Cannabis use in the community

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SUMMARY

Background. *The illegal use of cannabis has been increasing in many Western countries for the past two decades. Recently, some interest has been shown in modifying legislation and control. The need for general practitioners to be aware of the short- and long-term consequences of cannabis use is increasing, and more information is required about its effects on behaviour, psychological states and the respiratory and cardiovascular systems. The use of general practice populations to study the prevalence of cannabis use and its damaging effects is less represented in the literature than it should be, considering the extent of cannabis consumption.*

Aim. *A study was carried out in 1995 to determine the prevalence of cannabis use in a general practice population and any associated health problems. As a pilot study, samples of cannabis were obtained for forensic analysis.*

Method and patients. *Two questionnaires were used. One very short enquiry about the use, if any, of the drug, and a longer one about the effects of its use. Data concerning medical effects were included from patients' case notes. Samples of cannabis were obtained for forensic examination.*

Results. *A very high proportion (61%) of patients surveyed indicated some cannabis use (past or present). Thirty-seven per cent had used it in the previous 12 months. Users could be broadly divided into transitory experimenters, regular users and heavy users. Medical problems included those attributed to associated tobacco smoking, other illegal drug use and psychological problems. Benefits perceived by patients recording use were many. Polydrug use and legislation issues were difficult to separate from the effects of cannabis itself. Chest infections, anxiety and depression, and drug dependence were common diagnoses, and 13 of the 32 females in the study group had evidence of cervical smear abnormalities.*

Conclusions. *Few serious damaging effects from cannabis use itself were identified, although chest infections and anxiety problems were common. Tobacco damage, associated drug use and criminal or legal issues dominated and obscured the important perceived benefits and the scientific understanding of the effects and side effects of the drug. More research into several identified areas is required.*

Keywords: cannabis; questionnaire.

Introduction

INTERNATIONALLY, there is increasing interest in all drug use. Cannabis is particularly important for two reasons. First, it is easily identifiable as the least damaging (or 'softest' drug) which is currently illegal. It is also known to be increasingly widely used, and in some countries, notably the Netherlands, but also in Spain and Italy, there are experiments in reducing control, although not legislation (currently). Secondly, accounting for the majority of police activity and customs seizures, it dominates what might in fact be the much more serious problems relating to drug use — those caused by drugs which either have serious toxic effects or are associated with dangerous modes of administration.

Several recent reports have drawn attention to increasing cannabis use among young people.[1-3] This is against a background of escalating drug use of many types of drugs in the United Kingdom (UK), particularly stimulants such as ecstasy, amphetamine and, to a lesser extent, cocaine.[4] Internationally, studies indicate that use in the UK may continue to increase for some time.[5-6] Interestingly, the use of cannabis and other drugs in the USA is now not necessarily the highest.[7] The media and those in public life appear to have some difficulty in reporting the dangers of drugs. To a degree, this is due to the lack of a clear distinction between types and classes of drugs and their effects and dangers.

The importance of assessing the damage from the increasing use of cannabis, which perhaps goes unnoticed, has given rise to this study in the face of the very high level of reported use in one general practice.

Setting and subjects

The study was carried out in a large non-fundholding practice of eight partners and one registrar. The practice is in an area of comparative social deprivation and has a large number of patients with problems related to the consumption of illegal drugs. Several studies have already drawn attention to the local HIV problem and the pressure created by prescribing substitute drugs for those dependent on opiates.[8,9]

Patients were interviewed by a doctor with a particular interest in illegal drugs, but not all patients were registered with this partner (many were attending open access or emergency clinics). Children were excluded to avoid consent and confidentiality problems. No-one under the age of 16 was interviewed, but there was no upper age limit.

Methods

To identify the frequency or prevalence of the use of cannabis by those attending the Muirhouse Surgery, at the end of their consultation 328 consecutive individuals were spontaneously asked if they would answer questions about their knowledge of cannabis. Those answering this short questionnaire were divided into two groups: the patients that had made an appointment to see the doctor principally responsible for the research of cannabis, and those who had come to see any doctor, unaware of which doctor they might see that day. These groups were established in order to assess whether the group of patients attending the doctor particularly interested in drug use might be more likely to be using an illegal substance. A further division of the interviewees into those who were frequent attenders and those who only attended occasionally was instituted.

