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Barriers and Facilitators to Cannabis Treatment

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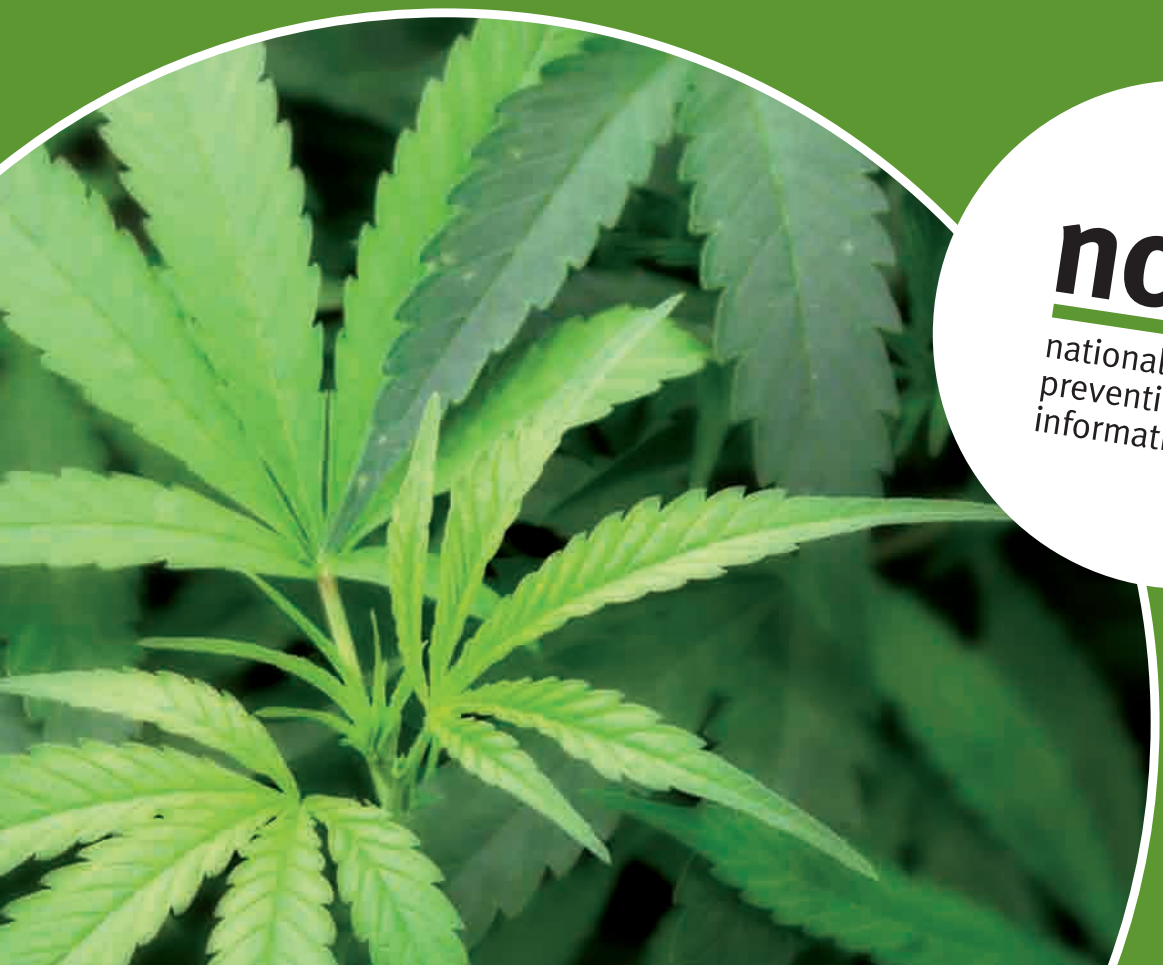

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1 barriers and facilitators to cannabis treatment

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executive summary

While it is the most common illicit drug of dependence, only a minority of individuals with cannabis dependence access specialist treatment. The low numbers of dependent cannabis users entering treatment, and the subsequently assumed low levels of treatment readiness, have only recently been explored. Studies describing the characteristics of individuals seeking and attending treatment, treatment effectiveness, attitudes toward treatment and the barriers and facilitators to treatment have been recently reported. From this literature, the more commonly identified explanations regarding the low levels of cannabis treatment seeking have referenced a lack of interest in, knowledge of, and motivation for, treatment coupled with a feeling of being stigmatised for entering treatment. The findings from this report will assist in improving understanding by examining the perspectives of cannabis users in treatment, cannabis users out of treatment, and individuals with a concern regarding the use of a family member or friend. Further analyses were conducted on differences between participant age groups, gender and those mandated to treatment or volunteering entry.

Four studies were developed to capture a range of opinions on the barriers and facilitators to cannabis treatment. Two studies were conducted in-person: 100 individuals within treatment, and the other of 100 individuals not in treatment who used cannabis at least weekly. A further two studies were conducted via the internet: 97 individuals who used cannabis at least weekly who were not in cannabis treatment, and an additional 33 individuals with a concern over the cannabis use of a family member or friend. Each study questioned the participants' demographics, drug-using patterns, opinions and experiences with cannabis treatment and experiences relating to cannabis use.

Overall, participants reported positive experiences with drug treatments. The participants were interested in the majority of treatment options presented and reported satisfaction with treatments received. Many participants had consulted with health professionals regarding cannabis use problems in the past, typically with their GPs. Participants who reported seeking drug treatment in the past generally sought outpatient counselling. Participants in treatment typically reported that cannabis treatment is available and necessary for some. In addition, participants were generally unaware of cannabis-specific treatment options, although they commonly believed cannabis treatment to be important. However, most participants believed that people usually need to try more than one kind of treatment to succeed in stopping using cannabis and, for some, access to good treatment may not be easy. The reported main reason for using cannabis was significantly different between participants interviewed in treatment and those outside of treatment. Participants in treatment were more likely to use cannabis to help them cope, while participants not in treatment typically used cannabis to enhance an experience or increase their creativity.

Results confirmed previous research highlighting that the typical cannabis user believes treatment for cannabis use to be unnecessary, would not be ready to stop using and would feel stigmatised when accessing treatment. Participants in cannabis treatment were more likely to report that the typical cannabis user would not be ready to stop using more commonly than participants not in treatment. Participants not in treatment believed that the typical cannabis user would consider treatment to be unnecessary to stop using more commonly than participants in treatment. Females more commonly believed that there is a lack of cannabis-specific treatments and were less commonly aware of treatment options than males.

Participants reported that if better information and education on treatment options were available, and that the treatment itself was more easily accessed, entry into cannabis treatment could be facilitated. Female participants and family and friends of cannabis users more commonly reported each of these treatment facilitators than other participant groups. The reported barriers and facilitators were consistent across age groups and between participants who were mandated to treatment and those who volunteered.

introduction

Cannabis is the least disapproved of, easiest to obtain, and most widely used illicit drug in Australia.[1] According to the 2007 National Drug Strategy Household Survey (NDSHS), approximately one in three Australians has used cannabis at some stage in his or her lifetime.[2] While remaining high in comparison to other illicit substances, the percentage of people using cannabis during the previous 12 months fell significantly from 11.3% in 2004 to 9.1% in 2007.[1,2] The 2007 NDSHS data showed that males were more likely than females to have ever used or have recently used cannabis, and those in the 20-29 year old age group were the most likely to have used it in the past year.[2] The prevalence of cannabis use is well documented; however, it is equally important to identify frequency of use in the population. The data from the 2004 NDSHS show that although the majority of cannabis use is experimental or intermittent, around 16% of recent users reported using cannabis on a daily basis, and 23% at least once per week.[2] It is this subset of frequent users that is more likely to encounter potential physical and mental health impacts from frequent use.

Literature in the area of physical health impacts primarily links long-term frequent cannabis use with possible impairments in respiratory functioning,[3,4] the exacerbation of pre-existing heart conditions,[5,6] immune system functioning,[7-9] complex attention and memory problems,[10,11] the incidence of cancers (especially when smoked in combination with tobacco),[12-14] and reproductive functioning.[7,15,16] Literature involving prospective studies in the area of mental-health impacts primarily links long-term frequent use with increased risk of developing psychotic symptoms,[17-19] depression,[19-21] and anxiety disorders.[19,22] Aside from the frequency of use, there is greater risk of harm the earlier an individual initiates use and the lower the individual's socio-economic status.[23,24] This is of particular concern given reports that the age of initiation is decreasing.[2] Despite clear evidence of harm, some cannabis users persist in their use and are at significant risk of developing cannabis dependence. These individuals suffer from an absence of perceived control over use, a strong subjective compulsion to use, and ongoing use despite clear evidence of problems.[25]

The 1997 National Survey of Mental Health and Well Being (NSMHWB) found that 1.5% of Australian adults met the criteria for current cannabis dependence (around 200,000 individuals).[26] It has been estimated that around one in 10 people who try cannabis become dependent on it.[27-30] Unfortunately, the majority of dependent users continue using without accessing professional help.[31,32] Unlike alcohol dependence, severity of cannabis dependence is not predictive of seeking treatment.[31] In their study of the American National Comorbidity Survey, Agosti and Levin (2004) found that cannabis-dependent individuals were more likely to contact a health professional if they had previously sought treatment or had alcohol dependence with major depression but found no relationship between cannabis dependence severity and treatment seeking.[31] Longitudinal epidemiological research has repeatedly shown that only approximately one-tenth to a third of cannabis dependent individuals will seek treatment within a year.[31,33,34] In fact, the ratio of people with cannabis dependence to those who enter treatment for their dependence is the lowest of all illicit drugs.[35,36] Additionally, the frequency of cannabis use has also been shown to be only weakly associated with treatment uptake.[37] An Australian study of 229 adults who showed interest in treatment and were recruited into a brief treatment program, found that the frequency of participants' cannabis use was comparable to the general cannabis-using population at the time of survey.[37] However, the participants were more likely to exhibit cannabis dependence and had less variation in their usage patterns than had participants in other similar studies.

The relatively low numbers of dependent cannabis users entering treatment, and the subsequently assumed low levels of treatment readiness, have only recently been explored. Studies exploring the characteristics of individuals seeking and attending treatment, treatment effectiveness, attitudes toward treatment and the barriers and facilitators to treatment have been recently reported. Each of these areas of research is summarised here.

Characteristics of individuals seeking cannabis treatment

Some of the literature attempts to account for the absence of treatment seeking and low levels of treatment readiness by isolating how those who seek and attend cannabis treatment differ from the general cannabis-using population. A number of authors have found that cannabis users seeking treatment to discontinue their use do not differ significantly on demographic variables from the general cannabis-using population.[35,37-41] In contrast to the demographics of users, significant differences are seen in the health and psycho-social consequences of use. As Budney et al (1998) report in a study of 62 American individuals

seeking cannabis treatment, 67% were new to treatment despite an average of over 15 years of regular use.[42] This group was compared with a further 70 cocaine treatment-seeking individuals and was shown to be less likely to have sought treatment despite longer use histories. These findings were supported by an Australian study of individuals presenting for brief interventions for cannabis problems. These individuals had been using near daily for an average of 14 years and were suffering serious health and psychosocial consequences from their cannabis use by the time they presented to treatment.[43]

Additional research has supported evidence that treatment seekers exhibit increased psychosocial and psychiatric impairment and multiple signs of cannabis dependence.[27,37,39,42,44] In their study of 1,439 heavy users of cannabis seeking help to discontinue their cannabis use, Arendt and Munk-Jorgenson (2004) found that their sample of cannabis-dependent participants seeking treatment held marginalised positions in society, almost comparable to those of "hard" drug users.[38] Use of other drugs was frequent: additional use of alcohol, amphetamine and ecstasy was more common compared with primary users of other drugs. In addition, the high prevalence of previous psychiatric admissions among cannabis users was a major finding. Further, the people entering treatment for cannabis dependence had previously received diagnoses of depression, personality disorders and schizophrenia at psychiatric hospitals significantly more often than had those dependent on other drugs. After adjustment for age, gender and additional drug use, these significant differences remained. Arendt and Munk-Jorgenson (2004) concluded that the possible increased psychological problems amongst cannabis treatment seekers could indicate that these problems are among the main reasons for seeking treatment for cannabis use.[38]

Cannabis treatment effectiveness

Separate research attempts to account for the low levels of treatment seeking and treatment readiness by investigating the possibility that there is no treatment available or that it is ineffective. There is clear evidence that individuals do access treatment for their cannabis use. The Australian Alcohol and other Drug Treatment Services National Minimum Data Set (AODTS-NMDS) revealed that counselling was the most common treatment type provided to cannabis users (38%, accounting for 57,277 closed treatment episodes), then detoxification services (17%), followed by assessment only (15%).[45] Moreover, in Australia, cannabis accounts for the highest proportion of treatment episodes where the main treatment type was brief, including information and education episode only (61%), or support and case management episodes only (32%).[45]

In response to the widespread use of brief interventions, an emerging literature has evaluated the effectiveness of treatment in reducing cannabis use and cannabis-related problems among adolescents and adults. Pilot studies by Berguis et al (2006) and Martin et al (2005) reported significant reductions among adolescents in frequency of cannabis use and related problems three months following involvement in a two to three session brief "check-up" style intervention.[46,47] A subsequent randomised controlled trial attracted a heavily dependent sample of young people and found significantly greater reductions in frequency of use and number of cannabis dependence symptoms in the intervention group compared with a delayed treatment control group.[48]

Trials of adult treatments has also shown treatment efficacy. The Stephens and Roffman group conducted two initial trials evaluating cognitive behavioural therapy (CBT) and motivational enhancement therapy (MET) interventions.[41,49] Each therapy intervention was shown to be effective with no clear differences between the intervention types. Following these trials, the Marijuana Treatment Project Research Group (2004) conducted a more comprehensive multi-site 15-month follow-up study on 450 of the participants undergoing MET, CBT, a combination of the two, or no treatment.[50] Each treatment was again shown to be effective, particularly when used in combination.

