Drug and Alcohol Review (March 2011), 30, 148–156 DOI: 10.1111/j.1465-3362.2010.00268.x



Buying cannabis in 'coffee shops'

KARIN MONSHOUWER^{1,2}, MARGRIET VAN LAAR¹ & WILMA A. VOLLEBERGH²

¹Trimbos Institute (Netherlands Institute of Mental Health and Addiction), Utrecht, The Netherlands, and ²Department of Social Sciences, Faculty of Social Sciences, Utrecht University, Utrecht, The Netherlands

Abstract

Issues. The key objective of Dutch cannabis policy is to prevent and limit the risks of cannabis consumption for users, their direct environment and society ('harm reduction'). This paper will focus on the tolerated sale of cannabis in 'coffee shops'. **Approach.** We give a brief overview of Dutch policy on coffee shops, its history and recent developments. Furthermore, we present epidemiological data that may be indicative of the effects of the coffee shop policy on cannabis and other drug use. **Key Findings.** Dutch coffee shop policy has become more restrictive in recent years and the number of coffee shops has decreased. Cannabis prevalence rates in the adult population are somewhat below the European average; the rate is relatively high among adolescents; and age of first use appears to be low. On a European level, the use of hard drugs in both the Dutch adult and adolescent population is average to low (except for ecstasy among adults). **Implications and Conclusions.** International comparisons do not suggest a strong, upward effect of the coffee shop system on levels of cannabis use, although prevalence rates among Dutch adolescents give rise to concern. Furthermore, the coffee shop system appears to be successful in separating the hard and soft drugs markets. Nevertheless, in recent years, issues concerning the involvement of organised crime and the public nuisance related to drug tourism have given rise to several restrictive measures on the local level and have sparked a political debate on the reform of Dutch drug policy. [Monshouwer K, van Laar M, Vollebergh WA. Buying cannabis in 'coffee shops'. Drug Alcohol Rev 2011;30:148–156]

Key words: coffee shop, drug policy, cannabis use, cannabis-related harm.

Issues

The key objective of Dutch cannabis policy is to prevent and limit the risks of cannabis consumption for users, their direct environment and society ('harm reduction'). Specifically, its aim is to prevent cannabis users from becoming marginalised, stigmatised and criminalised, and to reduce the risk that cannabis users might initiate the use of drugs considered to be more harmful, such as heroin and amphetamine. This paper will focus on one of the most salient features of Dutch cannabis policy, that is, the tolerated sale of cannabis in so-called 'coffee shops'. Coffee shops are café-like places where the sale of cannabis is tolerated, although only when certain criteria are met (the so-called AHOJ-G criteria): no advertising, no sale of hard drugs (drugs that are considered to pose an unacceptable risk to public health, such as heroin, cocaine, amphetamine

and ecstasy), no nuisance, no access for underage people (currently under 18 years) and no sale of large quantities (currently set at maximum of 5 g per transaction). The coffee shops are intended to contribute to a separation of the hard drugs and cannabis markets, which in turn is thought to prevent the cannabis user from getting into contact with hard drugs and criminals when buying cannabis. Whether the coffee shop system is indeed a successful instrument in achieving this objective is the subject of ongoing debate, nationally, as well as in the international scientific literature [1,2].

Although in some countries, like Switzerland, New Zealand and the USA (California) [1,3], public sales outlets for cannabis also exist, the fact that the sale of cannabis is officially sanctioned and regulated in the Netherlands makes Dutch coffee shops unique in the world [4].

Received 12 February 2009; accepted for publication 6 October 2010.

Karin Monshouwer PhD, Research Associate, Margriet van Laar PhD, Head of the Programme Drug Monitoring, Wilma A. Vollebergh PhD, Professor of Social Sciences. Correspondence to Dr Karin Monshouwer, Trimbos Institute (Netherlands Institute of Mental Health and Addiction), PO Box 725, 3500 AS, Utrecht, The Netherlands. Tel: +31 30 2971100; Fax: +31 30 2971111; E-mail: kmonshouwer@trimbos.nl

The formal status of the coffee shops dates from 1976 when the Opium Act was revised (see *Key findings* for further details). Since then, coffee shop policy has clearly changed over time—in more recent years predominantly towards a more restrictive policy. For example, in 1996 municipalities received the opportunity to decide whether they would permit the operation of a coffee shop, and since 1999 the mayor is entitled to close down coffee shops, which violate the regulations of local coffee shop policy.