Of those who admitted using cannabis at some time in their lives, a sample of 101 individuals consented to complete a more detailed questionnaire. This was carried out during an extended

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surgery consultation or at a separate visit. The questionnaire consisted of detailed information regarding demographic background, details of cannabis consumption and quantities used, cost of cannabis to the individual, attitudes and effects of the drugs, other drugs used at present and in the past, and positive and negative experiences resulting from drug use.

A group of questions were designed to look at the preliminary years of cannabis use. The respondents were asked to rate the frequency of cannabis use (daily, weekly, monthly) for the first five years of use and for the current year. They were also asked about their partner's use of cannabis in the current year.

In order to determine the frequency of major diagnoses possibly related to or associated in some way with cannabis use, the records of all the 101 individuals were searched for diagnostic categories. Trivial diagnoses were excluded from the study, as were single instances of problems with no apparent relationship to cannabis use. Several sections of the questionnaire were devoted to the amount of cannabis purchased per day or per week, and the estimated weights that were used. Costs of daily and weekly amounts of drugs were also recorded. Health problems relating to cannabis use were recorded in the main questionnaire from a series of questions about the patient's perception and knowledge of past and present illnesses. A final question about the effects of cannabis use gave the respondent a chance to offer a variety of subjective experiences and feelings, e.g. problems arising directly from drug-taking, such as confrontations with family or law enforcement agencies.

Data were collected on standardized questionnaires by a single researcher. Results were then analysed using an SPSS for Windows statistical package.

Results

Of the 328 short interviews, 200 (61%) had used cannabis at least once. One hundred and twenty-eight (39%) said they had never used it. No-one refused to answer. Of those who had used cannabis, 197 answered the remaining questions. At the time of the interview the median age was 31 years (range 15–66). The median age at first use was 16 years (range 9–49 years). The median age of last use was 26 years (range 11–51 years). Analysis of the groups attending the known doctor, compared with the control group who were unaware which doctor they were likely to see when attending the consultation, showed that the control group was slightly more likely not to use cannabis, although this was not significant ($P<0.53$). The further division of interviewees into those who were frequent attenders at the practice and those who attended only occasionally (fewer than 10 consultations in the preceding 12 months, including home visits) showed only a marginal increase in cannabis use among frequent attenders ($P<0.0655$).

Of the smaller group who answered the more detailed questionnaire (101 individuals), 68 (67%) were male and 61% described themselves as being single (28% were married and 3% divorced). Ages ranged from 15 to 51 years. The date of first use ranged from 1962 to 1994, but individuals most commonly started using during the 1980s. Age at first use ranged from 7 to 40 years, the most common starting age being between 13 and 16 years (60%), with only 7% being less than 12 years old at starting and 8% being older than 22 years. Cannabis use by a partner in the current year showed 45 who were not currently using cannabis and 32 who used it every day. Three people used it more than twice a day and the remaining 21 used it weekly or monthly. Table 1 shows the change in use over the years since starting; the number using cannabis daily increased rapidly after onset of use.

Of the 101 individuals interviewed, 42 were already known to the practice as dependent on another illegal drug. Of these, 29 had been tested for HIV infection and 11 (26%) were antibody positive. Similarly, 28 had been tested for hepatitis B antibodies and 16 (38%) were positive. Twenty-four patients had been tested for hepatitis C antibodies and 20 (48%) were positive. The remaining 58 individuals were not known to have used any illegal drugs before interview.

By analysing in age-group cohorts, it was discovered that younger respondents were more likely to have used cannabis ($P<0.04$). The younger subjects in the study were shown to have started at an earlier age. In the larger group of 328 individuals, a similar analysis showed that older subjects were more likely never to have used cannabis.

Associated illnesses included three individuals who had a serious alcohol problem, 23 who had a history of depressive or anxiety-related illness, three who had a serious psychotic psychiatric illness, and 54 who had suffered recent or recurrent chest infections or bronchitis requiring treatment with antibiotics. Sixty-two patients had a diagnostic category of drug dependence, some related to cannabis alone, and 13 out of the 32 female patients in the study had evidence of cervical smear abnormality (CIN).