In an attempt to further the efficacy of treatment, Budney et al evaluated the effects of a further combination with contingency management (CM) interventions in a pilot study and an additional one year follow up study.[51,52] CM interventions explore the principal that adherence to programs can be increased by rewarding appropriate behaviours. Again the CT intervention was shown to be efficacious post treatment, particularly in combination with MET and CBT.[52] Several reviews of the literature following these initial promising trials have been published.[53-57] The authors of these reviews concluded that there is a need for more research on the development of effective interventions.[56]

Attitudes toward cannabis treatment

Some attempts to account for the lower levels of treatment seeking and low levels of treatment readiness have investigated the level of perceived need for treatment. Mojtabai et al (2002) examined

a sample of 1,792 participants from the National Comorbidity Study who were diagnosed with a mood, anxiety or substance use disorder.[58] They found, as had previous studies, that a key variable when deciding to seek help was the perception of need. They suggested that many who have mental health problems may not think they need treatment due to believing that symptoms are temporary or not serious, failure to recognise their problems as related to mental health, not knowing that appropriate help is available, believing that treatment will not help, believing that services are not accessible, embarrassment about seeking help, or the fear of stigmatisation. "In short, what appears to be a simple objective report of perceived need is influenced by the social context and the decisions people make in response to symptoms."[58] It is likely that dependent cannabis users do not consistently demonstrate a need for treatment and may prefer alternate methods of cutting down or stopping use. A one-year follow-up study of 200 long-term cannabis users by Swift et al (2000) reported that, although nearly two-thirds (62%) had attempted to moderate their use within one year, the vast majority were doing so unassisted (92% of those who had decreased/stopped).[33] Several studies of adolescents have also shown low levels of perceived treatment need.[58-60] In the Cannabis Youth Treatment experiment, just 20% of 600 young people with cannabis-related disorders agreed that they were in need of treatment for their cannabis use.[58] Further, in a study of 300 juveniles in detention centres, only one-quarter of those with a problem regarding their substance use (most commonly cannabis use) believed they required treatment.[59]

Barriers to cannabis treatment

Other studies investigating the barriers that prevent an individual from seeking treatment explored beyond the perceived need for treatment. Unfortunately, most of the literature in this arena focuses on general substance use and mental health treatment.[27] Reviews of the literature on barriers to substance use treatment most frequently cite lack of interest, knowledge or motivation, lack of treatment places, long waiting times, the costs associated with treatment, meeting program eligibility criteria and transport difficulties.[32,60-62] The most frequently reported social barrier to treatment entry is the stigma associated with being labelled as an illicit drug user and associated concerns over privacy.[61-67] In their extensive review of the literature on substance abuse help seeking, Marlatt et al (1997) concluded these concerns to be the most influential.[67] Luoma et al (2007) found that, of 197 patients in substance abuse treatment, greater levels of stigma-related rejection made it more difficult to "succeed" in treatment and increased the chance of relapse.[64]

Further, Wechsberg et al (2007) have commented that drug treatment programs are often based on models that lack cultural sensitivity to minorities or women.[68] For example, some people may find aspects of the initial involvement in these programs – such as self-disclosure, trust in virtual strangers, being urged to "surrender" or admit they are "powerless" – to be alien and culturally inappropriate. Green-Hennessy (2002) suggested that certain groups, particularly women, find the idea of psychiatric problems more palatable than that of substance abuse problems and hence gravitate toward mental health services.[69] Copeland's study (1997) of women who had ceased use without formal treatment, 5% of whom identified as cannabis dependent, found that the principal barriers to entering formal treatment services among this group included social stigma and labelling, lack of awareness of the range of treatment options, concerns about childcare, the perceived economic and time costs of residential treatment, concerns about the confrontation models used by some treatment services, and stereotypical views of clients of treatment services.[65]

Research specific to the barriers to cannabis treatment entry is scarce, with problems associated with other drugs often considered to be more pressing by researchers and treatment providers.[70] Ellingstad et al (2006), in one of the few studies on this issue, interviewed 25 long-term daily cannabis users who stopped using cannabis for at least one year without treatment, about their past substance use, antecedents to change, and factors supportive of change. Respondents reported the most significant barrier to entering treatment was the belief that cannabis use was not enough of a problem or did not warrant treatment (80%).[71] Other barriers to cannabis treatment included wanting to quit without treatment (76%), or the stigma of being labelled a drug user (listed by 48% of respondents). Less commonly, the sample reported having negative feelings about treatment (44%), issues with confidentiality (36%), unwillingness to share problems (36%), being unaware of treatment options (32%), financial costs (28%), and embarrassment (24%).[71]

In a study of 813 individuals interested in receiving cannabis treatment, Vendetti et al (2002) suggest that the low rate of cannabis users entering treatment compared to other drug users might be due to the lack of specific treatment for cannabis dependence,

and to the reluctance of many long-term cannabis users to engage in treatment in programs dominated by individuals with alcohol, cocaine or heroin dependence.[35] In a report of 426 individuals who accessed a large treatment centre in Toronto with cannabis as their primary substance use problem, Strike et al (2003) concluded that treatment agencies are often ill-prepared to provide appropriate treatment for cannabis dependence.[70] Results from their study show that while people may present for cannabis treatment, their preparedness to change their behaviour is low. They suggest that treatment providers and researchers need to better understand the relationships between cannabis treatment seeking, motivation to change and potential treatment outcomes.[70]

Facilitators to cannabis treatment

Not unlike the literature investigating the barriers to treatment, research on the facilitators promoting treatment entry is largely based on general substance use. Fiorentine and Anglin (1997,1998) have suggested that increasing the opportunity for counselling, providing transportation services to clients who need them, providing useful treatment and ancillary services, and strengthening the client/counsellor relationship, may improve the general effectiveness of drug treatment.[72,73] A number of studies support the idea that pre-treatment interventions and strategies may be effective in facilitating treatment entry and increasing treatment retention for substance abusers.[68] Mojtabai et al (2002) suggest that strategies aimed at changing attitudes and motivating help seeking are essential for encouraging people who do not perceive a need for professional care to use services.[74] There is some limited evidence that screening and targeted educational campaigns affect attitudes and help-seeking behaviour.[74]

Literature identifying facilitators specific to cannabis treatment has emphasised the importance of advertising and the promotion of brief treatments in primary health care settings. A number of authors have shown that individuals can be encouraged to seek cannabis treatment through the use of media advertisements.[37,39,75] In their brief intervention trial, Copeland et al (2001) successfully generated 1,075 telephone calls which identified 510 individuals interested in treatment through advertisements placed with local newspapers and radio interviews over 20 months.[37] Following this success, Stephens et al (2002) also documented 1,211 interested callers following local media announcements over 16 months.[75] Separate research in primary health care settings has highlighted the need to assist General Practitioners (GPs) to recognise high-risk groups for screening, assessment and brief intervention. In a study of data from a continuous study of Australian general practice activity, the Bettering the Evaluation and Care of Health (BEACH) program, Arcuri et al (2008) concluded that primary health care workers could be trained to facilitate treatment.[76] As the majority of GPs were found to work in limited time frames and favour treatments such as counselling, Copeland et al suggest that consultations with general practitioners could be an opportune time to implement brief motivational interviewing.[37] In this way general medical practitioners could be trained to further assist the reported 19,000 visitors for cannabis use per year to Australian general practice.[76]

Study aims

Given the under-representation of individuals with cannabis-related problems in specialist treatment services, and the levels of problems they are experiencing by the time they enter treatment, it is vital to further identify barriers to treatment seeking and facilitators of entry into treatment. This series of studies incorporates the perspectives of cannabis users in treatment, those in the community, and the friends and families of problematic users. The studies aim to explore the severity of dependence on cannabis and other drugs, the extent of problems experienced, motives for using cannabis, and views of cannabis treatment services. Suggestions as to what improvements could be made to treatments and services already on offer, reasons for regular users not wanting treatment, and cannabis users' ideal treatments are also investigated. The findings from this series of studies will assist in addressing the barriers and facilitators to entry into cannabis treatment in Australia.

methods

This series of studies was designed to investigate the barriers and facilitators to cannabis treatment from a variety of perspectives among individuals in Greater Sydney, Australia. Two studies were conducted using face-to-face interviews: 100 participants surveyed in cannabis treatment (referred to as 'In-treatment participants' or 'IT'); and 100 participants not in treatment (referred to as 'Non-treatment participants' or 'NT'). A further three surveys were conducted via the internet: 142 individuals who used cannabis at least weekly but were not in cannabis treatment (referred to as 'Internet participants' or 'IP'); four individuals who were in cannabis treatment (this study was discarded from

analysis due to survey incompletion); and an additional 43 individuals with a concern over the cannabis use of a family member or friend (referred to as 'CF').

The entry criterion included being aged 16 years and over, using cannabis at least weekly, with no more than approximately 20% of participants either: (1) using any other illicit drug more than three days per week); (2) drinking more than eight standard drinks of alcohol per day); or (3) in current methadone maintenance treatment. In addition, it was assured that the NT group had not attended treatment within the six months prior to interview, and the IT group was attending treatment at the time of interview.

Recruitment and procedure

Purposive sampling was used to recruit NT participants through advertisements via the popular press, fliers issued to central metropolitan local newspapers, internet chat forums, the Alcohol and Other Drugs Council of Australia (ADCA) 'Drug Talk' email lists and by word of mouth. Recruiting participants randomly was found to be to difficult due to the very specific eligibility criteria. Sixteen drug and alcohol treatment centres and four cannabis clinics throughout Greater Sydney were approached to recruit IT participants. Approval was gained to approach clients from 12 agencies. These agencies included outpatient counselling services (n = 2), cannabis clinics (n = 2), therapeutic communities (n = 3), a detoxification program (n = 1), residential rehabilitation services (n = 3) and a crisis centre (n = 1).

Institutional ethical approval was gained from the New South Wales University Human Research Ethics Committee (HREC), and the Northern Sydney and Central Coast Area Health (NSCCAH) Human Research Ethics Committee via the National Ethics Application Form (NEAF).

The face-to-face interviews were conducted by two trained social science graduates from August 2007 to July 2008. Participants provided consent after being informed of the nature of the study and that their information was to be confidential. The IT survey was conducted at the treatment agency or a public location was arranged. The NT survey was conducted on site at the National Drug and Alcohol Research Centre (NDARC) or at a similar arranged public location. The IP surveys were conducted at the participant's leisure by following links on the NDARC homepage (IPs gave consent by proceeding to interview following navigation through information on the study that included the participant information and consent form). Interviews were coded and no identifying information was collected. At completion of the interview the participants were thanked and reimbursed $AU30 as a contribution to travel and related expenses (internet-based interviews received no reimbursement).

Materials

Survey development

The four questionnaires utilised were developed based on an extensive review of the drug treatment literature and existing national and international drug treatment questionnaires. The two surveys conducted face-to-face were identical with the exception that some treatment questions were omitted for participants not in treatment as detailed below. The two corresponding internet-based surveys for cannabis users were modeled on the face-to-face survey and modified so as to shorten the completion time as detailed below. The internet survey for family or friends of cannabis users was created to fill a gap in research on the opinions and experiences of those affected by the cannabis use of others. This survey was based on Martin et al's brief intervention for cannabis using adolescents, named the Cannabis Check-Up.[48]

Each study surveyed the participants' demographics, drug-using patterns, opinions on cannabis treatment, experiences and attitudes towards cannabis use. For the participants with a concern over the use of a friend or family member, these questions were asked with reference to the individual of concern (IOC).

Surveys for cannabis users (IT, NT and IP)

The interviews designed for participants who were using cannabis at least weekly comprised two parts: a screening sheet ascertaining participant eligibility and the survey. The screening sheet assessed the participants' eligibility criteria (described above) and was conducted prior to the survey. The surveys comprised 66 questions in nine different sections.

Section 1 comprised eight questions surveying the participants' demographic profiles. These questions were taken from the National Minimum Data Set (NMDS).[77] The NMDS was designed to assist clinicians in the collection of data shown to be capable of profiling clientele and was launched nationally in 2000.[77] Four additional questions surveyed the participants' age, postcode of residence, sexual identity and police history within the six months prior to interview. These four questions were adapted from research by Treloar et al (2004) that was conducted as part of the Australian National Drug Strategy which

investigated the barriers and incentives to illicit drug treatments.[62] The internet-based surveys contained a shortened version of the NMDS that excluded details on education and residency. The internet surveys did, however, question the participants' state/territory of residence and whether they were in a metropolitan or rural area.

Section 2 comprised a series of questions on physical and mental health and included the Kessler 10 (K 10) scale.[78] The K 10 scale has been shown to be a suitable measure when assessing anxiety and mental illness morbidity in the general population and injecting drug user populations.[79,80] Additional questions in this section specified if the participant had private health cover; had experienced any recent health or respiratory problems related to cannabis use; had ever received psychiatric treatment (if so, when and for what diagnosis); was taking psychiatric medication; and was feeling 'poor', 'fair', 'good', 'very good' or 'excellent'. The internet surveys omitted the K 10.

