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Cannabis-Related Treatment Demands in Belgium: A Socio-Demographic and Treatment Seeking Profile

by

Colpaert K[1], Vanderplasschen W[1], Van Hal G[2], Schuyten G[3], Broekaert E[1]

Abstract

Aims

Most people appear to stop using cannabis when getting older, but a certain subgroup becomes cannabis dependent, has problems in various life areas and needs treatment. Our aim is to compare a number of sociodemographic and treatment seeking variables between treatment seekers with primary cannabis problems and those with primary alcohol, opiate, amphetamine or cocaine problems. Understanding how primary cannabis users seeking treatment differ from other treatment seekers may assist clinicians in better tailoring treatment processes to clients' needs.

Methods

For this purpose, intake information on 1,626 persons seeking treatment in one of 16 treatment agencies in the province of Antwerp (Belgium) was registered via an on-line web application. Primary cannabis users seeking treatment were compared with primary alcohol, opiate, amphetamine and cocaine users by means of bivariate analyses (Chi-square tests and analyses of variance), followed by four logistic regression analyses.

Findings

14.5% of all clients used cannabis as their primary drug. Compared to primary alcohol, opiate, amphetamine or cocaine users seeking treatment, cannabis users seeking treatment appeared to be more often male, younger than 30 years old, Belgian and student. They are often referred to treatment by police or justice and 43.6% of them can be considered single-substance users. Multivariate analyses showed that besides age and sex, using no other substances than the primary drug and being registered in outpatient facilities only were significant determinants for being a primary cannabis user seeking treatment.

Conclusions

Primary cannabis users can clearly be differentiated from other drug users seeking treatment. Although cannabis plays an important part in a polydrug use pattern, persons who have cannabis as their primary drug often use only this one substance. Since they regularly

[1] Ghent University, Department of Orthopedagogics
[2] University of Antwerp, University Scientific Institute for Drug Problems
[3] Ghent University, Department of Data-analysis

kathy.colpaert@ugent.be

have brief contacts with treatment agencies, more research is needed to measure the effect of this brief intervention.

Keywords

Cannabis, Treatment Demand, Substance Abuse Treatment, Drug Use, Demographics

Introduction

In Europe as well as in the United States, cannabis is the most commonly used illegal substance (1, 2). Based on the available figures, the European Monitoring Centre on Drugs and Drug Addiction (1) concludes that the use of cannabis in the European Union is no longer rising and that there are signs of stabilisation (and in some countries even a decrease). Most people appear to stop using cannabis when they get older and their social roles and responsibilities change (3, 4, 5). Reasons for doing so are changes in living circumstances, peer relations or working conditions, but also concerns about health in general and becoming cannabis-dependent in particular (6).

Although some may consider cannabis a 'soft drug' with few consequences, regular cannabis use has been linked to impairment in cognitive functions, health (e.g. respiratory problems), employment and psychological functioning (7). Regular use and especially early onset of cannabis use among adolescents is associated with higher levels of other risk behaviours, fighting, bullying and school, health and psychological problems (8). On the other hand, large-scale studies have demonstrated that the probability of developing cannabis abuse or dependence appears to be rather low (5, 9, 10). The risk of developing marijuana dependence among those who have ever tried it, can be situated around 8% to 10% (10, 11). It is important to note that since illicit drug use appears to be more transient in nature than, for example, alcohol use, it is very unlikely that people will become cannabis-dependent after the age of 30 (10).

Although the overall probability is rather low, various studies carried out in the United States demonstrate that the past-year prevalence of marijuana use disorders has slightly risen over the past decade. When past-year marijuana users are considered, the past-year prevalence of DSM-IV disorders marijuana abuse or dependence has risen from 30.2% to 35.6% (12).