Although the consumer side of the coffee shops is not without problems, the sale of small quantities is formalised and regulated. Supplying the coffee shops with cannabis, however, is a criminal offence. In recent years, the problems caused by this conflicting element in Dutch cannabis policy (called 'the back door problem') became more acute, partly because the law enforcement of cannabis cultivation has been intensified. The integrated approach, with police now working together with electricity companies (electricity is often illegally tapped by cannabis growers) and housing corporations is successful. In 2005 and 2006 approximately 6000 cannabis nurseries were dismantled, with a total of 2.7 and 2.8 million cannabis plants respectively [5]. Furthermore, in 2006 the maximum penalty for the cultivation, trade and possession of large quantities of cannabis was raised from 4 to 6 year imprisonment or payment of a specific fine [6]. Thus, supplying coffee shops with cannabis is becoming more difficult and involves higher risks.

The effects of the shift towards a much more restrictive cannabis policy are discussed widely within the Netherlands, especially in recent years. Proponents of the coffee shop system argue that this trend undermines the objective of 'harm reduction' and may result in negative effects on drug use and health. On the other hand, those in favour of a more restrictive coffee shop policy or even a total ban on coffee shops, point to the normalising effect of the presence of coffee shops in the Netherlands, the high availability of cannabis, particularly for young people, the growing evidence of the negative health effects of cannabis [7,8], the increase in the number of people in addiction care with a primary cannabis problem [6] and the nuisance caused by coffee shops and foreign drug tourists.

The aim of this paper is to present a concise overview of Dutch coffee shop policy, how it has changed over the years and what issues are currently under debate in the Netherlands. Furthermore, in order to get an indication of the effects of Dutch coffee shop policy, the results of the most recent (international) epidemiological studies on cannabis and other drug use are presented.

Approach

First, a brief overview of the most important aspects of Dutch coffee shop policy and the main modifications throughout the years is given, with a particular focus on recent years. Furthermore, information on trends in the number of coffee shops, the share of coffee shops in the cannabis market and trends in the quality and the price of cannabis will be presented. Second (international) data on a number of variables that may be indicative of the positive or negative effects of coffee shop policy will be presented [i.e. (trends) in the use of cannabis and other drugs as well as problem use of cannabis]. Linking drug policy to actual use and health effects is not without problems, and definite proof on cause and effect relations is very difficult to provide [9], if not impossible. Thus, only tentative conclusions will be drawn in this paper.

Key findings

Coffee shops in the Netherlands

A short history and current regulations. Although their number is decreasing, coffee shops are still a widespread phenomenon in the Netherlands. In 2007 a total of 702 coffee shops were listed [10]. Nevertheless, the sale of cannabis is illegal in the Netherlands. The foundation of this seemingly contradictory situation lies in the revision of the Opium Act in 1976. In this Act, the main provisions with respect to drugs in the Netherlands were laid down. This meant that the actual situation in which the selling of cannabis by so-called 'house dealers' in youth centres was tolerated, was formalised. The revision concerned the distinction between two types of drugs: hard drugs (drugs posing an unacceptable risk to public health, such as heroin, cocaine, lysergic acid diethylamide (LSD) and ecstasy) and soft drugs (hashish and marihuana: drugs posing fewer risks). The Act provides further that the possession, sale and production of both hard and soft drugs is an offence, but not the use of these drugs. However, offences are punished more severely when hard drugs are involved [6]. In addition, possession of drugs with a view to trafficking is judged more severely than possession for individual use. The police and judicial authorities give priority to dealing with (large-scale) trafficking and production of drugs and do not systematically prosecute small dealers or users. This so-called principle of discretionary powers provides that the Public Prosecutions Department (OM) may waive prosecution of offences if this serves the general public interest. The guidelines for investigation and prosecution of violations of the Opium Act state the following priorities:

Municipalities by number of inhabitants	1997ª	1999	2000	2001	2002	2003	2004	2005	2006	2007
<20 000	±50	14	13	11	12	12	10	10	10	10
20-50 000	± 170	84	81	86	79	73	77	75	86	86
50-100 000	± 120	± 115	109	112	106	104	101	103	105	105
100-200 000	211	190	168	167	174	168	166	161	148	143
>200 000	628	443	442	429	411	394	383	380	370	358
Amsterdam	340	288	283	280	270	258	249	246	238	229
Rotterdam	180	65	63	61	62	62	62	62	62	62
The Hague	87	70	62	55	46	41	40	40	40	40
Utrecht	21	20	18	17	18	18	17	17	17	14
Eindhoven ^b			16	16	15	15	15	15	15	15
Total	±1179	846	813	805	782	754	737	729	719	702

 Table 1. Number of coffee shops in the Netherlands by municipality, 1997–2007

^aEstimate. ^bFewer than 200 000 inhabitants up to 1999. Source: [10].

- Large-scale trafficking and production of hard drugs has the highest priority.
- This is followed by similar offences with respect to soft drugs, except for use.
- Investigation and prosecution of hard drug possession for private use (generally 0.5 g) and up to 5 g of soft drugs have the lowest priority.
- If coffee shops comply with the AHOJ-G criteria, the sale of up to 5 g of hashish or marihuana per transaction will not be subjected to a targeted investigation (http://www.om.nl).

The AHOJ-G criteria were implemented nationally in 1991, and criteria concerning the maximum sales quantity were tightened in 1995 (from a maximum of 30 to 5 g of hashish or marihuana per transaction). Furthermore, in 1995 the maximum trading stock was set at 500 g, but municipalities are entitled to determine a lower maximum.

Since 1996, municipalities have the possibility to conduct a local coffee shop policy, in which regulation takes place through a licensing system. The mayor, together with the chief public prosecutor and the chief of police can also agree on not allowing any coffee shops within the municipality. In 2007 two-thirds (66%) of all Dutch municipalities had such a 'zero policy' [10]. In 1999 'The Damocles Act' was put into operation. This entitles the mayor to close coffee shops if they violate the regulations determined in the local coffee shop policy, even if there is no question of nuisance.

In 1996, the Dutch government also took action to curb the increase in cannabis use among young people, by raising the legal age for buying cannabis in coffee shops from 16 to 18 years.

A recent policy decision is that in 2011 all municipalities have to define and enforce a minimum distance

(most likely 250 m or more) between coffee shops and secondary schools. This means that in Amsterdam, for instance, 43 out of 228 coffee shops will have to close their doors in 2011 (http://www. eenveiligamsterdam.nl).

Number of coffee shops in the Netherlands. Table 1 shows that the number of coffee shops decreased during the period 1997-2007. The largest drop occurred between 1997 and 1999 when the number of coffee shops declined by 28% (from 1179 in 1997 to 846 in 1999) [10]. This was followed by a period of gradual decline, which lasted until the last count in 2007 when the number of coffee shops had dwindled to 702. Of these coffee shops, approximately half (51%)were situated in the four big cities; 76% of all municipalities had no coffee shop at all [10]. It is very likely that the licensing system and the tightening of regulations have contributed to the decrease in the number of coffee shops. An alternative explanation is a reduction in the demand for cannabis; however, prevalence rates have been relatively stable over this period [11,12].

The share of coffee shops in the Dutch cannabis market. In a study by Korf and colleagues [13] it is estimated that in municipalities with officially tolerated coffee shops, around 70% of local cannabis is purchased directly in the coffee shop. The study further suggested that the greater the number of coffee shops per 10 000 inhabitants, the larger the share of the local coffee shops in local cannabis sales. A survey among cannabis users showed that approximately half of the respondents (also) procure cannabis in other places besides a coffee shop, mostly from friends, relatives or other acquaintances (18.9%), telephone-dealers (17.3%), homedealers (14%), home-growers of cannabis (10.5%), street-dealers (5.3%) and under-the-counter sales in



Figure 1. Average THC percentage in cannabis products, 2000–January 2010. Source: [17].

the catering industry (3.6%) [13]. Although the age limit for access to coffee shops is 18 years, among the school-going population of 17 years or younger, 19% of those who used cannabis in the past year reported buying it in a coffee shop, often limited to one visit (8%) [14]. The majority of current underage cannabis users report that they always get their cannabis from friends (40%) or that they ask others to buy it for them (26%) [14].