Section 3 comprised questions on participants' lifetime and recent use of cannabis and other drugs. The participants were asked to detail if they had ever used licit or illicit drugs and, if so, how many of the 90 days prior to interview had they used these drugs (referred to as 'recent use'). In addition, cannabis dependence was measured using the Severity of Dependence Scale (SDS) and the substance use disorder scale from the Global Assessment of Individual Needs – Initial (GAIN-I).[37,81-83] The SDS has been shown to be a reliable and valid tool to assess a diagnostic cut off of cannabis dependence in adults and adolescents.[84,85] The GAIN-I substance use disorder measures have been shown to be a consistent proxy for the diagnostic criteria of a substance use disorder according to the Diagnostic and Statistics Manual 4 (DSM-IV).[86] The internet surveys omitted the substance use disorder scale, including only the briefer SDS. For alcohol, the participant was asked to detail the number of standard drinks they would usually have on a drinking occasion and also the number of days they had alcohol at risky levels in the same period. Participant 'risky' drinking referred to the 2001 National Health and Medical Research Council (NHMRC) guidelines (more than four standard drinks for females and more than six standard drinks for males).[87]

Section 4 comprised two questions surveying participants' opinions on the harms of cannabis use and reasons for their use. Participants were asked to compare the harms of cannabis use to other illicit drug use and to explain their opinions. This part of the section was omitted in the internet surveys. Following this, participants were given a list of reasons for using cannabis and were asked to choose the main reason which applied to their most recent use (see Appendix A). This list was adapted from the Five-Factor Marijuana Motives Measure developed by Simons et al (1998).[88]

Section 5 comprised a series of questions assessing participants' current and past experiences with cannabis and other drug treatment. Participants not in treatment referred only to past treatments. Participants were first asked to detail any attempts at quitting cannabis use without professional help. These questions were taken from Treloar et al's (2004) study on the barriers and incentives to illicit drug treatments.[62] Following these questions, participants were asked to provide a number of details concerning both past and present drug treatments including: (1) treatment type, (2) when the treatment started, (3) how long the participant had to wait for their first appointment and to start treatment, (4) how the participant found out about the treatment, (5) who referred the participant to treatment and if the participant wanted to be referred, (6) why the participant wanted treatment, (7) if anything had happened to prompt treatment, (8) major reasons treatment was sought, (9) the problems that contributed to treatment entry, (10) why the participant chose their particular type of treatment, (11) confidence in treatment and treatment goals, (12) treatment satisfaction, (13) number of times in treatment, and (14) age at first treatment.

Section 6 comprised a series of questions assessing barriers and facilitators to cannabis treatment and ideal treatment. These open-ended questions allowed the participants to express their opinions with minimal prompting. The internet surveys provided participants with a list of popular barriers and facilitators adapted from Treloar et al's (2004) research.[62]

Section 7 comprised questions regarding further specifics of treatment. Participants in treatment were asked about any differences between past and current treatments. Further questions surveyed if the participants had not sought treatment and, if so, participants were asked for their reasons. These questions were adapted from Treloar et al's (2004) research.[62] A further two questions (omitted in the internet surveys) asked if anything was interfering with the benefits of the participants' treatment.

Section 8 comprised questions on participants' attitudes toward cannabis-specific treatment. Participants were asked if they knew of any cannabis-specific treatment; if they thought that specific

treatment is important; to specify an ideal kind of treatment; and to indicate from a provided list (see Appendix B) which specific treatment options were of interest to them. Following this, participants were asked to indicate how much they agreed with a series of statements designed to elicit general attitudes toward treatment (see Appendix C). These questions were once again taken from Treloar et al's (2004) research.[62]

Section 9 comprised a series of 29 questions known as the Cannabis Problems Questionnaire (CPQ). The CPQ has been shown to be a valid, reliable and sensitive measure of cannabis-related problems applicable to users in the community and in a range of treatment settings.[37,83,89]

Survey for family and friends of cannabis users

The Family and Friends of Cannabis Users Survey consisted of two parts: a screening/consent section ascertaining participant eligibility; and the survey. The participants gave consent that they were willing to participate and that they met eligibility criteria (described above) by clicking on a link to the survey. The survey comprised 32 questions in six different sections:

Section 1 consisted of questions asking the participant to describe the demographic profile of the IOC. The section included questions on the relationship of the IOC to participant, the IOC's living situation, age, gender, ethnicity, state of residency and if the IOC was in a metropolitan or rural area.

Section 2 surveyed the IOC's cannabis use and attitudes toward use. The participant was asked to indicate how long the IOC had been using cannabis, how often he/she uses (from less than monthly to every day) and how he/she regards his/her use (if he/she feels it is a problem or if he/she needs a change).

Section 3 surveyed details of the participants' concern over their IOCs. Participants were asked to select which areas were of concern from a list of problems, how great their concern was, how long they have harboured a concern and if they had expressed their concern to their IOCs.

Section 4 comprised a series of questions regarding visits to health professionals. If the participants had discussed their concern with a health professional, they were asked to specify how helpful the professional was, or if not, participants were asked why they had not spoken with a health professional. A second set of questions asked participants if their IOCs had tried to reduce their use without help in the 12 months prior to interview. If the IOC had attempted to reduce his/her use, the participants were asked to detail: how successful was the last attempt; if the IOC had contacted any treatment centre; if the IOC had received any treatment in the 12 months prior to interview; what type of treatment was received; and how successful was the treatment.

Section 5 comprised questions on the barriers and facilitators to cannabis treatment. These questions were presented in an identical way to that detailed in 'Section 6' of the surveys for cannabis users.

Section 6 comprised questions surveying the participants' attitudes towards cannabis-specific treatment. Participants were first asked if they were aware of any New South Wales cannabis clinics, if they thought that cannabis-specific treatment was important, and if the participant had anything further to add to their survey before submitting it.

Data analysis techniques

The quantitative and qualitative data in this study were analysed using SPSS© (Version 13.0). Basic exploratory statistics, including the means, medians, range and standard deviations of quantitative data were explored using frequency, descriptive and exploratory analysis. Qualitative data was recorded using classical induction analysis whereby quantitative categories of the more common response sets were tabulated. Following this exploratory analysis, inferential statistics were conducted to make comparisons between: (1) IP and NT participants, (2) IT participants and NT participants (where NT participants interviewed in person were statistically equivalent to those submitting the survey via the internet, these two groups were combined), (3) males and females, (4) younger participants (less than 24 years of age) and older participants (at least 24 years of age), and (5) participants entering treatment from police or court systems (referred to as 'mandated to treatment') and those volunteering to treatment. Binary dummy variables were created to represent each of the above participant groups. Checks for normality were made using Kolmogorov-Smirnoff tests. Each variable was compared using cross-tabulation statistics and comparisons were made using Chi-Square analysis and Odds Ratios. Non-parametric variables were analysed using Mann-Whitney testing and parametric variables were tested using one-way analysis of variance (ANOVA). No Bonferroni adjustments were made since the study had no specific hypothesis to support.

Internet surveys with incomplete data were deleted. That is, 142 entries were received for IPs; however,

this was reduced to the final total of 97 participants because the data from 45 surveys was incomplete. In addition, an original total sample of 43 entries for the Family and Friends of Cannabis Users internet survey was reduced to the final total sample of 33 participants because the data from 10 surveys was incomplete. Each of the four internet entries for participants in cannabis treatment were deleted because no survey was complete.

results

In-treatment and Non-treatment Participants

Participant age and gender

No significant difference was found between the NT and IP groups' median age, with a combined median age of 33 years (range = 16-75). However, these two groups were combined and found to be significantly ($Z = -2.7$, $p < 0.007$) older than the IT group's median age of 27 years (range = 16-48).

No significant gender differences were found across each group with 68.5% males in the total sample (n = 295).

Participant demographics

The majority of participants from each group were non-Indigenous and born in Australia. IP and NT groups did not comprise a significantly different number of Indigenous participants (2.5%). However, compared to these groups combined, significantly [OR = 0.2 (0.1-0.7)] more IT participants were Indigenous (10.1%). No significant difference in the number of individuals born in Australia was found between IP and IT groups (86.8%). However, the NT group was significantly ($Z = -2.3$, $p < 0.02$) less likely than IP or IT groups to be Australian born (68%).

Participants who were interviewed face-to-face then provided further demographic details which are detailed in Table 1. No significant difference was found between the IT and NT participants' incomes, living arrangements, residences, or sexuality.

Table 1 Participants' demographics

	NT (n = 100) %	IT (n = 100) %	Total sample (n = 200) %
Income			
Full-time employment	24	21	22.5
Part-time employment	21	13	17
Temporary benefit	43	57	50
Other income	12	9	10.5
Living arrangement			
Alone	32	26	29
Partner	24	18	21
Parents	15	20	17.5
Friends	16	13	14.5
Other	13	23	18
Residence			
Private	28	27	27.5
Rented	59	60	59.5
Other	13	13	13
Sexuality			
Heterosexual	85	86	85.5
Homosexual	5	2	3.5
Bisexual	10	12	11

The total sample most commonly reported being on a temporary benefit (50%), living alone (29%) in a rented residence (59.5%), and identified themselves as heterosexual (85.5%).

IT and NT groups differed significantly ($\chi^2 = 31.2$, $p < 0.001$) in their reported level of education. More specifically, significantly [OR = 5.5 (3.0-10.1)] more IT participants left school prior to completing year 12 (77% compared to 38%). Significantly more NT participants than IT participants completed year 12 without further study [OR = 3.6 (1.7-7.8)] (27% compared to 9%) or with additional tertiary qualification [OR = 3.3 (1.6-6.9)] (35% compared to 14%). Further, significantly [OR = 3.1 (1.2-7.8)] more NT participants than IT participants were in study at the time of interview (19% compared to 7%).

The IP group was asked to indicate which Australian state/territory each participant resided in, and whether they lived in a metropolitan or rural area. Here, participants reported that they lived in New South Wales (50.5%), Victoria (8.2%), Queensland (8.2%), South Australia (3.1%), Western Australia (10.3%), Australian Capital Territory (6.2%), Tasmania (6.2%), or outside of Australia (4.1%). Approximately three in four (74%) were living in metropolitan areas.

Participant involvement with the police

The participants interviewed face-to-face were also asked if they had any involvement with police in the 12 months prior to interview. One in five (22.2%) of this sample reported involvement with the police in this period. Significantly [OR = 0.1 (0.05-0.2)] fewer NT participants reported recent trouble with police (11%), compared to over half (55%) of IT participants. IT participants were also significantly [OR = 7.8 (1.8-33.6)] more likely to report that their involvement with police was related to cannabis use (41% compared to 3%). For those participants reporting to be involved with police (n = 66), the majority (93.9%) were arrested or cautioned, with no statistically significant difference found between groups.

Participant physical and mental health

Participants were questioned on their physical health in the three months prior to interview and if they had private health cover. Significantly more [OR = 3.3 (1.4-10)] NT participants than IT participants reported having private health cover (22% compared to 8%).

As shown in Table 2, IPs showed the best general health and most commonly reported feeling 'very good' or 'excellent'. NT participants reported slightly worse health, typically feeling 'good'. IT participants reported the lowest general health and most commonly felt 'fair'.

Table 2 Participants' health in the three months prior to interview

	NT (n = 100) %	IP (n = 97) %	IT (n = 100) %	Total (n = 297) %
Very good or excellent	26	41.2	17	27.9
Good	40	35.1	26	33.7
Fair	23	18.6	33	24.9
Poor	11	5.2	24	13.5

In order to indicate levels of psychological distress, participants interviewed face-to-face completed the K 10 scale. IT participants showed significantly [$F(1,197) = 38.9$, $p < 0.001$] greater K10 mean scores compared to NT participants (27.6 [SD = 8.0] compared to 20.6 [SD = 8.0]). However, these scores placed the average participant from either group at a 'medium risk' of an anxiety or depressive disorder.[90]

Participant cannabis use

As shown in Table 3, the IT group initiated to first cannabis use, first weekly use and first daily use at significantly younger ages compared with NT and IP groups. As there was no statistically significant difference between the NT and IP groups, the two were combined in the analyses with the IT group shown below.

Table 3 Participants' initiation to cannabis use

	NT & IP Median (range)	IT Median (range)	Significance testing	Total sample Median (range)
Age at first cannabis use	15 yrs (8-41)	14 yrs (8-20)	Z = -4.2, P < 0.001	14 yrs (8-41)
Age at first weekly cannabis use	17 yrs (11-41)	15 yrs (8-30)	Z = -6.5, P < 0.001	16 yrs (8-41)
Age at first daily cannabis use	19 yrs (12-50)	16 yrs (10-35)	Z = -6.6, P < 0.001	18 yrs (10-50)

Participants also reported on their recent cannabis use. The NT group referred to the three months (90 days) prior to interview, while the IT group referred to the three months prior to treatment entry. The NT group reported recently using cannabis a median of 69 days (range = 2-90). This was found to be significantly (Z = -3.5, p < 0.002) less frequent than IP (88 days, range = 0-90) and IT groups (86.5 days, range = 0-90).