Several studies show that a minority of persons with a diagnosis of cannabis abuse or dependence seek treatment (13, 14). Furthermore, when they actually do so, a large gap was demonstrated between the onset of the disorder and the first drug treatment episode: 5.5 years for cannabis abuse and 3.1 years for cannabis dependence (14). Still, European treatment demand data tend to show a significant increase between 1999 and 2004 regarding the proportion of treatment seekers who use cannabis as their primary drug (1). The same evolution can be observed in the United States on the basis of the 2005 Treatment Episode Data Set (TEDS) (15). Overall, in 15% to 16% of all treatment requests, cannabis appeared to be the primary drug. Obviously, it has to be taken into account that this increase

is possibly due to a decrease of the help-seeking behaviour of users of other types of substances.

Research on the characteristics of cannabis users seeking treatment is scarce and focuses almost entirely on the North American and Canadian situation (16, 17, 18, 19). What we can learn from these studies is that cannabis users seeking treatment are more likely to be male, single, under the age of 20 and in high school. Legal, school or family-based pressure to enter treatment are commonly present (19). Furthermore, they appear to have problems in various life domains: health (especially respiratory problems), psychological status, memory, motivation, social interaction, interest in activities, etc. (20). The majority of published studies focusing on the characteristics of primary cannabis users seeking treatment and the outcomes of their treatment are based on experimental marijuana-specific treatment programmes (16, 17). Because of the often stringent exclusion criteria that were used to define the study sample, the findings of those studies regarding socio-demographic and other characteristics may not be representative for the cannabis treatment-seeking population as a whole.

Objectives of the study

As the number of cannabis-related treatment requests rises, it is important to gather background information on the socio-demographic, substance-related and treatment seeking characteristics of this particular group of primary cannabis users seeking treatment since differences between cannabis and other drug users may be of clinical importance in developing efficacious treatment interventions. A recent review (21) demonstrates that, at this point, no single psychotherapy has clearly proven to be more effective than another for the treatment of cannabis dependence, and no pharmacological treatment yet exists. Despite the high prevalence of cannabis use and dependence, Nordstrom and Levin (21) conclude that the phenomenon remains rather understudied compared to other legal and illegal substances. In this study, treatment seekers with cannabis as primary drug will be compared with treatment seekers who have alcohol, opiates, amphetamines or cocaine as their primary drug in order to grasp the unique characteristics of primary cannabis users seeking treatment. Understanding how treatment seekers with cannabis as primary drug differ from those having other substances as primary drug may assist clinicians in better tailoring treatment processes to clients' needs. After all, it is generally acknowledged that treatment which is adapted to clients' needs and characteristics (e.g. type of substance abuse) is more effective (22).

Methods

Sample

This study was set up as a multi-centre, cross-sectional study in inpatient and outpatient substance abuse treatment agencies in the province of Antwerp (Belgium). During the six-month registration period (March 1, 2004 - August 31, 2004), 1,935 treatment requests were

registered, representing all treatment requests of persons seeking treatment for problems related to legal and/or illicit substances in one of the participating treatment agencies. In total, six outpatient and ten inpatient treatment agencies or units for substance abusers participated in the study, representing nearly all centres in this province where people with alcohol or drug problems can get help. We decided not to include the psychiatric wards in general hospitals because people with various psychiatric disorders (e.g. anxiety, mood- and substance-related disorders) are admitted to this type of treatment setting, and no separate treatment programme exists for people with substance-related disorders. Private general practitioners, psychologists and psychiatrists were also excluded from the study because substance abuse agencies or units were targeted rather than individual therapists. Almost two-thirds (63.0%) of all intake interviews took place in residential facilities, with the other 37.0% in outpatient agencies.

Procedure

Information on the treatment seekers' characteristics was registered during the initial intake interview. An initial intake interview was defined as the first face-to-face contact between a person requesting treatment and a health care professional (e.g. psychologist, social worker, counsellor) in order to bilaterally exchange information. After this initial intake interview, the clinician decided together with the person whether treatment was necessary; if so, treatment was initiated. Since information was gathered and registered by clinicians, this contributed to the collection of high-quality data by persons specialised in this field, who have close contacts with clients (23). On the other hand, registration by clinicians includes the risk of so-called "registration fatigue", while staff turnover and the involvement of various persons registering may hamper perfect standardisation of registration procedures (24). These issues were addressed by limiting the registration to a six-month period, organising several training sessions, giving financial incentives, elaborating an extended registration manual, and providing a helpdesk where clinicians could get prompt answers to their questions. Furthermore, after finishing the research project, individual feedback was provided to all participating treatment agencies regarding the number and characteristics of their respective client populations, which could serve future service planning and development (25).