With respect to hard drugs, several sources indicate that there is a low risk that both underage and adult cannabis users are exposed to hard drugs in the coffee shops [15]. Moreover, coffee shops generally adhere to the criterion of not selling hard drugs [15].

Quality and price of cannabis purchased in coffee shops. Since 2000, the Trimbos Institute gathers information about the strength of cannabis purchased in coffee shops, that is, the concentration of active components, especially THC (tetrahydrocannabinol) [16,17]. In all tests, it was found that Dutch-grown weed ('nederwiet') contained higher concentrations of THC than imported varieties. Between 2000 and 2004, there was a strong increase in the average THC content of Dutchgrown weed samples, followed by a decrease from 18% in 2004 to 16% in 2007, and remaining fairly stable throughout the last measurement in 2010 (Figure 1). The percentage of THC in foreign weed fluctuated around 6% in the period 2000–2007, increased to 9.9% in 2009, and returned to 7.5% in 2010. The percentage of THC in imported hashish is around the same as in Dutch-grown weed, except for 2007 when the percentage of THC in imported hashish dropped sharply from 18.7% to 13.3%. Since then, the percentage of THC has increased again to 19% in 2010.

The price of cannabis purchased in coffee shops has been registered since 2000. The average price for a gram of imported weed rose gradually from €3.90 in 2000 to €5.20 in 2008, followed by a slight decrease in 2009 (€4.90) and 2010 (€4.60). From 2000, prices of Dutch-grown weed generally showed a gradual increase [6,17]. However in 2007 the price per gram sharply increased from €6.20 in 2006 to €7.30 in 2007. In 2009 and 2010 the price remained stable at €8.10 per gram. It is suggested that the price rise is linked to the intensified efforts to combat cannabis production, which has reduced the supply of cannabis. Besides, the hot summer of 2006, when a lot of crops failed, may have contributed to the increase in 2007 [5].

The prevalence of cannabis use. The use of cannabis in the adult population is systematically monitored since 1997 by means of a nationally representative household survey of the population aged 15–64 [11]. This study showed that both last year prevalence (5.5% in 1997 and 2001 and 5.4% in 2005) and last month prevalence (1997: 3.0%; 2001: 3.4%; 2005: 3.3%) were stable over the period 1997–2005. Notably, the trends appeared to be age-specific, as the youngest age group (15–24 years) showed a decreasing prevalence between 1997 and 2005 while prevalence in the 25- to 44-year age group increased.

Because of the lack of an internationally comparable study, only tentative conclusions can be drawn from international comparisons of (trends in) cannabis use. Comparing prevalence rates among European countries suggests that the Dutch prevalence rates of recent cannabis use are somewhat below the European average (6.8% vs. 5.4% among the 15- to 64-year age group and 12.5% vs. 9.5% among the 15- to 34-year-olds) (Figure 2) [12]. Furthermore, the Dutch prevalence



Figure 2. Recent use of cannabis in the general population by age group in several European countries (in %). Source: [12].



Figure 3. Trends in the lifetime and last month prevalence of cannabis use among 12- to 18-year-olds (%, 95% confidence intervals). Source: [14].

rate shows a stable pattern between 1997 and 2005, while some countries, in particular Italy and Estonia, show a marked increase [12]. Cannabis use prevalence rates in the Canada and the USA, appear to be much higher as compared with the Netherlands [6].