Participants were asked to indicate the average amount of cannabis they would usually consume in a day when they would use. Participants reported using either cones, joints or a combination of the two. As participants could use cannabis via either method, and to reduce data redundancy, the two methods were combined under Didcott et al's (1997) recommendations. That is, one joint was taken to be approximately equal to three cones.[91] There was no significant difference found between NT and IP groups' use of cones with a median of 9 (range = 0-270) cones usually used in a day. However, the IP group was found to use significantly (Z = -5.3, p <0.001) more cones, reportedly recently using a median of 20 (range = 0-210) cones in a day they would usually use the drug.

Participant cannabis dependence and problems

Participants also self-reported on their cannabis dependence and completed two scales measuring severity of dependence. There was no significant difference between NT and IP groups in the number of participants who self-reported ever being dependent on cannabis at some point in their lives. The two groups were combined with just over two-thirds (69%) of the participants reporting ever being dependent. However, the IT group was significantly (91%, OR = 4.5 [2.1-9.6]) more likely than these groups to have reported dependence.

Participants interviewed face-to-face were also asked if they felt they were recently dependent on cannabis. The NT group reported on how they felt at the time of interview, with under half (43%) reporting dependence on cannabis. The IT group reflected on the time directly before entering treatment, with a significantly [OR = 3.9 (2.1-7.2)] greater number reporting dependence (76%) in that period.

As shown in Table 4, the majority of NT and IT groups met criteria for cannabis dependence according to the SDS and the DSM-IV proxies. In addition, the majority of both groups met criteria for cannabis abuse according to the DSM-IV. However, the IT group was significantly more likely to meet criteria for dependence and abuse on each scale.

Table 4 Participants' cannabis dependence and abuse scores and percentages

	NT (n = 100)		IT (n = 100)			Total sample (n = 200)
	%	Median (range)	%	Median (range)	OR [95%CI]	%
SDS dependence	68	5 (0-15)	97	9 (0-15)	OR = 15.2 [4.5-51.7]	82.5
DSM-IV dependence proxy	65	4 (0-7)	94	7 (0-7)	OR = 8.4 [3.4-21.4]	79.5
DSM-IV abuse proxy	98	1 (0-4)	79	3 (0-4)	OR = 13.0 [3.0-57.2]	88.5

Participants interviewed in person also completed the CPQ. The IT group showed significantly ($Z = -8.3$, $p < 0.001$) higher scores of cannabis problems than the NT group (16 [range = 2-23] compared to 8 [range = 0-20]).

No significant difference was found in dependence, abuse, or in CPQ scores between genders, age groups, or between those mandated to treatment and those volunteering.

NT participants were also asked how they felt toward their future cannabis use. Here, participants were typically not thinking of changing their use (40%); thinking/preparing toward change (30%); or in the process of change (26%).

Participants were asked if they had any recent health or respiratory problems they believed to be related to their cannabis use. No significant difference was found between IT, NT or IP responses, with approximately one-third (34.9%) reporting experiencing a recent health problem. All participants typically described mental health problems (35.6%) or the exacerbation of colds (17.8%). When reporting on respiratory problems, no significant difference was found between NT and IP groups, with approximately one-third (36.7%) reporting a recent respiratory problem. The IT group was significantly [61%, OR = 2.7 (1.6-4.4)] more likely to report a respiratory problem. All participants typically described a persistent cough (34.2%), or shortness of breath (28.6%). No further significant differences were found between genders, age groups, or between those mandated to treatment and those volunteering.

Participants were asked to select from a provided list (see Appendix A) detailing the main reason why they would usually use cannabis during their most recent use. As depicted in Table 5, participants provided various reasons with the exception of the IT group who were typically using cannabis to help cope with their worries/problems. Fewer participants interviewed face-to-face were able to respond to this question as some found selecting only one main reason for using cannabis difficult.

Table 5 Main reason for participants' recent cannabis use

Reason for cannabis use	NT (n = 64) %	IP (n = 91) %	IT (n = 72) %	Total sample (n = 227) %
Enhancement	25	28.6	12.5	22.5
Coping	21.9	37.4	70.8	43.6
Conformity	0	0	2.8	0.9
Expansion	29.7	30.8	5.6	22.5
Social	9.4	3.3	4.2	5.3
Other	14.1	0	4.2	5.3

Details of the statistical analyses between groups and motives to use cannabis are given in Table 6. NT and IP groups commonly selected 'Expansion' (using to expand awareness or creativity) or 'Enhancement' (using to get high), while the IT group were significantly more likely to select 'Coping' (using to help cope with depression or problems). No significant difference was found in the number of participants selecting 'Social' (using to make social gatherings more enjoyable) or 'Conformity' (using to be liked or fit in) across groups, with few participants selecting these options.

Table 6 Significance testing of differences between groups in the main reason given for recent cannabis use

	NT & IP OR [95% CI]	(NT + IP) & IT OR [95% CI]	NT & IT OR [95% CI]	IP & IT OR [95% CI]
Enhancement	Non-sig	OR = 0.4 (0.2-0.8)	N/A**	N/A**
Coping	Non-sig	OR = 5.4 (2.9-1.0)	N/A**	N/A**
Conformity*	N/A*	N/A*	N/A*	N/A*
Expansion	Non-sig	OR = 0.1 (0.05-0.4)	N/A**	N/A**
Social	Non-sig	Non-sig	N/A**	N/A**
Other	OR = 0.9 (0.8-0.9)	N/A***	Non-sig	Non-sig

* No participant selected 'Conformity' as the major reason they recently used cannabis in the NT and IP groups

** As the NT and IP groups were not significantly different, these tests were redundant after comparing the two groups combined with the IT group

*** As the NT and IP groups were significantly different, this test was not made

Like the IT group, participants younger than 24 years were also significantly [OR = 0.5 (0.3-0.9)] less likely than older participants to have used cannabis to help them cope (37.7% compared to 53.5%). However, the interaction between participant age group and treatment group was not found to be significant. No further significant differences were found between genders, age groups, or between those mandated to treatment and those volunteering.

Additionally, participants interviewed face-to-face were asked if they thought cannabis was equally, more, or less harmful than other illicit drugs. IT and NT groups showed a significant difference ($\chi^2 = 13.8$, $p < 0.002$) in their responses to this question. More specifically, both groups typically believed cannabis to be less harmful than other illicit drugs; however, the NT group held this view more commonly than the IT group. The participants' opinions are detailed in Table 7.

Table 7 Participants' opinion on cannabis harm compared to other illicit drugs

Compared to other drugs cannabis is...	NT (n = 99) %	IT (n = 98) %	OR [95% CI]	Total sample (n = 197) %
Less harmful	76.8	53.1	OR = 0.3 [0.2-0.6]	65
More harmful	8.1	24.5	OR = 3.7 [1.6-8.7]	16.2
Equally harmful	15.2	22.4	Non-sig	18.8

Compared to males, female participants were also found to be significantly [OR = 0.5 (0.3-0.9)] less likely to consider cannabis to be less harmful than other illicit drugs (52.5% compared to 70.3%). However, no significant interaction was found between gender and treatment groups. No further significant differences were found between age groups or between participants who were mandated to treatment and volunteers.

When explaining why cannabis was thought to be less harmful than other illicit drugs, participants (n = 128) most commonly referred to a perceived lack of physical harm in cannabis use (34.8%) or a perceived lack of harmful chemicals (13.1%).

Aside from opinions of cannabis harm, no gender differences were found between any of the cannabis use measures reported in this section. Further, no age differences were found in frequency of use, or dependence measures.

Participant licit drug use

Alcohol use

Participants interviewed face-to-face were asked to indicate how many days they recently drank any alcohol, how many drinks they would normally have, how many days they drank at a level posing risk to their health (according to NHMRC guidelines)[88] and how old they were when they had their first drink. Here, the NT group referred to the 90 days prior to interview, while the IT group referred to the 90 days prior to treatment entry. No significant difference was found between any of the participant groups on any measure of alcohol use.

The total sample reported recently drinking alcohol on a median of 12 (range = 0-90) out of the 90 days prior to interview, consuming a median of four (range = 0-74) standard drinks on a typical day. Participants

drank alcohol at risky levels on a median of 1.5 (range = 0-90) days out of the 90 days prior to interview. The median age of initiation to alcohol use for the total sample was 14 years of age (range=2-44).

Tobacco use

The majority (98%) of all participants had ever smoked tobacco with no significant difference between participant groups. All participant groups typically used tobacco near daily in the three months prior to interview, with the median days of use in this period ranging from 85-90 days.

Participants interviewed face-to-face were also asked if they usually mix their cannabis with tobacco when smoking cannabis. The IT group was significantly (OR = 2.9 [1.2-7.3]) more likely than the NT group to have done so (93% compared to 82%).

Participant illicit drug use

Lifetime illicit drug use

Participants interviewed face-to-face were asked to indicate if they had ever used any illicit drug other than cannabis. As shown in Figure 1, participants had commonly used other illicit drugs at some point in their lifetimes. Here, meth/amphetamine referred to any amphetamine or methamphetamine drug (such as ice or speed). Pharmaceuticals referred to any prescription medication that participants used outside of directions (no specification of medication type was recorded). Designer drugs referred to ketamine and GHB (Gamma Hydroxybutyrate).

Overall, more than half the participants had ever used ecstasy, meth/amphetamine, cocaine or hallucinogens. Designer drugs and inhalants were the least common illicit drugs ever used with approximately one-fifth of participants ever using them.

The NT group was significantly [OR = 0.4 (0.2-0.8)] more likely than the IT group to report having used cocaine (82% compared to 64%), although this was likely an artifact of differing recruitment methods. Aside from cocaine use, no further significant differences were found between groups and the percentage that had ever used an illicit drug.

Recent illicit drug use

As shown in Figure 2 and Table 8, participants also reported recently using other illicit drugs. Although there was great variability shown between groups, participants most commonly reported recently using ecstasy, meth/amphetamine and pharmaceuticals.

Figure 1 Percentage of participants with lifetime illicit drug use

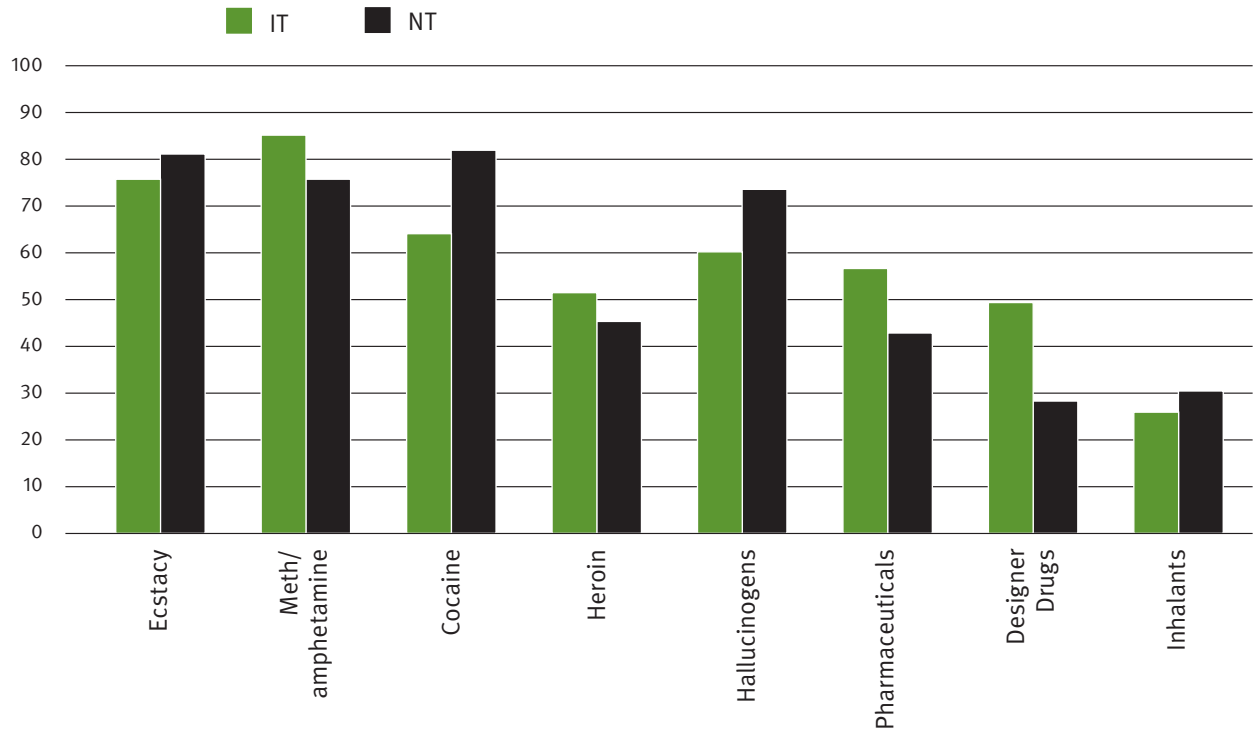
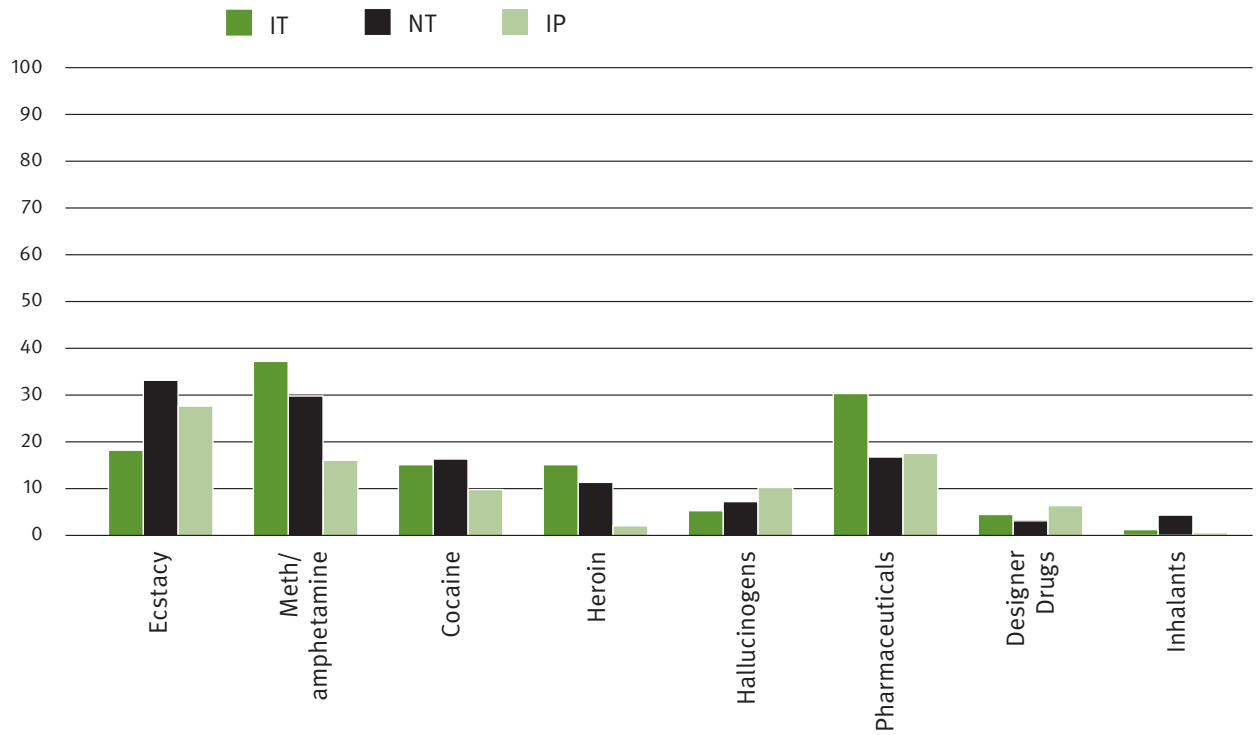