In order to explore the persons' treatment seeking patterns without violating their privacy, a unique client identifier was introduced for this study which permitted tracking of individuals across treatment demands and agencies. This identifier, in combination with other stable personal information (e.g. year of birth and sex), was also used for eliminating multiple counts when analysing characteristics of unique treatment seekers. Although some double counts will not have been recognised as such, absolute perfection is neither possible nor required (26). After all, the main purpose was to reduce the probability of the number of multiple counts to a level that is a good estimation of the true number of unique treatment seekers (23). Furthermore, this method is also advised by the EMCDDA in order to avoid distortion of research results.

Instrument

Due to the lack of a common registration tool in Belgian substance abuse treatment (27), a specific instrument was developed. The variables included were largely derived from questions or variables in the 'Treatment Demand Indicator' protocol, a common European standard manual on treatment demand registration developed by the Pompidou Group/European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) (23) and from items in the European Addiction Severity Index (EuropASI), a semi-structured interview that offers the possibility for clinicians and researchers to map the severity of functioning problems in various life areas (28, 29). All treatment agencies were involved in the development and elaboration of the instrument and research design in order to enhance participation. Since this was an additional registration (besides the already existing various administrative registration procedures in each agency), only a limited number of variables was collected: socio-demographic data (sex, age, place of residence, country of birth, employment and living situation); substance-related information (primary drug, regular use of various types of substances); injecting behaviour (ever, during the last 12 months); previous treatment episodes; and type of treatment centre (inpatient vs. outpatient). The primary drug was defined as the drug that – according to the clinician – causes the person the most problems. This definition is in accordance with the guidelines in the EuropASI manual (29).

For data collection purposes, a secure online web application was developed with considerable advantages compared to paper-based registration, e.g. improved data quality and communication between clinicians and researchers. A large majority of treatment centres made use of the application. Only two treatment centres filled out registration sheets and sent them in on a monthly basis to the researchers due to the fact that internet access was not readily available.

Data analysis

All data were converted to and entered into SPSS, and a thorough data quality check was performed. If necessary, unclear or contradictory information was passed on to the person in the centre responsible for completion or correction of the registration.

Sociodemographic and treatment seeking differences between five groups (primary drug: alcohol, cannabis, opiate, amphetamine, cocaine) were examined. Other substances (e.g. methadone, sedatives, xtc) were less often cited as primary drug and were therefore not included in further analyses. For 20 clients, the primary drug was unknown. These data were also excluded from further analyses. For categorical variables, chi-square tests were used; for continuous variables, analysis of variance (ANOVA) was used. Only results yielding a p-value < 0.05 were considered statistically significant. When the overall chi-square or F-statistic was significant, post-hoc tests were used to evaluate the significance of the differences between pairs of groups. For categorical variables, the test for pairwise comparison of column proportions was used, adjusting the p-values for multiple comparisons through the Bonferroni method. For continuous variables, the Bonferroni post-hoc test was used. After

these bivariate comparisons, a selection of variables was entered in a logistic regression model in order to determine which variables were independently associated with being a primary cannabis user seeking treatment, as compared to four reference groups: primary alcohol, opiate, amphetamine or cocaine users seeking treatment. Four logistic regression analyses were carried out in order to find the best fitting model that describes the relation between a dependent binary variable and a fixed set of independent variables. The variables that were selected are: age, sex (male/female), Belgium as country of birth (yes/no), living together with partner and/or children (yes/no), being currently employed (yes/no), having legal problems (yes/no), regularly using the primary drug only (yes/no), registered in outpatient treatment centres only (yes/no), registered more than once (yes/no) and immediate start of treatment after intake interview (yes/no). Selection of variables was largely based on previous research findings. When comparing groups of clients, incomplete registration forms were excluded from the analysis. Unless mentioned otherwise, all percentages should be read as valid percentages.