The use of cannabis in the adolescent population is monitored closely since 1988 by means of a crosssectional school survey among 10- to 18-year-olds [14]. Figure 3 shows that there was a marked increase in the lifetime and last month prevalence rates between 1988 and 1996 in the age group of 12- to 18-year-olds. In 1999 the prevalence rates showed a gradual decrease, continuing in 2003 and 2007. In 2007 both the lifetime and last month prevalence were significantly lower compared with 1996 when prevalence rates peaked. The overall results of the European School Survey Project on Alcohol and Other Drugs (ESPAD) study indicated that, on average, European 15- to 16-yearolds showed an upward trend in the lifetime prevalence rates of cannabis use between 1995 and 2003 (from 12% to 20%) followed by a slightly lower percentage in 2007 (17%) [18]. The last month prevalence of cannabis use showed a similar trend, although the drop in 2007 was more marked, and none of the countries showed an increase between 2003 and 2007. Notably, in some countries, including Switzerland, Italy, Belgium, Ireland and the UK, the prevalence rates dropped sharply between 2003 and 2007, as a result of which, the Netherlands climbed up the international rankings, despite the fairly stable Dutch prevalence rates between 2003 and 2007 [18].

The ESPAD study showed that in 2007, Dutch 15and 16-year-olds were in the upper regions with regard to cannabis prevalence rates, although differences with countries that top the list are relatively high [18]. For example, the lifetime prevalence in the Netherlands is 28%, while the Czech Republic is top of the list with a prevalence of 45%. Other countries exceeding the Dutch lifetime prevalence rates are Spain (36%), Isle of Man (34%), Switzerland (33%), Slovakia (32%), France (31%), the USA (31%) and the UK (29%). With regard to last month prevalence, Dutch 15- and 16-year-olds occupy fifth position out of 35 countries (15% vs. an average of 7%). Age of first cannabis use appears to be relatively low in the Netherlands, with 6% of the 15- and 16-year-olds reporting that they had used cannabis at age 13 or younger. The Netherlands ranks eighth in this regard [18].

Prevalence of hard drug use. In the Dutch adult population the use of hard drugs (except ecstasy) is lower than the European average [6]. To illustrate, the last year prevalence rate of cocaine is 0.6% among the Dutch adult population versus an average of 1.3% among the EU-15 countries and Norway. The last year prevalence of ecstasy is somewhat higher in the Netherlands (1.2%) as compared with the European average (0.9%) [6].

The 2007 ESPAD study showed that the lifetime use of illegal drugs (other than cannabis) is not particularly high in the Netherlands [18]. At 7%, Dutch 15- and 16-year-olds are ranked 21st out of 36 countries, with the Isle of Man topping the list at 16%, followed by Austria, France, Latvia (11%) and Ireland, Monaco and Denmark (10%). The general trend in hard drug use among Dutch adolescents shows an increase in the prevalence rates from 1988 to 1996, followed by a gradual decrease continuing until the last survey in 2007 [14]. The only exception is heroin, which shows a stable percentage, fluctuating at around 1%.

The prevalence of cannabis dependency. Based on a national population survey, it is estimated that 0.4% (men: 0.4%, women: 0.1%) of the population aged between 18 and 64 had met DSM-IV criteria for cannabis dependence in the past year [19]. This is similar to the results of a national epidemiological study in the USA, but these figures date from 2001 to 2002 [20]. We were unable to find other, recent US or European data to compare our results with.

The number of clients registered in outpatient addiction care on account of a primary cannabis problem, showed a fourfold increase between 1994 and 2008. In 2008, 8410 individuals with cannabis as the primary problem received help in (outpatient) addiction care (http://www.sivz.nl). This is approximately 28% of the estimated number of cannabisdependent individuals in the population (29 300) [19]. It should be noted that the latter figure is likely to be an underestimation, as high-risk groups are underrepresented in this general population study [19]. Daily use of cannabis is a risk factor for the development of dependence. Data from the Dutch national household survey in 2005 showed that 23% of last month cannabis users used the substance (almost) daily, that is, on 20 days or more per month [11]. This is 0.8% of the total population of 15-64 years. Percentages of (near) daily users among last month cannabis users in various other European countries vary between 19% and 33%, and calculated on the total population, between 0.5 and 2.3 (1.2 on average) [12]. Thus, the percentage of frequent users appears to be relatively low in the Netherlands as compared with other European countries.

Unfortunately, data on problem use in the Dutch adolescent population are not available.