Figure 2 Percentage of participants reporting recent illicit drug use



As shown in Table 8, the NT and IP groups' median days of recent illicit drug use tended to be similar, although the number of participants recently using certain drugs was low. The IT group reported using drugs more frequently than other participant groups with the exception of ecstasy and designer drugs.

Table 8 Reported days of recent illicit drug use

	NT Median days (range)	IP Median days (range)	IT Median days (range)	Total sample Median days (range)
Ecstasy	(n = 33) 2 days (1-24)	(n = 27) 3 days (1-20)	(n = 18) 2.5 days (1-13)	(n = 78) 2 days (1-24)
Meth/amphetamine	(n = 30) 2 days (1-90)	(n = 15) 2 days (1-20)	(n = 37) 7 days (1-90)	(n = 82) 2.5 days (1-90)
Cocaine	(n = 16) 1 day (1-5)	(n = 9) 1 day (1-20)	(n = 15) 2 days (1-90)	(n = 40) 1 day (1-90)
Heroin	(n = 11) 12 days (1-90)	(n = 2) 7.5 days (5-10)	(n = 15) 16 days (1-90)	(n = 28) 11 days (1-90)
Hallucinogens	(n = 7) 1 day (1-3)	(n = 10) 1.5 days (1-2)	(n = 5) 2 days (1-4)	(n = 22) 1.5 days (1-4)
Pharmaceuticals	(n = 17) 3 days (1-90)	(n = 17) 5 days (1-90)	(n = 30) 7.5 days (1-90)	(n = 64) 6 days (1-90)
Designer drugs	(n = 3) 4 days (1-10)	(n =W 6) 2 days (1-4)	(n = 4) 1 day (1-3)	(n = 13) 2 days (1-10)
Inhalants	(n = 4) 3.5 days (1-13)	(n = 2) 1 day (1)	(n = 1) 6 days (6)	(n = 7) 2 days (1-13)

No significant differences in days of recent drug use were found across participants' gender, age group or between participants mandated to treatment and volunteers.

Participant treatment history

Psychiatric treatment

There was no significant difference between the IT and NT groups in the number of participants who had ever received psychiatric treatment in the past, with approximately one-third (34%) having done so. However, the IT group was significantly [OR = 3.6 (1.7-7.5)] more likely than the NT group to be taking psychiatric medication at the time of interview (33% compared to 12%). Participants (n = 68) then detailed if they had received a diagnosis. The diagnoses reported included depression (50%), bipolar disorder (11.8%), psychosis (10.3%), or schizophrenia (8.8%). Only one-tenth (10.3%) of participants who had attended psychiatric treatment did not report a diagnosis. When asked how much time had passed since their last visit to psychiatric treatment, participants stated a median of 1.1 (range = 0-49) months.

Drug treatment

Treatment needed

Approximately half of all participants (53.2%) mentioned that they had needed help managing their cannabis use in the past. No significant difference was found between NT and IP groups, with less than half (44.2%) mentioning they had needed help. The IT group was significantly [74%, OR = 3.6 (2.1-6.1)] more likely than these groups to have mentioned needing help in the past.

Participants were also asked if they had tried reducing their cannabis use without professional help within the 12 months prior to interview. The majority of all participants had done so (69%). No significant difference was found between NT and IP groups, with approximately two-thirds (65%) recently attempting to reduce their use without help. The IT group was significantly [77%, OR = 1.8 (1.0-3.1)] more likely than other groups to have attempted reducing their cannabis use without help. However, no significant difference was found between participant groups in the median number of attempts made within 12 months, where a median of three (range = 0-500) attempts was reported.

Participants interviewed face-to-face who had attempted reducing their cannabis use in the 12 months prior to interview (n = 205) were asked what techniques they employed. In order to reduce their use, participants most commonly reported either; cutting down (58.2%), stopping their use (34.9%), or isolating themselves from their normal using environment (15.8%). These participants were asked how successful they were in their last attempt at reducing their use. The IT and NT groups differed significantly ($\chi^2 = 30.7$, $p < 0.001$) in their response. More specifically, the IT group was less successful in their last attempt than the NT group, as detailed in Table 9.

Table 9 Participants' success in attempting to reduce their cannabis use without professional help

	NT (n = 67) %	IT (n = 77) %	OR [95% CI]	Total sample (n = 144) %
Not successful at all	23.9	63.6	OR = 5.2 (2.5-10.7)	45.1
Somewhat successful	40.3	31.2	p = 0.3	35.4
Very successful	35.8	5.1	OR = 0.1 (0.04-0.4)	19.4

Consultations with health professionals

Participants interviewed face-to-face were asked if they had ever discussed concerns over their cannabis use with a health professional, with over half (59%) having done so. The IT group was significantly [OR = 2.1 (1.2-3.8)] more likely than the NT group to have discussed their concerns (68% compared to 50%). Further, the IT group was significantly more likely than the NT group to have seen their GP (44% compared to 26%) [OR = 2.2 (1.2-4.1)] or drug-treatment service (31% compared to 14%) [OR = 2.8 (1.4-5.6)]. No significant difference was found between groups and the numbers reporting seeing a counsellor or other professional. Participants then commented on how helpful the professional was to them and if they had felt discriminated against. The IT group was significantly [OR = 3.2 (1.2-8.5)] more likely than the NT group to have felt discriminated against (17% compared to 6%). Table 10 describes the percentages of participants who saw each health professional and how helpful they found the professional.

Table 10 Percentage of participants seeking help from health professionals regarding their cannabis use

	NT (n = 100) %	IT (n = 100) %	Total sample (n = 200) %
Ever visited a GP:	26	44	35
Helpfulness			
Very helpful	34.6	29.5	31.4
Some help	38.5	31.8	34.3
No help	26.9	38.6	34.3
Did you feel discriminated against?			
Felt discriminated	8.3	27.3	20.9
Ever visited staff from a drug treatment service:	14	31	22.5
Helpfulness			
Very helpful	58.3	50	52.4
Some help	33.3	40	38.1
No help	8.3	10	9.5
Did you feel discriminated against?			
Felt discriminated	0	13.3	9.5
Ever visited a counsellor:	19	29	24
Helpfulness			
Very helpful	36.8	37.9	37.5
Some help	36.8	41.4	39.6
No help	26.3	20.7	22.9
Did you feel discriminated against?			
Felt discriminated	31.6	13.8	22.2
Ever visited another professional	8	14	11

Previous drug and alcohol treatment

Two-thirds (66%) of the IT group, one-third (32%) of the NT group and almost one-quarter (23%) of the IP group had ever received drug or alcohol treatment prior to being interviewed. The treatment sought was specific to problems from cannabis use for almost half (46%) of the IT group, almost one-fifth (19%) of the NT group and 14.4% of the IP group, respectively.

Participants interviewed face-to-face were asked how many times they had received any drug or alcohol treatment in the past. Participants reported a median of one (range = 1-9) past treatment, with no significant difference found between participant groups.

The participants interviewed face-to-face were also asked to describe how old they were at the time of their first general drug or alcohol treatment and first cannabis-specific treatment. No significant differences were found between participant groups. Participants were significantly ($t = -2.9$, $df = 129$, $p < 0.005$) younger at first drug or alcohol treatment compared to first cannabis specific treatment. Here, participants were a mean age of 26.5 years (SD = 7.9) at first drug treatment compared to 26.9 years (SD = 8.43).

Most recent cannabis treatment

Participants interviewed face-to-face with treatment experience were asked to describe the kind of treatment they had last received. The NT group (n = 17) had most commonly received outpatient counselling (41.2%). The IT group (n = 45) had typically received residential rehabilitation (44.4%), although this may be an artifact of recruitment methodology.

NT and IP groups were asked to rate how satisfied they were with their most recent treatment. No significant difference was found between the groups in their response with equal numbers stating 'dissatisfaction', 'neither dissatisfaction nor satisfaction' or 'satisfaction' (25.8% each).

The IT group was asked how their most recent cannabis treatment differed to their current treatment. Participants able to comment (n = 42) most commonly mentioned differences in program structure (31%), a different treatment focus or drug problem (16.7%), or that the participant was returning to the same treatment (23.8%).

All participants were then asked if they had completed their most recent cannabis treatment. No significant difference was found between groups in the percentage of participants completing treatment, with under half (45.2%) doing so. Participants interviewed face-to-face were asked to provide some detail as to why they had not completed treatment. These participants mentioned returning to using (31.6%), being kicked out of the program (15.6%), staff turnover problems (13.2%), extraneous issues requiring attention (21.1%), and other reasons (18.5%).

Females were found to be significantly [OR = 2.1 (1.3-3.6)] more likely than males to have sought treatment in the past (46.2% compared to 28.7%). However, no significant differences were found in the numbers receiving past treatment between participant age groups or those mandated or volunteering to treatment.

Current cannabis treatment

IT participants also commented on their current cannabis treatment. These participants had accessed a range of services, including rehabilitation services (42%), therapeutic communities (29%), outpatient counselling (20%), inpatient detoxification (12%), outpatient detoxification (2%), medicated psychiatric help (2%), and self-help groups (3%). Participants began their current treatment a median of four weeks (range = 0-52) prior to the interview and were seeing a counsellor a median of one (range = 0-7) time a week.

Entry to current treatment

Over half (56%) of IT participants were able to arrange treatment entry within one week of initial contact and most (80%) began treatment immediately thereafter. Participants were asked to indicate how they became aware of the service they were currently attending. Most commonly a partner, friend or family member informed the participant (31%). Others mentioned learning about their treatment from police diversion (23%), advice from a health care worker (18%), their own investigation (13%), advice from a drug user organisation (8%), or other methods (8%). The majority of treatment participants (61%) had asked to be referred. Referrals were described coming from: the participant (34%), police (25%), partner/friend/family (18%), health care worker (9%), alcohol or drug agency (8%), or other means (6%).

Reasons and need for current treatment

IT participants were asked to describe if they wanted treatment at the time they entered treatment and to describe why the held this opinion. The majority (88%) had wanted treatment at the time they began treatment with no significant difference found if the participant was mandated to treatment or had volunteered. Participants (n = 99) then described the reasons that they believed their treatment was necessary. These responses included escalating problems caused by cannabis (39.4%), lack of control over cannabis use (26.3%), family or partner issues (17.2%), being sick of using (5.1%), jail diversion (5.1%), or other reasons (7.1%).

IT participants then described if they had experienced an event that triggered them to seek treatment. The majority (84%) described such an event, mentioning family relationship problems (35.4%), use-related reasons (35.4%), legal reasons (13.9%), mental health problems (7.6%), and other problems (7.6%). Participants were then asked to select from a provided list which problems also contributed to their decision to enter treatment. Participants selected: emotional well-being problems (90%), family relationship problems (87%), financial problems (74%), employment problems (68%), mental health problems (58%), legal problems (51%), physical health problems (42%), and other problems (2%).

Choice of current treatment and treatment goals

Participants then had the opportunity to discuss the reasons they chose to seek their particular type of treatment. Participants mentioned following knowledge from past experience or personal investigations (23%), judgements made on the length or difficulty of the program (22%), friendly recommendations (21%), availability or access reasons (11%), and other reasons (5%). In addition, approximately one in five participants (18%) were mandated to treatment commonly due to police diversions.