Results

Sample description

After careful analysis of multiple counts on the basis of the unique client identifier, it was concluded that the 1,935 registered treatment requests corresponded to 1,626 unique persons. The majority was registered only once (86.6%), while 9.6% was registered twice, and 3.8% three or more times. The sample consisted of 26.4% women and 73.4% men. The mean age was 36.7 years (SD=12.9). Overall, alcohol was most commonly cited as the primary drug (n=758; 46.6%), followed by cannabis (n=236; 14.5%), opiates (n=130; 8.0%), amphetamines (n=123; 7.6%), and cocaine (n=100; 6.1%). Methadone, sedatives, xtc, multiple substances or other substances were less often cited as primary drug (n=259).

Sociodemographics of treatment seeking primary cannabis users

The large majority of primary cannabis users appears to be male, with only 13.1% female (Table 1). Compared to the primary alcohol and amphetamine users, this proportion of women is significantly lower (29.3% and 34.1% respectively). Primary cannabis users are also younger than all other treatment seekers. They have a mean age of 23.6 years and 81.3% is younger than 30 years old. Only the primary amphetamine users are also generally under the age of 30. All other groups have a mean age of 30 years or older. Further, only 8.6% of the primary cannabis users were not born in Belgium. This is considerably lower than the cocaine (18.6%) and opiate (35.9%) subgroups. When the clients' living, working and judicial conditions are considered, we observe that primary cannabis users are more often still students (in 41.2% of the cases) compared with all other groups, even the amphetamine users (18.8%) who have a similar mean age as the cannabis users. The same conclusion can be drawn regarding their living conditions: primary cannabis users more often live with their parents (52.4%) compared to other treatment seekers. The results also show

that both primary cannabis and amphetamine users have in almost half of the cases current problems with police or justice. However, different types of legal problems can be observed: almost half of the cannabis users having legal problems are involved in the 'therapeutic advice' procedure, while more than a third of the amphetamine users are on probation after detention. Therapeutic advice is a measure through which youngsters who come into contact with the law because of drug-related offences (possession or use of illicit drugs, predominantly cannabis) are referred to substance abuse treatment agencies in order to assess whether their use is problematic and whether treatment is indicated. This measure also has the objective for youngsters to become familiar with the treatment system.

Substance use patterns of treatment seeking primary cannabis users

Primary cannabis users – in comparison with primary alcohol users – have higher prevalence figures regarding the regular use of amphetamines, hallucinogens, cocaine and ecstasy, but lower prevalence figures on the regular use of sedatives. Compared with the other illicit drug users, we can observe that they are less likely to regularly use cocaine, opiates and sedatives. For the other substances, a more differentiated picture needs to be drawn: regular amphetamine use is lower in primary cannabis users than in primary cocaine users, but not different from primary opiate users; regular ecstasy use is lower in primary cannabis users than in primary amphetamine users but not significantly different from primary cocaine and opiate users. Overall, 43.6% of primary cannabis users only uses cannabis regularly and can be considered single-substance users, while in nearly all other groups – except for primary alcohol users (68.1%) – this figure is remarkably lower: between 17.7% (opiates) and 22.0% (cocaine). Also, the group of primary cannabis users has injected significantly less often in the past year compared with primary amphetamine, cocaine and opiate users.

A treatment seeking profile of primary cannabis users

In only half of the cases primary cannabis users had a treatment history. This was significantly lower than in all other groups, since between 72.7% and 81.6% of the other treatment seekers were already treatment-experienced. Of all treatment seekers, primary cannabis users had sought treatment most often in outpatient treatment agencies (in 70.3% of the cases). This figure was significantly higher than for alcohol and cocaine users; for amphetamine and opiate users the differences were not significant. In 43.6% of the cases, primary cannabis users were referred to treatment by police or justice officials. This is considerably higher than among other groups, except for amphetamine users (34.1%). Finally, we also looked at the outcome of the intake interview: in a quarter of the cases, primary cannabis users did not start treatment or were not referred to another treatment centre. The intake interview remained 'without immediate consequence'. For all other groups this figure varied between 7.7% and 11.4%.