The majority of those questioned used the drug by inhalation with tobacco, although they had also used it in other ways (smoked through a pipe or other device, or eaten in some form). Estimated weights and costs of the cannabis at the time of purchase were recorded, the most common purchase costing between £7 and £15 per day, which equates to ⅛ oz to ¼ oz in weight (57 individuals reported this as their normal daily purchase). A smaller group of 23 individuals regularly purchased between 15 and 30 pounds sterling per day (¼ oz). The quantity bought per purchase ranged from ⅛ oz (1.75 g) to 2 oz (56 g). Eight individuals (7.9%) usually bought ⅛ oz, 19 (18.8%) bought ¼ oz, 38 (37.6%) bought ¼ oz, 25 (24.8%) bought ½ oz, 10 (9.9%) bought 1 oz and 1 (1%) bought 2 oz. Table 2 shows the cost per week for 94 individuals.

Analysis of current cannabis use by those who were heavy

Table 1. Frequency of use for the group (%) by year since starting. $n = 101$, C = current.

	Year 1	2	3	4	5	C
More than daily	1	2	3	2	2	5
Daily	15	21	26	35	43	62
More than weekly	21	19	19	18	14	15
Weekly	23	24	23	16	14	4
Monthly	20	16	14	10	8	1
Less than monthly	19	12	7	8	6	4
Ever used (no. of times)	1–2	—	—	—	—	—
Ceased using	—	7	9	12	14	10

Table 2. Cost per week of using cannabis.

Number of individuals	Cost
23	£5 – £10
22	£15 – £25
28	£30 – £50
14	£55 – £100
7	£105 – £150

In the question related to cost per week, respondents were asked to give an estimate of their total expenditure on cannabis per week. Responses ranged from zero to £150, the modes being £10 and £15 and the median being £33. Only eight individuals spent more than £100 per week, 80 spent £50 or less and 64 spent £30 or less.

users and those who had never used any other drugs showed no significant difference in quantity or frequency of use. Analysis of those groups that had not used opiates showed no difference in current cannabis use. When the cannabis-using group was divided into light and heavy users there was no distinction found between opiate and non-opiate users. The opiate users were, however, found to be older in both light and heavy cannabis-using groups. Forty-one individuals had never used opiates. Of the self-reported health problems, a large number were associated with heavy cannabis use, although this was not statistically significant. Problems commonly included chest infections, asthma or bronchitis, or mental health problems such as paranoia, anxiety and depression (19%). Apparently unconnected with cannabis use were problems such as hepatitis B, hepatitis C, HIV infection and vascular problems. Seven individuals were currently non-smokers, 25 individuals smoked fewer than 10 cigarettes a day, 33 smoked between 11 and 20 a day, and 28 smoked between 21 and 30 a day. Eight respondents reported smoking more than 31 cigarettes a day and 4 more than 40. The self-reported effects of cannabis use are recorded in Table 3.

Using a cluster analysis technique, the patients were divided into four groups depending upon their perceptions of the positive or negative effects of cannabis. Most individuals recognized that there were both good and bad effects of the drug, and men were more likely to say the effects were more bad than good. Frequent users in the past were more likely to say effects were mainly good or both good and bad. The subjects suffering from psychological illness in the past were more likely to say the effects were mainly bad.

Cannabis samples

As part of this survey into local cannabis use, samples were obtained from interviewees and sent for forensic analysis. These samples were obtained after the Home Office granted a license for this purpose. The purpose of this part of the research was to determine the purity and possibly the country of origin of locally purchased cannabis, and to compare these results with nationally available comparable figures.

Table 4 gives the results in terms of tetrahydrocannabinol (THC) content, which is the active ingredient, and the two non-active constituents cannabidiol (CBD) and cannabinol (CBN). These results are broadly in line with the purities reported in the literature. Our samples had the macroscopic appearance of a dark brown slab, or part of a slab, with a greener interior usually described as originating from Pakistan. They were pliable with a pleasant smell and with no identifiable leaves, seeds or stalks as described in some samples. The samples were analysed by gas chromatography.

Table 3. The effects of cannabis on users.