IT participants were asked to comment on their treatment goals and confidence in achieving them. The vast majority (95%) of participants wanted to achieve complete abstinence from cannabis compared to controlling their use through moderation (5%). Consequently, the majority (97%) of these goals were consistent to the treatment ideologies. The participants rated their confidence in achieving their goals as a result of treatment on a five-point scale (range = 0-4). Here participants' median score was four, indicating that the participants were most commonly of the highest confidence.

Current treatment satisfaction

As detailed in Table 11, at the time of interview, IT participants were most commonly very satisfied with their treatment.

Table 11 IT participants' satisfaction with current treatment

Treatment satisfaction	IT (n = 100) %
Very satisfied	61
Satisfied	31
Neither satisfied nor dissatisfied	6
Dissatisfied	2
Very dissatisfied	0

The IT participants were asked to provide some detail about their responses on treatment satisfaction. Here, participants (n = 95) mentioned benefits to self esteem and reductions in use (28.4%), knowledge and support from the staff (28.4%), liking the program structure (26.3%), benefits of being able to talk and be heard (16.8%), liking residents who could offer support (6.3%), and liking treatment that deals with the core issues of drug using (5.3%). Few participants (6.3%) mentioned disliking the program structure.

Participants were then asked to detail what they specifically liked about their current treatment. To this effect, participants (n = 86) mentioned aspects of program structure (41.9%), knowledge and support from the staff (20.9%), benefits to self esteem and reductions in use (16.3%), benefits of being able to talk and be heard (15.1%), other residents who offer support (7%), and other reasons (5.8%).

Participants were then asked to detail what they specifically disliked about their current treatment. Here, participants (n = 62) referenced program difficulties such as rules (41.9%), problems with other residents (25.8%), isolation of the treatment facility (21%), staff difficulties (11.3%), bland food in residential treatment (4.8%), and other reasons (8%).

Issues interfering with current treatment

IT participants were then asked if there were any aspects internal to the service that were interfering with their ability to benefit from the program. Only a minority of participants (14%) mentioned such factors. Participants identified being aware of their isolation from friends or family (35.7%), problems with other residents (21.4%), problems with residents who smoked tobacco on treatment premises (14.3%), aspects of program structure (7.1%), and other complaints (21.4%).

Participants were then asked to identify such issues external to the service. Almost one third (30%) of participants described such issues. Specifically, a lack of motivation (24.1%), problems with family members or friends (24.1%), difficulties in opening up (17.2%), and other personal problems (34.5%).

Participants with no previous treatment

Those participants without treatment experience (n = 183) were asked why they had not sought treatment or if they had sought treatment but were unable to get help. Participants who had not sought treatment offered a variety of explanations, although typically mentioned that treatment was not necessary (66.7%). The explanations offered are detailed in Table 12. Those participants mentioning other reasons most commonly referred to being unaware of treatment options (5.3%) or the stigma associated with entering drug treatment (3.6%).

Table 12 Participants' explanations for not seeking treatment

	IT (n = 43) %	IP (n = 74) %	NT (n = 66) %	Total sample (n = 183) %
Treatment is unnecessary	67.4	50	84.8	66.7
Not ready to stop using	34.9	8.1	12.1	15.8
Other reasons	17.7	43.1	21.9	29.3

As shown in Table 13, the NT group was significantly more likely to mention that they had not sought treatment in the past due to the belief that treatment was not necessary than either the IP or IT groups.

The IT group was significantly more likely than the NT and IP groups to mention that they had not sought treatment in the past due to not being ready to stop using cannabis.

Table 13 Significance testing for participant groups in their explanations for not seeking treatment

	NT & IP OR [95% CI]	(NT + IP) & IT OR [95% CI]	NT & IT OR [95% CI]	IP & IT OR [95% CI]
Treatment is unnecessary	OR = 5.6 (2.5-12.7)	N/A*	OR = 0.3 (0.1-0.7)	OR = 0.4 (0.2-0.9)
Not ready to stop using	Non-sig	OR = 4.8 (2.1-11.1)	N/A**	N/A**

* As the NT and IP groups were significantly different, this test was not made

** As the NT and IP groups were not significantly different, these tests were redundant after comparing the two groups combined with the IT group

Among all participants, a small group (n = 66) mentioned thinking about getting help for their cannabis use but not being able to get it. The number of participants making this claim was not significantly different between the NT and IP groups (17.3% of these participants combined did so). However, the IT group was significantly [OR = 2.5 (1.4-4.3)] more likely than these groups to have been unable to get help, with one-third (34%) making this claim. Participants were then asked what type of treatment they were attempting to receive. Although responses varied as shown in Table 14, participants most commonly mentioned outpatient counselling (n = 20). The statistics are reported as numbers, as opposed to percentages, due to the relatively low numbers involved.

Table 14 Participants unable to receive treatment: treatment type and explanation

	IT (n = 34)	IP (n = 18)	NT (n = 14)	Total sample (n = 66)
Treatment type sought:				
Counselling	10	4	6	20
Detoxification	1	8	2	11
Rehabilitation	8	1	2	11
Information	2	2	2	6
Self help groups	1	3	0	4
Other	12	0	2	14
Explanation as to why treatment could not be found:				
Too complicated	5	3	2	10
Treatment unavailable	3	0	3	6
Not what was wanted	3	3	3	9
Waiting list too long	1	3	1	5
Told I didn't need treatment	1	1	2	4
Didn't meet entry criteria	3	2	1	6
Lack of confidentiality	1	2	1	4
Other	3	4	1	8

Barriers and facilitators to cannabis treatment and ideal treatment

Barriers to treatment

Participants were then asked to identify any barriers that would act to prevent a typical cannabis user from seeking help for their cannabis use. As shown in Table 15, the barriers most commonly identified by all participants were: (1) the feeling that treatment is not necessary for cannabis problems (particularly for IT participants), (2) not being ready to stop using, and (3) being unaware of treatment options.

The IP group was significantly more likely than the NT group to mention that treatment is not necessary [OR = 2.1 (1.2-3.7)], prior engagements conflicted with treatment entry [OR = 5.6 (1.2-26.5)], they were not ready to stop using [OR = 7.9 (3.9-15.9)], there is a lack of cannabis-only treatments [OR = 2.4 (1.1-5.2)], they were unaware of treatment options [OR = 2.4 (1.3-4.5)], and treatment is unavailable out-of-office hours [OR = 22.2 (5.1-95.9)]. However, the IP group was significantly less likely than the NT group to mention a lack of perceived confidentiality when in treatment [OR = 0.3 (0.1-0.8)].

The IT group was significantly more likely than the NT group to have mentioned that a typical cannabis user would not be ready to stop using the drug [OR = 3.0 (1.5-6.2)] and less likely to have mentioned a lack of perceived confidentiality when entering treatment [OR = 0.1 (0.01- 0.5)].

Table 15 Barriers to cannabis treatment

	IT (n = 98) %	IP (n = 95) %	NT (n = 98) %	Total sample (n = 291) %
Treatment is unnecessary	35.7	62.1	43.9	47.1
Not ready to stop using	33.7	56.8	14.3	34.7
Unaware of treatment options	17.3	41.1	22.4	26.8
Treatment stigma	13.3	32.6	22.4	22.7
Belief that cannabis is a 'soft' drug	17.3	13.4	13.3	14.7
Lack of cannabis-specific treatment	8.2	23.2	11.2	14.1
Unavailable out-of-office hours	2.0	31.6	2.0	11.7
Unfavourable reports on treatment	8.2	4.2	8.2	6.9
Access problems	5.1	9.5	6.1	6.9
Treatment thought to be too difficult	13.3	2.1	5.1	6.8
Confidentiality issues	1.0	4.1	14.3	6.5
Prior commitments	3.1	10.5	2.0	5.2
Motivation issues	6.1	4.1	5.1	5.1
Smoking friends prevent treatment success	8.2	1.0	4.1	4.4
Other	20.4	3.1	11.2	11.6

Females were significantly more likely than males to mention a lack of cannabis-only treatment [21.5% compared to 10.7%, OR = 2.3 (1.2-4.5)] and to mention that the typical cannabis user would be unaware of treatment options [37.6% compared to 21.9%, OR = 2.1 (1.3-3.7)]. The interaction between gender and treatment groups was not found to be significant for these barriers.

Older participants (24+ years) were significantly [OR = 0.5 (0.3-0.8)] less likely than younger participants (‹ 24 years) to have mentioned that a typical cannabis user would think that treatment is unnecessary (41.3% compared to 58.9%) and significantly [OR = 0.4 (0.2-0.6)] less likely to mention that a typical cannabis user would not be ready to stop using (27% compared to 50.5%). Interactions between participant age groups and treatment groups were not found to be significant.

No significant differences in the barriers to treatment mentioned were found between participants who were mandated to treatment and those who volunteered.

Facilitators to treatment

Participants were then asked to identify what factors might act to facilitate a typical cannabis user's entry into cannabis treatment at an earlier stage. As shown in Table 16, the facilitators most commonly identified by participants were: (1) improving the amount of information available on cannabis treatment, (2) making treatment admission an easier process, and (3) including separate services that are specific for cannabis.

The IP group was significantly [OR = 0.07 (0.03-0.2)] less likely than the NT group to have mentioned that improving the information available on treatments would facilitate treatment entry. Yet, the IP group was significantly more likely than the NT group to have mentioned that improving treatment admission processes [OR = 12.4 (4.2-36.7)], establishing separate cannabis services [OR = 8.8 (3.5-22.3)] and offering additional life-skills help [OR = 11.4 (3.3-39.3)] would facilitate treatment. However, no significant differences were found between the NT or IT groups for these facilitators.

Table 16 Facilitators to cannabis treatment

	IT (n = 87) %	IP (n = 97) %	NT (n = 92) %	Total sample (n = 276) %
Improving available information	32.3	5.2	44.6	26.8
Making admissions easier	10.3	36.1	4.3	17.4
Include separate services	1.1	38.1	6.5	15.9
Offer additional help	4.6	27.8	3.3	12.3
Improve education	20.7	0.0	19.6	8.0
Make treatment optional	10.3	3.1	6.5	6.5
Help with childcare	3.4	14.4	0.0	6.2
Offer help with travel	2.3	14.4	1.1	6.2
Market treatment to adolescents	17.2	0.0	2.2	6.2
Improve confidentiality	1.1	6.2	7.6	5.1
Additional options such as telephone counselling	11.5	1.0	1.1	4.3
Other facilitators	20.6	3.0	18.5	13.7

Females were significantly more likely than males to mention that improving the admission process [OR = 2.1 (1.1-4.0)] (25.3% compared to 13.7%), offering additional life-skills help [OR = 2.2 (1.1-4.6)] (18.7% compared to 9.3%) and establishing separate cannabis services [OR = 2.9 (1.5-5.6)] (26.4% compared to 10.9%) would facilitate treatment.

No significant differences were found in those mentioning these facilitators between age groups or between those mandated to treatment and those volunteering.

Ideal treatment

As depicted in Table 17, participants interviewed face-to-face showed great variation when asked to identify an ideal cannabis treatment without prompting. Participants most commonly suggested individual counselling (26.2%) as an ideal cannabis treatment.

IT participants were significantly [OR = 3.8 (1.5-9.4)] more likely than NT participants to mention residential rehabilitation as an ideal cannabis treatment. Conversely, NT participants were significantly more likely than IT participants to mention taking a medication [OR = 3.3 (1.3-10.0)] or individual counselling [OR = 2.5 (1.3-5)].

Table 17 Perceived ideal cannabis treatments

	IT (n = 90) %	NT (n= 86) %	Total sample (n = 176) %
Individual counselling	17.2	35.3	26.2
Rehabilitation	25.3	8.2	16.9
Medication	8	22.4	15.1
Isolate from using environment	9.2	14.1	11.6
Better information/education	10.3	8.2	9.3
Engage in non-using activities	6.9	10.6	8.7
Social support	8	8.1	8.1
Group counselling	6.9	8.2	7.6
Improving diet, exercise	4.6	8.2	6.4
Detoxification	4.6	4.7	4.6
Cannabis Anonymous	5.7	2.4	4.1
Other treatments	22.8	10.6	17.3

No significant differences were found between those mentioning a particular ideal cannabis treatment and participants' gender, age group or between those mandated to treatment and those volunteering.

Participant familiarity with cannabis-specific treatment

Knowledge of cannabis-specific treatment

Approximately one-quarter (25.7%) of the total sample had heard of a cannabis-specific treatment. More specifically, 24% of IPs, 31% of IT participants, and 22% of NT participants knew of cannabis-specific treatment. Participants interviewed face-to-face were asked if they had heard of a cannabis centre in particular. Only 18% of IT participants and 8% of NT participants had heard of a cannabis centre (14% of the combined sample).

As depicted in Table 18, the majority of participants (88.4%) believed cannabis-specific treatment to be important. Participants also detailed reasons for their opinions and most commonly reported that cannabis is harmful enough to warrant treatment (27.4%).

The NT group was significantly [OR = 5 (2.5-10.0)] more likely than the IT group to believe that cannabis-specific treatment was warranted due to the harms associated with cannabis use. The IT group was significantly [OR = 2.9 (1.1-7.2)] more likely than the NT group to believe that the widespread use of cannabis warrants cannabis-specific treatment. No further significant differences were found between participant groups, gender, or age and the number of participants sharing the explanations as to why cannabis treatment is important.