Table 1: Comparison of primary cannabis users with primary alcohol, opiate, amphetamine or cocaine users (n=1347)

	Cannabis (n=236) Valid %	Alcohol (n=758) Valid %	Opiate (n=130) Valid %	Amphetamine (n=123) Valid %	Cocaine (n=100) Valid %	Chi² (df=4) or t-value (df=4)	p-value	Group differences
Sex						33.728	.000	a, c
Male	86.9	70.7	78.5	65.9	82.0			
Female	13.1	29.3	21.5	34.1	18.0			
Age								
< 20	38.1	0.7	2.3	24.8	4.0	326.142	.000	a, b, d
20-29	43.2	8.5	36.7	47.9	48.0	228.939	.000	a
30-39	11.9	22.2	43.0	18.2	36.0	56.726	.000	a, b, d
40-49	6.4	35.5	13.3	7.4	12.0	128.936	.000	a
> 49	0.4	33.2	4.7	1.7	0.0	212.583	.000	a, b
Mean age (SD)	23.6 *(7.83)*	44.7 *(10.81)*	32.5 *(7.89)*	26.1 *(8.43)*	30.1 *(7.17)*	292.272	.000	a, b, d
Country of birth								
Belgium	91.4	92.9	64.1	96.7	81.4	110.308	.000	b, d
Living situation								
Alone	22.5	44.2	27.0	23.6	25.5	57.361	.000	a
With partner and/or children	13.0	39.3	31.0	17.1	25.5	71.926	.000	a, b
With parents	52.4	6.4	9.5	35.0	25.5	275.958	.000	a, b, c, d
Homeless	2.6	5.1	12.7	4.1	12.2	24.027	.000	b, d
Employment situation								
Employed	18.6	33.7	24.8	24.8	38.9	25.146	.000	a, d
Student	41.2	1.2	3.5	18.8	3.2	310.150	.000	a, b, c, d
Unemployed	23.9	25.5	33.6	35.0	44.2	20.793	.000	d
Invalidity	13.7	27.6	20.4	17.1	6.3	37.197	.000	a
Legal problems								
None	52.8	88.3	73.3	52.9	79.8	171.737	.000	a, b, d
Release on bail or other conditions awaiting trial/sentencing	3.4	2.4	5.8	8.3	5.1	12.999	.011	
Probation after detention	9.8	3.7	11.7	17.4	8.1	38.804	.000	a
Compulsory admission	3.4	3.6	2.5	5.8	3.0	2.189	NS	
Juvenile court	5.5	0.3	0.8	6.6	0.0	46.553	.000	a
Therapeutic advice	22.6	0.3	0.0	1.7	0.0	231.932	.000	a,c
Regular use substances								
Alcohol (>= 5 glasses a day)	40.3	99.3	29.4	43.3	50.5	600.038	.000	a
Amphetamines	18.7	4.5	19.5	98.4	30.3	616.082	.000	a, c
Cannabis	99.6	9.5	39.0	48.8	53.1	673.135	.000	a, b, c, d
Cocaine	19.1	7.8	48.4	33.9	100.0	487.140	.000	a, b, c
Ecstasy	19.0	3.6	13.9	41.3	17.2	166.883	.000	a, c
Hallucinogens	5.6	1.5	9.9	8.3	6.1	32.847	.000	a
Opiates	1.7	1.3	92.2	10.1	18.0	882.551	.000	b, c, d
Sedatives	9.0	22.7	30.4	28.2	28.6	33.662	.000	a, b, c, d
Only regular use of primary drug	43.6	68.1	17.7	19.5	22.0	233.711	.000	a, b, c, d