Implications and conclusions

Main findings

This study shows that since the early 1990s, regulations on Dutch coffee shop policy have been tightened, with more decision-making powers at the local level. This contributed to a decrease in the number of coffee shops to 702 by 2007, with the strongest decline taking place between 1997 (±1179) and 1999 (846). The Netherlands occupies a middle position in Europe with respect to cannabis use in the adult population, while the percentage of risky (daily) users is moderate to low. The cannabis use prevalence rates among adolescents show a gradual decrease since 1996, but are still higher than the European average, and age of first use appears to be relatively low. On a European level, the use of hard drugs in both the adult and the adolescent population is relatively low (except for ecstasy use among adults).

The international comparisons show that prevalence rates of cannabis use are average to low in the Dutch adult population as compared with other countries. Thus, the high availability of cannabis through coffee shops is not associated with high prevalence rates. On the other hand, in the adolescent population prevalence rates are higher than the European average and age of onset of cannabis use is relatively low [18]. It is unclear if this is related to the coffee shop system in the Netherlands. Although some underage users report having procured cannabis in a coffee shop, the majority of the coffee shops appear to adhere to the age limit of 18 years (in 2007 a total of 27 sanctions were imposed on coffee shops because of violations of the age limit [10]). Cultural factors may also play a role, as Dutch adolescents are also among the heaviest alcohol users in Europe [18]. International comparisons show that in the adolescent population, perceived availability (measured by asking 'how difficult do you think it is to get cannabis if you wanted to?) is relatively high in the Netherlands, while the perceived risk of cannabis use is rather low [18]. The relative low score on perceived risk among adolescents might be indicative of a 'normalising' effect of coffee shops. An alternative explanation is a lack of knowledge among Dutch adolescents, but this seems not very likely as the large majority of the Dutch schools participate in cannabis use prevention programs and there are various other preventive activities, for example, those initiated by the municipal health organisations.

The coffee shop system appears to be successful in separating the hard and soft drug markets, one of the main goals of the Dutch cannabis policy. Based on a comparison of San Francisco and Amsterdam, Reinarman [1] concluded that there is a substantial separation of the cannabis and hard drug market in the Dutch system. This seems to be reflected in a higher use of illicit drugs (other than cannabis) in San Francisco, although it is not possible to draw a causal relationship [1].

An interesting finding is the gradual decrease in the cannabis prevalence rates among Dutch adolescents, since 1996. This could point to a positive effect of raising the legal age for buying cannabis in coffee shops from 16 to 18 years in 1996 and/or the decrease in the number of coffee shops. However, any causal relationship between these factors is difficult to establish and other explanations have also been put forward. Korf et al. [21] argue that the simultaneous developments in the Dutch coffee shop policy and young people's cannabis use are most likely to be accidental as cannabis use showed a similar trend in several other countries, which did not change their cannabis policy. Korf [22] further points out that after raising the age limit in 1996 in the Netherlands, adolescents showed a higher likelihood of procuring cannabis outside coffee shops, mainly from friends. Thus, the policy measure seems to have resulted in a displacement of the cannabis market. On the other hand, it could be argued that perhaps the share of the coffee shops in this market has not been fully taken over by other suppliers, and thus may have had at least some dampening effect on adolescent cannabis use [23].

The tendency towards a more restrictive coffee shop policy, with more power of decision making at the local level has resulted in a decrease in the number of coffee shops in the Netherlands. This trend is likely to have opened up the market for underground sellers of cannabis and other drugs. This is supported by findings of Korf and colleagues [13], showing a link between coffee shop density in a municipality and the number of nontolerated selling points (a higher coffee shop density was associated with a lower number of non-tolerated selling points).

Clearly, the government has much less control over the underground market as compared with the coffee shops. For example, coffee shops allow the government to regulate and control admission of young people, by setting and policing age limits. Although this system is not watertight and some underage users do obtain cannabis in a coffee shop [14], it puts up a barrier that is absent in an underground market. Policy makers should be aware of this potential side effect, as young people are especially vulnerable to the negative health effects of cannabis [24–27].

It could be hypothesised that raising the legal age for buying cannabis in coffee shops from 16 to 18 resulted in an increase in the use of hard drugs by 16- and 17-year-olds, as they now have to turn to other buyers, thereby increasing the possibility of being offered other drugs. However, post-hoc analyses of the school survey data do not indicate that the prevalence rate of hard drug use significantly increased since 1996 in this age group (both in the general population and among the cannabis users) (results available from the first author).