Table 18 Beliefs on the importance of cannabis-specific treatment

	IT (n = 99) %	NT (n = 99) %	Total sample (n = 198) %
Is cannabis-specific treatment important? (Yes)	87.9	88.9	88.4
Reasons as to why specific treatment is important:			
Associated harms warrant treatment	12.1	42.9	27.4
Cannabis has unique effects	26.3	20.4	23.4
Cannabis is the most commonly used drug	18.2	7.1	12.7
Cannabis attracts a different demographic	14.1	10.2	12.2
It would improve education	6.1	4.1	5.1
It would improve motivation	11.1 (n = 98)	1.0	6.1 (n = 197)
Reasons as to why cannabis-specific treatment is not important:			
Treatment for cannabis use is unnecessary	1	3.1	2
Poly-drug treatment is good enough	11.1	11.2	11.2

No significant differences were found in the number of participants who thought cannabis-specific treatment was important between IT and NT participants, males and females, age groups or between those mandated to treatment and volunteering.

Interest in treatment options

All participants were then asked to select which types of cannabis treatment they would be interested in from a provided list (see Appendix B). As detailed in Table 19, the participants were interested in most of the options provided, with the exception of 'a medication that blocks the effects of cannabis'. As there were no significant differences found between NT and IPs, these two groups were combined. IT participants were significantly more likely to be interested in each provided treatment option, although this difference was not significant for 'a medication to reduce withdrawal' or 'a medication that would reduce craving'.

Table 19 Participants' interest in cannabis-specific treatments

	IT (n = 100) %	NT + IP (n = 194) %	OR [95% CI]	Total sample (n = 200) %
Medication to reduce withdrawal	61	55.2	p = 0.4	57.1
Cannabis-specific detoxification	79	55.2	OR = 3.1 (1.8-5.3)	63.3
Cannabis maintenance	72	58.2	OR = 1.8 (1.1-3.1)	62.9
Cannabis residential treatment	80	39.7	OR = 6.1 (3.4-10.7)	53.4
Medication to reduce craving	71	58.8	p = 0.05	62.9
Medication that blocks the effects of cannabis	59	30.9	OR = 3.2 (1.9-5.3)	40.5

Attitudes toward treatment

As depicted in Table 20, participants interviewed face-to-face generally agreed to statements that were positive toward cannabis treatment and disagreed with statements that were negative toward cannabis treatment. However, participants agreed with the negative statement that 'people usually need to try more than one kind of treatment before they succeed'.

According to the median response sets, the participants most commonly disagreed with the statements that: (1) 'anybody who wants to can get off cannabis without professional help', (2) 'most cannabis treatments fail', (3) 'it's hard to understand why anyone would want to give up taking cannabis', and (4) 'there is no appropriate treatment available for people like me'. Participants most commonly neither agreed nor disagreed with the statements that: (1) 'it's easy for most people to access good treatment', and (2) 'most cannabis treatments fail'. Finally, participants most commonly agreed to the statement that 'people usually need to try more than one kind of treatment before they succeed'.

The differences found between participant groups are also shown in detail in Table 20. Here, IT participants were more likely to disagree than NT participants that: 'anybody who wants to can get off cannabis without professional help', 'sooner or later most cannabis users stop using', 'most cannabis treatments fail', and 'there is no appropriate treatment available'. These trends in response reflect that IT participants were more inclined to regard treatment with a positive attitude.

Table 20 Participants' attitudes toward cannabis treatment

	IT (n = 100) %	NT (n = 100) %	OR [95% CI]	Total sample (n = 200) %
Anyone who wants to can get off cannabis without professional help				
Agree	20	36	OR = 0.4 [0.2-0.8]	28
Neither	10	14	Non-sig	12
Disagree	70	50	OR = 2.3 [1.3-4.2]	60
Sooner or later most cannabis users stop using				
Agree	10	27	OR = 0.3 [0.1-0.7]	18.5
Neither	16	18	Non-sig	17
Disagree	74	55	OR = 2.3 [1.3-4.2]	64.5
People usually need to try more than one kind of treatment before they succeed				
Agree	61	58	Non-sig	49.5
Neither	27	25	Non-sig	26
Disagree	12	17	Non-sig	14.5
Most cannabis treatments fail				
Agree	12	24	OR = 0.4 [0.2-0.9]	18
Neither	46	50	Non-sig	48
Disagree	42	26	OR = 2.1 [1.1-3.7]	34
It's easy for most people to access good treatment				
Agree	35	22	Non-sig	28.5
Neither	17	27	Non-sig	22
Disagree	48	51	Non-sig	49.5
It's hard to understand why anyone would want to give up taking cannabis				
Agree	16	22	Non-sig	19
Neither	19	12	Non-sig	15.5
Disagree	65	66	Non-sig	65.5
There's no appropriate treatment available for people like me				
Agree	18	25	Non-sig	21.5
Neither	8	24	OR = 0.3 [0.1-0.6]	16
Disagree	74	51	OR = 2.7 [1.5-5.0]	62.5

Family and Friends of Cannabis Users Survey

Results from the Family and Friends of Cannabis Users Survey are presented using numbers of participants as opposed to the percentages, as the sample size was relatively low (n = 33).

Participant and IOC demographics

The majority of participants were Australian born (n = 28) males (n = 26). The participants indicated that their IOC was either their partner (n = 9), friend (n = 8), child (n = 7), sibling (n = 4), parent (n = 3), grandchild (n = 1), or niece/nephew (n = 1). The participants indicated which Australian state their IOC resided in at the time of interview, with the majority in New South Wales (n = 14) and Victoria (n = 5); otherwise in Queensland (n = 3), South Australia (n = 2), Western Australia (n = 2), Australian Capital Territory (n = 3), Tasmania (n = 3), or outside of Australia (n = 1). Approximately three in four (n = 26) of the IOCs were living in metropolitan areas. Fewer than half (n = 14) of the participants lived with their IOC at the time of interview. The IOCs had a median age of 29 years (range = 14-65).

Specifics of the participants expressed concern

As depicted in Table 21, the participants checked all the concerns that were applicable to their situation from a supplied list. Here, participants most commonly reported a 'moderate' concern about their IOC's cannabis use for a variety of reasons. The figures in this table are once again presented as numbers.

Table 21 Participants' concerns over their IOC

	Family/friends of a cannabis user (n = 33)
What concerns you about your IOC?	
Emotional well-being	25
Physical health	23
Mental health	20
Family relationship issues	21
Employment issues	12
Personal finance problems	12
Legal issues	8
Other concerns	2
How concerned are you over your IOC?	
A little concerned	6
Moderately concerned	14
Very concerned	13
How long have you had this concern?	
One week to one month	3
One to five months	6
Six to 11 months	4
One to two years	6
Two or more years	16

The majority (n = 23) of participants had told their IOC about their concern. Additionally, approximately half (n = 16) had discussed their concern with a health professional in the 12 months preceding interview. For those participants who did discuss their concern with a health professional (n = 16), half found the discussion to be 'not helpful', and the remaining participants found it 'some help' (n = 7) and only one participant found it 'very helpful'.

Those participants who had not spoken with a health professional (n = 17) had not done so because they were unaware of treatment options (n = 6), with one participant of the opinion that the IOC would not need treatment and an additional participant holding an unfavourable attitude toward treatment. Other participants (n = 3) held varied opinions including the belief that the IOC should take responsibility for his/her own problems.

In the 12 months preceding the interview, one in five participants had attempted to seek help but had been unable to find it (n = 7). The help being sought included strategies to aid cutting down cannabis use (n = 3), treatment (n = 2), information (n = 1) or other help (n = 1). Only five participants commented on what prevented them from accessing professional help. Participants mentioned not knowing who to ask (n = 2) or not being taken seriously by health professionals (n = 3).

IOC's cannabis use

At the time of interview, the IOCs, were estimated to have been using cannabis for a median of nine years (range = 0-70). Most participants (n = 29) were able to identify the approximate patterns of cannabis usage of their IOC in the three months preceding interview. Participants stated their IOC was using cannabis daily (n = 24) or several times per week (n = 9). In addition, most participants (n = 30) were able to identify how their IOC felt about their cannabis use. The individuals of concern were recognised to be not concerned about their use (n = 24), considering a reduction in their use (n = 4), wanting to change their use (n = 2) or actively changing their use (n = 2).

Participants then commented on the actions their IOC had taken to reduce their use. Just over half (n = 19) the individuals of concern attempted to reduce their cannabis use in the 12 months previous to interview. The last attempt was described to be not at all successful (n = 11), or somewhat successful (n = 8). However, few participants (n = 5) identified that the IOC had ever contacted a drug treatment service. Fewer still (n = 4) reported that their IOC had actually received treatment. For those who had received treatment (n = 4), the treatment was described to be counselling (n = 1), detoxification (n = 2), self-help group (n = 1), or rehabilitation (n = 1). Treatment was then described to have assisted the IOC to cut down his/her cannabis use in the short term (n = 2) or make no difference (n = 2).

Barriers to cannabis treatment

The participants then indicated which barriers inhibit entry into cannabis treatment from a provided list (see Appendix D). Here, participants indicated a feeling that treatment is unnecessary (n = 28), not being ready to stop use (n = 21), the stigma associated with treatment (n = 14), being unaware of treatment options (n = 11), lack of cannabis-only treatment (n = 8), lack

of accessible treatment (n = 8), unfavorable reports about treatment (n = 5), prior conflicting commitments (n = 5), or other barriers (n = 10). 'Other' barriers included opinions that cannabis is often held to be a 'soft drug' (n = 4), a lack of gender specific treatment (n = 3), the feeling that coping without cannabis would be too hard (n = 2), and a lack of brief treatments (n = 1).

Facilitators to cannabis treatment

The participant then indicated which facilitators act to promote treatment entry from a provided list (see Appendix E). These facilitators included providing better information about treatment options (n = 22), a quicker and easier treatment admission process (n = 20), separate services for cannabis users (n = 20), additional help with life skills (n = 15), help with travel (n = 13), help with child care (n = 4) and other facilitators (n = 2). The 'other' facilitators mentioned referred to a medication to reduce craving (n = 1), and ensuring that treatment is not forced or unwanted (n = 1).

Awareness and importance of cannabis-specific treatment

Participants then identified if they were aware of any specialist cannabis clinics within New South Wales. Very few (n = 4) participants knew of the cannabis clinics, yet the majority (n = 30) believed that it was important to have cannabis-specific treatment. No significant difference was found between participants that resided outside of New South Wales and those familiar with the New South Wales cannabis clinics.

Discussion

The majority of individuals experiencing cannabis use problems do not enter treatment. This report presents an examination of the barriers and facilitators to cannabis treatment from the perspectives of 330 participants from four studies. Two studies investigated the opinions held by individuals who use cannabis at least weekly and who are not in treatment. Here, 100 participants were interviewed in person (the NT group) and a further 97 submitted the survey via internet (the IP group). The third study was of 100 individuals who were in cannabis treatment at the time of interview (the IT group). The final study was of 33 participants who were concerned about the cannabis use of a family member or friend (the CF group).

Barriers to cannabis treatment

Previous studies have identified barriers to cannabis treatment, although few have investigated differences between subgroups of participants. In the present studies, the identified barriers across participant groups were consistent with the existing literature highlighting a lack of interest in, knowledge of, and motivation for treatment, and increased treatment stigma.[60-67] Among the total sample of participants, the most commonly reported barriers to cannabis treatment were: (1) the feeling that treatment is not necessary to reduce cannabis use, (2) the opinion that cannabis users are not likely to be considering stopping their use, (3) a lack of awareness of treatment options, and (4) the stigma associated with being labelled a drug user. These four main barriers were also consistent with Treloar et al's (2004) research for the Australian National Drug Strategy on the barriers to illicit drug treatments, although a lack of available services was found to be the main barrier in their study.[62] Further, a collection of participants who had never entered treatment (n = 183) were asked to give reasons for not seeking treatment. These participants' explanations showed the same pattern of perceived barriers listed above regarding a lack of interest in and motivation for treatment.

A number of authors advocate that certain groups, particularly women, show an increased hesitation to enter substance abuse programs that demand significant self-disclosure and are dominated by male residents and staff.[61,65,69] In the present studies, females differed to males in their identification of barriers to treatment. Females were significantly more likely to have mentioned a lack of cannabis-only treatment and a lack of knowledge regarding cannabis treatment options as barriers to treatment. This finding was consistent across participant groups.

The IT group (particularly participants younger than 24 years of age) compared to NT, IP and CF groups more commonly believed that a typical cannabis user would not be ready to stop using. Conversely, the NT, IP and CF groups (particularly participants younger than 24 years of age) more commonly believed that a typical cannabis user would not think treatment is necessary when attempting to reduce cannabis use. More generally, participants who were interviewed in treatment tended to focus on barriers intrinsic to the individuals (such as motivation), while participants not in treatment tended to focus on barriers intrinsic to the treatment available (such as availability or associated stigma).

No significant differences in the barriers to treatment mentioned were found between participants who were mandated to treatment and those who volunteered.