Effect	No. indicating presence of this effect (%)
Relaxation	95
Anxiety reduction	79
Stress reduction	77
Improved social life	38
Improved sex life	28
Improved sexual performance	25
Criminal activities	27
Prosecution for criminal activities	26
Financial problems	80
Family disapproval	52
Cannabis leading to other drugs	43
Sleep enhancement	84
Cumulative effect with other drugs	65
Diet/eating effect	78
Poor concentration	53
Poor memory	59
Paranoia	62

Discussion

Most studies available have indicated an increasing amount of cannabis use in young people. Research suggests that this peaked in the USA in the late 1970s, is still rising in Australia and most of Europe, and is extremely high in New Zealand.[10] Our study indicates a level of experience as high as any of these publications, although it may represent a group that was more likely to have used the drug than that of the general population: there is a high level of unemployment in the practice area, other drug use is common and the group interviewed are selected by attending a doctor on the day of interview. All these factors may make the prevalence higher in this group. For doctors, the reality of extensive cannabis use is important in the interpretation of clinical signs and symptoms.

The pattern of cannabis use in our study is interesting. Although unproven from this study, the impression of a high level of use in younger subjects and a falling use in those over 30 years is important. Almost one-third (32%) of those interviewed said their partners also used cannabis every day. Our interviewees excluded those patients who were very young, although the retrospective nature of the questionnaires indicated that all the cannabis users started young. Further studies would be useful in order to assess trends in young people.

Further results concerning the purchasing patterns of the drug are interesting. They indicate the user's preference towards a frequent, daily purchase of small quantities of the drug rather than a more infrequent purchase of a larger quantity. There seem to be two reasons for this: first, the anxiety about the consequences of being thought to be a dealer if caught with more than a tiny amount of the drug, and, secondly, the low weekly budget available to the respondents.

The group studied seemed to divide into two with regard to the quantity used on a daily basis. The smaller group, which used

Table 4. Cannabis samples.

Number	Code	Description	%THC	%CBD	%CBN
1	CHMV	soap bar	2.8	5.8	4.3
2	ALRI	contaminated	1.3	1.1	1.5
3	GARU	soap bar	1.6	2.3	2.3
4	WIMG	black	5.4	5.7	2.8
5	WIHV	gold	2.7	6.8	5.0
6	VIRI	resin	4.5	4.7	3.7
7	ROLA	black	3.8	5.5	4.1
8	ROLA	soap bar	5.8	4.8	2.0
9	SEPH	oil	9.3	5.4	3.4
10	STPH	black	6.2	5.2	2.1
11	SUFO		3.7	5.1	2.6
12	GACO	soap bar	3.3	3.1	0.7
13	IALO	soap bar	5.1	5.0	2.4
14	EEON	black	5.4	4.7	2.0
15	ALTH		4.4	4.3	2.1
16	MAGO	soapy	4.1	3.4	2.6
17	ROHN		8.3	5.8	1.8
18	RICH	snake eye	5.7	4.7	1.7

more heavily (more than twice on a daily basis), often described a dependence on the drug, associated with psychological and sometimes physical symptoms, and with an associated craving and impaired lifestyle more commonly associated with other illegal drugs or alcohol. More commonly, the beneficial effects of cannabis were described, particularly in reducing stress and tension, and in aiding sleep (most used it in the evening); a small group said that it enhanced their social and sexual life.

The apparent reality that many people use cannabis and only a small proportion use it excessively is important for health education. Trying to prevent the initial trial experience may be a relatively unimportant task (as well as being the most difficult) as this may not be the occasion when the most damage is done. In a similar pattern to those experimenting with alcohol and tobacco, most go on to limited or no use in subsequent years.

In the absence of a control group to compare the incidence of associated illness, the presence of significant medical problems gives only an indication of the possible health problems. Chest infections or bronchitis are common problems for cannabis users that general practitioners should be aware of; perhaps they should raise the question of cannabis use in young patients presenting with these symptoms. Similarly, depression and anxiety-related symptoms seem to be a problem in patients using cannabis, but whether or not there is a causal relationship is unclear from these data. Nevertheless, the association should be of interest to general practitioners. The high incidence of cervical cellular abnormality has no obvious relationship to cannabis use but should be investigated further. The cluster analysis draws attention to the variable experiences and the recognition of both good and bad effects of the drug. It is interesting that subjects acknowledge a balance of effects and limitations of benefits.

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