Recent developments and the future

In recent years there is a vigorous political debate about Dutch drug policy, and in particular about cannabis and coffee shops. Key issues for these discussions are the involvement of organised crime in cannabis cultivation and trafficking and the public nuisance related to drug tourism. Several municipalities situated near the Dutch border are dealing with significant problems because of the large number of drug tourists from Belgium, Germany and France. In October 2008, the mayors of two of those municipalities (Roosendaal and Bergen op Zoom) ordered the closure of all eight coffee shops. The main reason was the nuisance caused by the large number of drug tourists (approximately 25 000 a week). The mayor of the border city of Maastricht, who is dealing with similar problems, decided in October 2008 to relocate five coffee shops from the centre to the periphery of the city, in order to keep drug tourists out of the city centre. Furthermore, in January 2010, Maastricht and other municipalities in Limburg, a Dutch province bordering Belgium and Germany, introduced a set of new regulations in order to combat problems with respect to drug tourism and coffee shop related crime. One of the strategies is that customers need a membership card to buy cannabis in a coffee shop in Limburg (available for Dutch and foreign buyers). It will take a few days for such a card to be issued and the maximum sales quantity has been reduced from 5 to 3 g. Furthermore, the card enables coffee shops to check if the customer has already visited a coffee shop on that day (only one visit a day is allowed). The aim is to discourage drug tourists from coming to the Netherlands.

Other issues in the public debate on cannabis and coffee shops are the rise in the THC content of Dutchgrown weed, the strong increase in the number of clients in addiction care with a primary cannabis problem, and the findings on the effects of cannabis on mental health, in particular psychosis. In September 2009, the government issued a memo, outlining a new Dutch drug policy. The main policy intentions are (i) to aim for small-scale coffee shops that function as a quiet and safe place for local, adult customers; (ii) to contain the number of coffee shops; and (iii) to intensify the battle against coffee shop related organised crime. Currently all important policy decisions, including those on a new drug policy, have put on hold, as the Dutch cabinet resigned in February 2010 and at the time of writing (August 2010) a new cabinet has not yet been formed. Nevertheless, pilot studies to test some of the policy intentions with respect to coffee shops are continuing.

References

- Reinarman C. Cannabis policies and user practices: market separation, price, potency, and accessibility in Amsterdam and San Francisco. Int J Drug Policy 2009; 20:28–37.
- [2] van den Brink W. Forum: decriminalization of cannabis. Curr Opin Psychiatry 2008;21:122–6.
- [3] Wilkins C, Reilly JL, Casswell S. Cannabis 'tinny' houses in New Zealand: implications for the use and sale of cannabis and other illicit drugs in New Zealand. Addiction 2005; 100:971–80.
- [4] Room R, Fischer B, Hall W, Lenton S, Reuter P. Cannabis policy: moving beyond stalemate. The global cannabis commission report. Oxford: The Beckley Foundation in Collaboration with Oxford University Press, 2008.
- [5] Wouters M, Korf DJ, Kroeske B. Harde aanpak, hete zomer: een onderzoek naar de ontmanteling van hennepkwekerijen in Nederland [A study on the dismantling of cannabis nurseries]. Amsterdam: Rozenberg Publishers, 2007.
- [6] NDM. NDM annual report 2007. Utrecht: Trimbos Institute, 2008. Available at: http://www.trimbos.nl (accessed March 2010).
- [7] Hunault CC, Mensinga TT, Böcker KBE, et al. Cognitive and psychomotor effects in males after smoking a combi-

nation of tobacco and cannabis containing up to 69 mg delta-9-tetrahydrocannabinol (THC). Psychopharmacology 2009;204:85–94.