Facilitators to cannabis treatment

In the present studies, the identified facilitators were consistent with the previous literature highlighting the importance of promoting or advertising treatment and improving drug education. Among the total sample of participants, the most commonly reported facilitators to cannabis treatment were: (1) improving the amount of information available on cannabis treatment, (2) making treatment admission an easier process, (3) including cannabis-specific treatment, and (4) offering additional help with life skills. There is some limited evidence that implementing these facilitators, particularly by creating education and information campaigns, can improve attitudes and motivation toward help-seeking behaviour. That is, some authors have shown that treatment advertisements can successfully increase access rates and education on the harms of continued use can increase motivation to attend treatment.[37,39,74,75]

The IP group was significantly less likely than the NT, IT or CF groups to have mentioned that improving the information available on cannabis treatment options would facilitate treatment entry. In contrast, the IP group was significantly more likely to have mentioned that, by making treatment admission easier and including cannabis-specific services, treatment entry could be facilitated. This trend in response highlights a group of participants with knowledge of current treatments who believe that improvements are required.

The CF group referred to each of the facilitators stated above more frequently than other participant groups. Perhaps this reflects the impact of distress to significant others caused by the cannabis use of a family member or friend.

In the present study, the facilitators mentioned were found to be consistent across participant age groups and between participants who were mandated to treatment and those volunteering to treatment entry. However, female participants were shown to be significantly more likely than male participants to have mentioned each of the facilitators listed above. These results are consistent with literature that highlights the importance for treatment settings to account for the different needs for each gender.[61,65] However, further study is required to investigate the extent to which these specific needs differ.

Participant demographics, health and cannabis use

The present study was consistent with existing literature that describes frequent cannabis users who had accessed treatment as demographically similar, although more adversely affected by health and psychosocial consequences, to those not in treatment.[37,39-41] That is, no significant differences were found between participants who were in treatment and those who were not, regarding their living arrangements, source of income, type of residence, and sexuality. However, participants in treatment did show significantly greater scores on the K 10 scale, indicating greater psychological distress.[80] Further, IT participants more commonly reported that their general health was only 'fair' (33%) and were twice as likely to report a respiratory condition related to their cannabis use (61%). In addition, IT participants were significantly more entrenched in their cannabis use. More specifically, they were more likely to be dependent on cannabis, recorded increased problems with their use (determined by greater scores on the CPQ), and were using cannabis significantly more frequently and in greater amounts per day of use.

Past research suggests that individuals with a dependence on cannabis often continue to use cannabis frequently despite suffering health impacts from their use.[25] Further, a number of authors highlight that the majority of dependent cannabis users continue using without accessing professional help.[31,32] In the present study, two-thirds of participants not in treatment were dependent on cannabis and just over half were thinking about changing or were actively changing their use. Further, under half of these participants reported thinking they needed professional help to manage their use in the 12 months prior to interview. In addition, the CF group had commonly held their concern for over two years, with the IOC using cannabis for a median of nine years. The concern was most commonly regarding the IOC's emotional well-being (75.8%) and physical health (69.7%). Yet, the IOC was typically not thinking of reducing his/her use at the time of interview. These results are consistent with literature highlighting the frequency with which regular cannabis users continue to use, despite self-reported health impacts or the effect on immediate friends or family.

The apparent ambivalence that some cannabis users have towards change has been a topic of recent research. Swift et al (2000) have offered a possible explanation for the reported ambivalence in their follow up of long-term cannabis users.[33] Their sample of 162 Australian long-term cannabis users most

commonly believed that cannabis is less harmful than other illicit drugs. Consistent with this literature, the majority of all participants across the present studies thought that cannabis is less harmful than other illicit drugs. This study however, found that females and participants in treatment were significantly less likely to hold this opinion compared to males and participants not in treatment. However, the interaction between these groups was not significant and no further significant differences were found between participants' age group or between those mandated into treatment or those volunteering.

Predictors of cannabis use problems and treatment entry

An individual's age of initiation to cannabis use has consistently been reported as an important predictor of future problematic use.[23,24,38] That is, the earlier a person initiates cannabis use, the more compounded the resulting substance use-related problems can become. Consistent with this literature, participants in the current study who were interviewed in cannabis treatment showed a pattern of younger ages of initiation to first cannabis use and earlier progression to weekly and daily use. Further, as reported earlier, these participants reported poorer physical and mental health.

Recent literature also highlights the importance of cannabis use motives as a predictor of cannabis use problems and possible treatment entry.[24,89] More specifically, the literature shows that individuals using cannabis to help cope or to feel better present increased symptoms of psychopathology and poor mental health. In the present studies, the motives of cannabis use expressed by different participant groups were consistent with this literature. That is, participants interviewed in cannabis treatment who exhibited poorer physical health and greater psychological distress typically used cannabis in order to cope with depression. Further, participants who were not in cannabis treatment were shown to use cannabis more commonly to expand their creativity or for personal enhancement.

Finally, previous research has described individuals seeking cannabis treatment to have a profile of other illicit drug use with a long history of cannabis use and increased prevalence of psychiatric treatment admissions.[38,42,43] The present study largely supported this finding. Most participants in the present studies had used other illicit drugs in addition to their frequent cannabis use. In particular, participants commonly reported recently using ecstasy, meth/amphetamine and pharmaceutical medications outside of prescription. In addition, participants who had ever received cannabis treatment (n = 130) reported a median of nine years between their age of initiation to weekly cannabis use and their age when they entered their first cannabis treatment. Further, one-third of the total sample (34%) had received psychiatric treatment in the past with no significant difference found between participant groups.

Attitudes towards drug treatment and knowledge of cannabis-specific treatment

Many participants had consulted a health professional regarding their cannabis use in the past. That is, half of the NT group, two-thirds (68%) of the IT group and approximately half (48.5%) of the CF group had contacted a health professional. However, the majority of participants had attempted to reduce their use without professional help in the 12 months prior to interview. More specifically, nearly two-thirds (65%) of the NT group, over three-quarters (77%) of the IT group, and over half of (57.6%) the IOCs had attempted to reduce their cannabis use unassisted. This finding was consistent with previous research on long-term cannabis users who were shown to attempt reducing their use unassisted within the 12 months prior to interview.[33]

The health professionals most commonly consulted were the participants' GPs. When describing their consultation, participants most commonly found the visit 'no help' (34.3%) or 'some help' (34.3%) and one in five (20.9%) reported feeling discriminated against. Participants in current treatment were more likely than participants not in treatment to report feeling discriminated against (27.3% compared to 8.3%) and more likely to describe their GPs as 'no help' (38.6% compared to 26.9%). These findings were consistent with previous research highlighting the possible benefits in assisting GPs to better recognise individuals presenting with cannabis use problems and offer brief motivational interviewing.[76]

Although the health professional most often consulted regarding cannabis use was a GP, when describing their ideal form of cannabis treatment, participants interviewed face-to-face typically described individual counselling (26.2%). Further, participants not in treatment at the time of interview who had previously received drug treatment typically described seeing a counsellor (41.2%). Additionally, when describing having been unable to access help

(commonly due to complications with treatment entry or a lack of compatibility with the available treatments), participants were typically attempting to see a counsellor. However, it should be noted that participants in treatment more commonly believed residential rehabilitation would be an ideal treatment and had typically received inpatient treatment in the past.

Participants interviewed face-to-face were questioned on their attitude towards treatment and satisfaction regarding treatment received. Here, participants were generally positive about cannabis treatment. That is, the participants most commonly disagreed with the statements that: (1) 'anybody who wants to can get off cannabis without professional help', (2) 'most cannabis treatments fail', (3) 'it's hard to understand why anyone would want to give up taking cannabis', and (4) 'there is no appropriate treatment available for people like me'. These attitudes were held by significantly more IT participants compared to NT participants. This finding was consistent with Treloar et al's (2004) research that highlighted an association between contact with drug treatments and subsequent positive attitudes toward the services.[62] However, participants most commonly neither agreed nor disagreed with the statement that 'it's easy for most people to access good treatment'. Further, participants most commonly agreed with the statement that 'people usually need to try more than one kind of treatment before they succeed'.

The NT, IP and IT groups all indicated that they would be interested in the majority of treatment options that were presented to them (see Appendix B). However, only a minority of the NT and IP groups were interested in the options of 'residential treatment' (39.7%) and a 'medication that blocks the effects of cannabis' (30.9%). Despite the participants' interest in several treatment options, only one-quarter of participants were aware of a cannabis treatment at the time of interview and just over one in 10 had heard of a cannabis clinic. However, the great majority of participants believed specific treatments to be important to those who did have problems with their cannabis use.

Finally, participants in cannabis treatment were asked to describe their satisfaction with the treatment they had received up until the time of interview. Here, the participants had been in treatment a median of four weeks and most commonly described their treatment as 'very satisfactory'.

Strengths and implications

Literature regarding barriers and facilitators to cannabis treatment has not previously compared differences between participant subgroups such as treatment experience. However, in the present studies, the differences between participants' gender, age group and between those mandated to treatment and those volunteering were analysed. Moreover, the participants were grouped by those interviewed in cannabis treatment, those not in treatment and participants who had a concern about the cannabis use of a family member or friend.

The present studies identified a number of facilitators to cannabis treatment entry that were consistent with previous research. Many participants in the present studies claimed that cannabis treatment would be best facilitated with the improved availability of information and education on treatment options and availability of separate services for cannabis users that offer increased help with life skills. In their responses, some commented on the successes of the information available for licit drug treatments. In addition, participants identified a need to 'normalise' cannabis treatment to reduce the stigma associated with admitting a dependence on a 'soft' drug.

Findings from the present studies also supported previous research highlighting predictors of entry into cannabis treatment. Participants in treatment were found to have initiated their cannabis use at an earlier age, were using cannabis to help cope with their personal circumstances, and had a history of other drug use. Individuals who are found to exhibit these variables have been repeatedly shown to be at high risk of problematic cannabis use.[23,24,38,89] Assessing these criteria in the early stages of treatment via direct questioning could have clinical significance in regards to the formation of a client's treatment program.

Finally, it was identified that participants had commonly consulted their GPs regarding cannabis use problems, yet these consultations were not consistently helpful to the participants. Extending from this finding it is apparent that Australian primary health care workers could benefit from supplementing training to help clients with substance use problems.

Limitations

The present studies suffered from limitations. Firstly, each study suffered from less than ideal recruitment methodologies. Participants not in treatment interviewed in person were recruited mainly from inner-city locations, leaving less-urban locations underrepresented. Further, the internet option did not attract individuals living in rural locations, with metropolitan residents more frequently submitting the survey.

Secondly, the majority of IT participants were recruited from inpatient residential facilities. According to data from the Australian NMDS, outpatient counselling treatments were the most commonly utilised form of treatment for cannabis use problems in 2005.[45] Thus, outpatient treatments were underrepresented in the present report. These services were underrepresented due to greater difficulties accessing clients due to shorter treatment contact times. This likely resulted in bias regarding the participants' responses to questions on ideal treatments and attitudes toward treatment.

Recommendations for future research

The present studies identified key differences between IT participants or NT participants, and between participants' gender. IT participants differed significantly to NT participants, particularly in responses regarding barriers to, and opinions of, treatment. That is, IT participants were more likely than NT participants to consider that cannabis treatment is necessary and appropriate for someone who would not otherwise stop using. However, what specifically accounts for this difference requires further study. For instance, the present studies were not able to make comparisons between treatment types (inpatient compared to outpatient) or rates of treatment success (those who had achieved abstinence or not). In addition, differences were reported between male and female participants, particularly regarding barriers to treatment. Here, females more frequently were unaware of treatment options and more likely to mention a lack of cannabis-specific treatments than males. Again the factors accounting for this increased desire for specific treatment require further study.

appendices

Appendix A. List of reasons participants used cannabis most recently

- It's exciting, fun, I like the feeling, to get high *(enhancement)*
- To forget my worries/problems, to cheer me up, help me when I feel depressed or nervous *(coping)*
- So I won't feel left out, to fit in, to be liked, so I won't be teased about not using cannabis *(conformity)*
- To expand my awareness, increase my creativity, understand things differently, know myself better *(expansion)*
- It improves parties, makes social gatherings more fun, to be sociable, helps me enjoy a party *(social)*

Appendix B. List of cannabis treatment options

- Medication to reduce withdrawal
- Cannabis-specific detoxification
- Cannabis maintenance (e.g. oral cannabis, THC)
- Cannabis-specific residential treatment
- Medication to reduce craving
- Medication that blocks the effects of cannabis

Appendix C. List of attitudes to treatment

Do you strongly disagree, disagree, agree, strongly agree or neither agree nor disagree that:

a. Anybody who wants to can get off cannabis without professional help

b. Sooner or later most cannabis users stop using

c. People usually need to try more than one kind of treatment before they succeed

d. Most cannabis treatments fail

e. It's easy for most people to access good treatment

f. It's hard to understand why anyone would want to give up taking cannabis

g. There is no appropriate treatment available for people like me

Appendix D. List of possible barriers to cannabis treatment

- Feel don't need treatment/cannabis use under control
- Unfavourable reports about treatments
- Unable to attend due to commitments (e.g. childcare)
- Not ready to stop using
- Lack of cannabis-only treatments
- Lack of gender-specific treatments
- Unaware of treatment options
- Stigma associated with treatment
- Lack of accessible treatments (e.g. transport etc)
- Other barriers

Appendix E. List of possible facilitators to cannabis treatment

- Quicker and easier treatment admission
- Better information about treatment options
- Additional help with life skills, medical services, etc
- Separate services for cannabis users
- Help with childcare
- Help with travel (e.g. travel vouchers)
- Other facilitators

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