Injected during last year	3.4	0.9	37.6	23.7	20.0	234.873	.000	b, c, d
Treatment history	49.1	81.0	81.6	73.6	72.7	97.299	.000	a, b, c, d
Number of registrations > 1	5.9	14.8	12.3	19.5	18.0	18.120	.001	a, c, d
Types of treatment centres								
Inpatient	27.5	77.6	28.5	38.2	51.0	278.227	.000	a, d
Outpatient	70.3	19.9	66.9	56.1	41.0	273.105	.000	a, d
Both	2.1	2.5	4.6	5.7	8.0	12.206	NS	
Source of referral								
No source of referral	16.1	29.6	38.0	17.1	35.0	33.863	.000	a, b, d
Immediate surroundings	18.6	18.8	18.6	13.8	13.0	3.565	NS	
Police or justice	43.6	9.9	7.8	34.1	12.0	171.881	.000	a, b, d
Specialised substance abuse treatment	1.7	2.9	11.6	7.3	15.0	48.173	.000	b, d
General hospital	3.4	9.1	3.1	2.4	6.0	17.593	.001	a
General practitioner	4.7	12.0	6.2	6.5	8.0	15.423	.004	a
Psychiatric hospital	5.5	8.7	2.3	8.1	3.0	11.201	.024	
Outcome of intake interview								
Start of treatment	69.5	89.1	73.8	73.2	70.0	70.065	.000	a,
Immediate referral to other centre	4.7	2.9	18.5	15.4	19.0	82.786	.000	b, c, d
Without consequences	25.8	8.0	7.7	11.4	11.0	57.779	.000	a, b, c, d

[a]: Significant difference between primary cannabis and primary alcohol users
[b]: Significant difference between primary cannabis and primary opiate users
[c]: Significant difference between primary cannabis and primary amphetamine users
[d]: Significant difference between primary cannabis and primary cocaine users

Independent determinants of being a primary cannabis user

Logistic regression analyses (Table 2) were performed in order to identify independent determinants of being a primary cannabis user seeking treatment, while controlling for potential effects of other relevant variables. Age was significantly associated with being a primary cannabis user compared with three out of four reference groups (primary alcohol, opiate or cocaine users seeking treatment): being older decreased the odds of being a primary cannabis user. In comparison with primary amphetamine users, age was not a significant determinant but sex was all the more: being male increased the odds of being a primary cannabis user by about four times. Using no other substances than the primary drug was a significant determinant in all four analyses: it significantly increased the odds of being a primary cannabis user as compared with treatment seekers with other illegal substances as primary drug (opiates, amphetamines or cocaine) but decreased the odds of being a primary cannabis user as compared to primary alcohol users. Overall, living, working and judicial situation were less important determinants, except in the analysis with primary cocaine users as reference group: being employed significantly decreased the odds whereas having legal problems increased the odds of being a primary cannabis user. Finally, when treatment seeking variables are concerned, being registered only in outpatient facilities increased the

odds of being a primary cannabis user as opposed to being a primary alcohol or cocaine user whereas being registered more than once during the registration period decreased the odds as compared to being a primary amphetamine user.

Table 2: Binary logistic regression analyses presenting Odds Ratios for being a primary cannabis user seeking treatment with primary alcohol, opiate, amphetamine and cocaine users seeking treatment as reference groups

	Alcohol		Opiate		Amphetamine		Cocaine	
	Exp(β)	95% CI	Exp(β)	95% CI	Exp(β)	95% CI	Exp(β)	95% CI
Sex: male	1.230	.635 - 2.381	1.658	.752 - 3.655	**3.915****	2.117 -7.240	.966	.416 - 2.317
Age	**.838****	.811 - .865	**.902****	.868 - .936	.981	.948 -1.014	**.939****	.902 - .978
Country of birth: Belgium	1.391	.629 - 3.074	**4.982****	2.347 -10.574	.392	.1181 - .300	2.381	.983 - 5.767
Living situation: with partner and/or children	.964	.519 - 1.791	.748	.349 - 1.606	1.306	.600 -2.841	.889	.396 - 1.996
Working situation: employed	**.436****	.243 - .782	.810	.402 - 1.630	.620	.329 -1.167	**.214****	.107 - .428
Legal problems	1.339	.734 - 2.444	1.871	.997 - 3.509	.645	.377 -1.103	**2.214***	1.165 - 4.434
Use of primary drug only	**.369****	.219 - .621	**4.516****	2.157 - 9.455	**3.640****	1.955 -6.780	**2.067***	1.035 - 4.129
Registered in an outpatient setting only	**4.748****	2.739 - 8.228	.860	.446 - 1.660	1.611	.118 -1.611	**3.079****	1.606 - 5.902
Registered more than once	.795	.355 - 1.782	.574	.216 - 1.524	**.413 ***	.043 - .413	.437	.171 - 1.115
Immediate start of treatment after intake	.732	.363 - 1.476	1.818	.895 - 3.694	1.229	.500 -1.689	1.844	.907 - 3.751
Total number of treatment seekers included in the analysis	887		329		337		312	
Nagelkerke R^2	0.710		0.414		0.242		0.366	