- [8] Nestor L, Roberts G, Garavan H, Hester H. Deficits in learning and memory: parahippocampal hyperactivity and frontocortical hypoactivity in cannabis users. NeuroImage 2008;40:1328–39.
- [9] Kilmer B. Do cannabis possession laws influence cannabis use? In: Spruit IP, ed. Cannabis 2002 report. Brussels: Ministry of Public Health, 2002:119–41.
- [10] Bieleman B, Beelen A, Nijkamp R, De Bie E. Coffeeshops in Nederland 2007. Aantallen coffeeshops en gemeentelijk beleid 1999–2007 [Coffee shops in the Netherlands 2007. Number of coffee shops and local policies 1999–2007]. Groningen: WODC/St. Intraval, 2008.
- [11] Rodenburg GR, Spijkerman R, van den Eijnden R, van de Mheen D. Nationaal Prevalentie Onderzoek Middelengebruik 2005 [National prevalence study substance use 2005]. Rotterdam: IVO, 2007.
- [12] EMCDDA. Annual report: the state of the drugs problem in Europe. Lisbon: European Centre for Drugs and Drug Addiction, 2008.
- [13] Korf DJ, Wouters M, Nabben T, Van Ginkel P. Cannabis zonder coffeeshop: niet-gedoogde cannabisverkoop in tien Nederlandse gemeenten. [Cannabis without a coffee shop: the non-tolerated selling of cannabis in ten Dutch municipalities]. Amsterdam: Rozenberg Publishers, 2005.
- [14] Monshouwer K, Verdurmen J, van Dorsselaer S, Smit E, Gorter A, Vollebergh W. Jeugd en riskant gedrag 2007. [Adolescents and risk-taking behaviour 2007]. Utrecht: Trimbos Institute, 2008.
- [15] van Laar M, Ooyen-Houben M. Evaluatie van het Nederlandse drugsbeleid [Evaluation of the Dutch drugs policy]. Utrecht: Trimbos Institute/WODC, 2009.
- [16] Pijlman FTA, Rigter SM, Hoek J, Goldschmidt HMJ, Niesink RJM. Strong increase in total delta-THC in cannabis preparations sold in Dutch coffee shops. Addict Biol 2005;10:171–80.
- [17] Rigter S, Niesink R. THC-concentraties in wiet, nederwiet en hasj in Nederlandse coffeeshops (2009–2010) [THCcontent of marihuana, Dutch-grown weed and hashish (2009–2010)]. Utrecht: Trimbos-instituut, 2010.
- [18] Hibell B, Guttormson U, Ahlström S, et al. The 2007 ESPAD report, substance use among students in 35 European countries. Stockholm: CAN, 2009.
- [19] de Graaf R, ten Have M, van Dorsselaer S. NEMESIS 2: De psychische gezondheid van de Nederlandse bevolking [NEMISIS 2: Mental Health of the Dutch population]. Utrecht: Trimbos-instituut, 2010.
- [20] Compton WM, Grant BF, Colliver JD, Glantz MD, Stinson FS. Prevalence of marijuana use disorders in the United States, 1991–1992 and 2001–2002. JAMA 2004;291:2114– 21.
- [21] Korf DJ, Van der Woude M, Benschop A, Nabben T. Coffeeshops, jeugd en toerisme [Coffee shops, young people and tourism]. Amsterdam: Rozenberg Publishers, 2001.
- [22] Korf DJ. Dutch coffee shops and trends in cannabis use. Addict Behav 2002;27:851–66.
- [23] Monshouwer K, Smit F, De Graaf R, Van Os J, Vollebergh W. First cannabis use: does onset shift to younger ages? Findings from 1988 to 2003 from the Dutch national school survey on substance use. Addiction 2005;100:963– 70.

- [24] Lynskey MT, Vink JM, Boomsma DI. Early onset cannabis use and progression to other drug use in a sample of Dutch twins. Behav Genet 2006;36:195–200.
- [25] Stefanis NC, Delespaul P, Henquet C, Bakoula C, Stefanis CN, Van Os J. Early adolescent cannabis exposure and positive and negative dimensions of psychosis. Addiction 2004;99:1333–41.
- [26] Fergusson DM, Horwood J, Swain-Campbell N. Cannabis use and psychosocial adjustment in adolescence and young adulthood. Addiction 2002;97:1123–35.
- [27] CAM. Risicoschatting cannabis 2008 [Risk assessment cannabis 2008]. Bilthoven: RIVM/CAM, 2008.