.3% of the students (87.5% in medicine and 77.8% in dentistry) think that identifying and advising drug users forms part of their job. This figure is higher than the one observed in a study of odontologists, in which it was determined that only half of them (53.9%) considered

TABLE 5 Univariate logistics regression analysis to determine the OR for the stage of change.

Covariate	PRE-CONTEMPLATION			CONTEMPLATION			ACTION		
	Univariate OR (95% CI)	<i>p</i>	Adjusted OR (95% CI)	Univariate OR (95% CI)	<i>p</i>	Adjusted OR (95% CI)	Univariate OR (95% CI)	<i>p</i>	Adjusted OR (95% CI)
Gender									
Male vs. Female	1.43 (0.49–4.19)	.516	1.11 (0.37–3.37)	1.21 (0.80–1.81)	.366	1.05 (0.69–1.60)	2.16 (1.33–3.52)	.002	1.94 (1.17–3.21)
Cycle									
1st vs. 3rd	0.36 (0.11–1.14)	.081	0.32 (0.09–1.06)	0.34 (0.20–0.57)	<.001	0.35 (0.20–0.59)	0.28 (0.15–0.52)	<.001	0.29 (0.15–0.54)
2nd vs. 3rd	0.31 (0.81–1.19)	.088	0.23 (0.06–0.91)	0.86 (0.52–1.42)	.036	0.81 (0.48–1.35)	0.55 (0.29–1.02)	.056	0.57 (0.30–1.06)
Faculty									
Dentistry vs. Medicine	4.09 (1.54–10.86)	.005	5.06 (1.79–14.27)	1.87 (1.26–2.77)	.002	1.61 (1.07–2.43)	0.89 (0.49–1.61)	.711	0.78 (0.43–1.44)

Note: The adjusted statistical analysis was carried out by means of a multivariate logistics regression adjusted by gender, cycle and faculty. Abbreviation: OR, odds ratio.

that said tasks form part of their job.¹⁶ Priyadarshini also observed that odontologists agreed that they should identify patients who use drugs.¹⁷ Goel et al.¹⁸ stated that most odontologists showed a positive attitude towards said patients, and they agreed that problematic users must be identified and treated in dental environments. 71.4% of the students ask or are aware that they should ask about substance use when taking their patients' medical histories, a similar percentage to the one obtained by Parish et al.¹⁶ (77.2%) However, only 18% stated that they are familiar with the screening tools for drug use, a figure that concurs with other studies carried out by other authors, in which it has been determined that even though dentists are familiar with the importance of detecting drug use, they do not have the necessary specific knowledge, clinical training and tools to foster those intervention strategies.^{17,18}

Our findings show that only a few of the participants considered excessive alcohol and regular cannabis use as a dangerous behaviour, as was also observed in the study by Calafat et al.²⁷ As Kilmer et al.³⁶ suggested, risk perception can be a relevant factor with regard the participants initiating substance use. Therefore, highlighting the possible consequences of drug use amongst students that have never used them can lead to continuous abstinence. As far as we know, no specific literature deals with the students' willingness to help their patients.

With regard to the study limitations, we must firstly highlight its transversality. Furthermore, there are notable academic differences between dental and medical students. Another limitation is the fact that students do not undergo clinical practice until their 3rd year (dentistry students) and 4th year (medical students), although they do acquire preclinical competences; therefore, we assessed their intention. The percentage of participation in these initial years was lower than in the years in which students treat patients, which therefore limits the inferences of this study.

22.3% of the participants presented problematic drug use, with cannabis being the most commonly used substance (6% of them presented suspected Cannabis Use Disorder) followed by hypnotic sedative drugs, opioids, magic mushrooms and ecstasy. High risk of drug use increases after the 1st cycle. Most of the dentistry and medical students stated that identifying and assessing drug users forms part of their duties, and over half of them stated that they always help patients who are drug users, with a significantly higher percentage of medical students stating this than dentistry students, and especially 1st cycle students. However, most of them were not familiar with the different screening tools that are available in this field.

Therefore, we think that it is essential for the syllabus to be reviewed in terms of its content on drug use, and, likewise, some initiatives must be introduced to reduce its use and the possible associated problems. Training programmes should be implemented in both degrees, focusing on the 1st years in order to simultaneously prevent drug use amongst students.

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CONFLICT OF INTEREST

The authors certify that there is no conflict of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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