* Significant at the .05 level
** Significant at the .01 level

Discussion

Prevalence of cannabis as a primary drug within treatment settings

During the six-month registration period 1,626 unique clients were registered. Alcohol was the most commonly cited primary drug (46.6%) followed by cannabis (14.5%), opiates (8.0%), amphetamines (7.6%) and cocaine (6.1%). It is striking to observe that when we look at the illegal drugs, cannabis is first in line; almost twice as many treatment seekers claimed cannabis as their primary drug (14.5%) compared with any of the other illegal drugs. In European treatment demand figures, on the other hand, opiates are still first in line, but the number of primary cannabis users is steadily rising (1). Of course, we have to take into account one of the main limitations of registration research: results are determined to a large

extent by the number and types of treatment centres that have participated in the study, e.g. the proportion of inpatient versus outpatient centres (30). Still, with this study we covered a very wide range of services, as a result of which our figures can be considered representative for the client population in this particular treatment system.

Several hypotheses can be formulated regarding the rise of primary cannabis users seeking treatment, but thus far no study has been able to indicate which hypothesis is correct (1). According to our opinion, several evolutions are interacting with each other. First, more people have started (regularly) using cannabis in the past years, resulting in more people – in absolute numbers – who experience difficulties or problems related to its use and eventually seek treatment. This tendency of increased use among the general population is not seen for other substances for the moment. Second, several studies have examined the potency of cannabis and related changes over the years (30, 31, 32) and found that the potency of cannabis has systematically increased, also in the Netherlands, one of Belgium's neighbouring countries. They suggested that this could have an effect on cannabis-related problems and treatment demand.

Characteristics of primary cannabis users seeking treatment

The objective of this article was to compare treatment seekers with cannabis as primary drug with those with alcohol, opiates, amphetamines or cocaine as primary drug on a number of sociodemographic and treatment seeking variables. The sociodemographic profile of the former emerged as male, younger than 30 years old, Belgian and student. This profile is largely consistent with previous research, although the sex differences are more pronounced in our study (19). We particularly want to focus attention on cannabis use among students in tertiary education. Several American studies have estimated last-year prevalence figures to be situated around 30% (34, 35). A recent study in Antwerp (Belgium) among university and college students, based on 5,530 questionnaires, demonstrated that 22% of the university students had used cannabis in the last year. The authors concluded that students are more at risk of using cannabis than their non-college-attending peers since the last-year prevalence is considerably higher than the last-year prevalence of cannabis use in the general Belgian population (age 18-25): 22% versus 12.2% (36). When these figures are linked to our results, it becomes clear that cannabis use among students can result in a number of cannabis-related problems and in some cases a need for treatment. Therefore, it would be useful to implement prevention campaigns targeted at university and college students and to engage in thorough screening and early interventions (37).

Overall, polydrug use has become the rule rather than the exception. In a society where a diversity of psychoactive substances is available, it is easier for users to start using other substances that replace or complement their primary drug or to experiment with various combinations (38). Our study confirms this finding, except for treatment seekers with alcohol or cannabis as primary drug. While about 80% of all treatment seekers with amphetamine, cocaine or opiates as primary drug are polydrug users, the percentages among treatment seekers with alcohol (31.9%) or cannabis (56.4%) as primary drug are much lower. Further-

more, multivariate analyses showed that using no other substances than the primary drug was a significant determinant for being a primary cannabis user seeking treatment compared to the four reference groups (primary alcohol, opiate, amphetamine and cocaine users seeking treatment). On the other hand, cannabis is the substance that is most often used in addition to clients' primary substance, even to a higher degree than alcohol.

Further, when other characteristics of treatment seekers with cannabis as primary drug are concerned, the high number of persons with legal problems (47.2%) and correspondingly high number of referrals by police or justice (43.6%) also catches the eye. Other Belgian research has demonstrated that overall most registered drug-related offences were related to cannabis (39). Since cannabis is the most widely used illicit substance (2, 40), it is not surprising that the largest share of people who are caught by the police for substance-related offences and potentially referred to treatment have cannabis as their problem drug. Furthermore, this high number of referrals by police or justice can partly be explained by the high number of young people in the group of treatment seekers with cannabis as primary drug: although the possession of small amounts of cannabis is less often prosecuted when there are no aggravating circumstances, the possession of cannabis by minors remains a priority of police and justice in Belgium.

Finally, our study also demonstrates that in 25.8% of the cases, the intake interview of treatment seekers with cannabis as primary drug does not result in the start of a treatment episode or in the referral to another centre. It would be useful to carry out a study on how these persons experienced this brief contact with a treatment agency. Second, in the framework of moving towards more evidence-based prevention, it would be useful to know if this particular intervention actually has an effect on youngsters' cannabis using behaviour, since time and resources in treatment services are limited and waiting lists are a reality. In other studies, brief treatment interventions have certainly proven to be effective in various situations and for various target groups, e.g. substance-abusing adolescents and primary care populations (41, 42). Consequently, this may also be an effective intervention for (young) cannabis users.

Limitations of the study

Although this study has several strengths, including the large coverage of participating treatment centres and the conscientious organisation of data collection (e.g. via online web application), some limitations need to be mentioned. As reported in the methodology section of this paper, we chose to keep the number of variables as limited as possible to ensure maximum participation of the treatment centres. As a result, we lack detailed information in certain areas, e.g. on substance use patterns (such as sequentiality or simultaneity of polydrug use, DSM-IV abuse or dependence diagnoses), treatment history and psychiatric problems. Second, working with treatment demand data means that the generalisability to other samples is not self-evident. Each treatment system has its own characteristics (e.g. admission and referral policies or connections with the criminal justice system) that influence the results. Nevertheless, it is generally acknowledged that treatment sample studies can result

in valuable information for further treatment planning and organisation (43). Another limitation could be that we relied on self-reported data; biological testing was not used by the registering treatment centres. However, numerous studies have confirmed the validity and reliability of self-reported data regarding the use of licit and illicit substances (44, 45, 46). A final limitation is that – in a way – we have reduced and have not sufficiently acknowledged reality by creating subgroups via the variable 'primary drug' since the large majority of clients are poly-drug users (47). However, numerous studies have relied on this particular variable to compare (sub)groups of drug users and have found conclusive evidence to support this grouping strategy (48, 49, 50). The definition (29) implies that the primary drug is the drug that – according to the clinician – causes the person the most problems, compared to other substances that a person possibly (mis)uses. These problems can be situated in various life areas (employment, social relations, psychological health, physical health), but no hierarchy is provided in the EuropASI manual. As a result, it is theoretically possible that – when a person regularly and excessively uses alcohol and occasionally intravenously uses amphetamines – the clinician has selected alcohol as primary drug as the intake interview has shown e.g. that the person's alcohol use leads to serious problems with his or her family and employer, is closely linked to depressive episodes and driving under the influence of alcohol. Of course, the treatment plan will also have to deal with the amphetamine use since IV use has severe consequences for a person's physical health. In case several substances are equally causing the person problems, the clinician also has the possibility to indicate "multiple drugs" as primary drug.

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