Chapter 4: The cannabis market in Europe: potency considerations

The relative consumption of different cannabis products in Europe

The increases that have occurred with time in the potency of some types of cannabis must be put into the context of the relative consumption and production of the various products in different countries. Table 3 sets out estimates of the relative proportion of each cannabis product on the domestic market in recent years in those countries for which data were available in the published literature or were supplied directly in response to the questionnaire or were derived indirectly from the relative number of samples examined. Cannabis oil is uncommon in all countries and is not included in Table 3.

Table 3: Relative consumption (%) of cannabis products in European countries since 1999

Country	Imported herbal cannabis	Cannabis resin	Sinsemilla	Domestic resin
Austria	70 (*)	30 (**)	–	–
Belgium	80 (*)	20 (**)	–	–
Czech Republic	90 (*)	10 (**)	–	–
Estonia	85 (*)	15 (**)	–	–
Germany	40 (*)	60 (**)	–	–
Ireland	5	90	5	0
Netherlands	3	29	67	1
Portugal	10 (*)	90 (**)	–	–
United Kingdom	15	70	15	0

(*) All herbal, imported or not.
(**) All resin, imported or not.

National statistics from law enforcement agencies show a situation where the proportion of resin seized in Europe decreases from west to east. Thus, for the period 1996–2001, resin accounted for 79% of the total weight of resin and herbal cannabis seized in Western Europe, but in Eastern Europe this proportion was 13% (UNODC, 2003). This is easily understood when it is recognised that Morocco is the world's largest producer of resin, much of which is destined for Europe. Indeed, the greatest weight of resin is seized in Spain, the first country of transit for this North African material.

However, in relation to the market shares of different cannabis products, seizures may not necessarily parallel availability and consumption, particularly if a country has a large number of small-scale cultivation set-ups that may go undetected by police. Thus, in terms of consumption, the countries of Europe still fall into two clear groups according to whether (a) herbal cannabis or (b) cannabis resin are the most commonly consumed products, but in this division of the countries the east–west split is no longer obvious. The first group (a) includes Belgium, the Netherlands, Austria, Czech Republic and Estonia. In the second group (b) are the United Kingdom, Ireland, Germany and Portugal. The higher relative consumption of herbal cannabis in the Netherlands can be partly explained by the flourishing domestic production of sinsemilla (nederwiet) and the large number of tolerated retail outlets for this product in coffee shops. In the United Kingdom, it is estimated that herbal material comprises only one-third of all cannabis consumed (Atha, 2003) and that around half of this is imported (Hough et al., 2003). The dominance of resin in Ireland is suggested by the fact that over 90% of reefer cigarettes examined in a survey contained resin (Buchanan and O'Connell, 1988). Maguire (2001) in Ireland also noted that over 90% of the samples submitted to him by the Garda Drug Unit were resin. The predominant use of herbal cannabis in Eastern Europe is consistent with the pattern of drug seizures (UNODC, 2003), and may reflect the greater separation of these markets from the production sites in North Africa and the local cultivation of cannabis having a greater importance compared to that in Western Europe.

The effective THC level in Europe

The data in the section *Other national data* (Chapter 3) and Table 3 can be combined to give the overall trend in THC levels as perceived by the average user.

This will be termed the effective potency and is derived by weighting the potency of each product by its fractional share of the market and then summing the individual values. For example, if in a given year the THC contents of different products are *a*%, *b*% and c% and the respective share of the market is *x*, *y* and *z* (where $x + y + z = 1$), then the effective THC level in that year is given by $(ax + by + cz)$. It is assumed that the market share data in Table 3 were typical for the entire period. Figure 13 shows the effective potency in several European countries. It will be seen that, apart from the Netherlands, there has been no marked increase in the effective THC level in the five other countries. Since the THC contents of imported herbal cannabis and cannabis resin have shown no real change over the years, then, other patterns of behaviour being constant, the typical consumer in countries where most cannabis products are imported (e.g. United Kingdom) will have been partly shielded from the increased potency of sinsemilla. Although not developed graphically here, the United Kingdom data for the earlier period 1975–1989 (Figure 10) suggest that the effective potency in the United Kingdom has been around 6 % for the past thirty years. In Ireland, where resin is also the main product, the effective potency in 2000 was closer to 4 %.

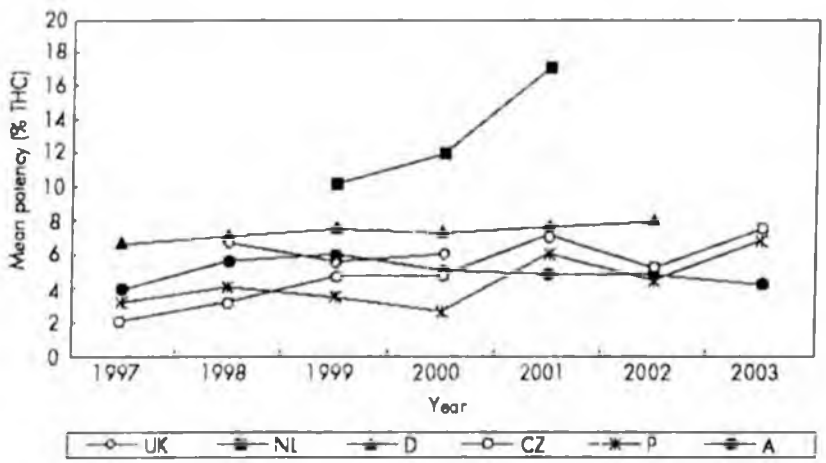


Figure 13: Effective potency (% THC) of cannabis products in several European countries (UK = United Kingdom, NL = Netherlands, D = Germany, CZ = Czech Republic, P = Portugal, A = Austria).

There are two important limitations that must be borne in mind in drawing conclusions from this analysis. First, data are only available from six countries for this analysis. Second, whilst it is reported that home-grown herbal cannabis does not currently hold a major share of the market in countries other than the Netherlands, systematic data to support this contention are limited. This suggests an urgent need to improve our understanding of the relative market share of different cannabis products and track changes in the illicit cannabis market over time.

Extent of cannabis cultivation in Europe

Since cannabis can be cultivated by indoor methods using artificial lighting, it may be grown in all countries. However, the highest level of production in Europe occurs in the Netherlands and to a lesser extent in the surrounding countries. The Institute of Forensic Medicine in Innsbruck claimed that the domestic production of cannabis in Austria is negligible. In the United Kingdom, each year police raid several hundred indoor cannabis cultivation scenes, ranging from rooms in homes to large-scale factories. Although the interception rate is unknown, there are likely to be many thousands of illicit cultivation sites in operation at any one time. Although nearly half of all herbal cannabis consumed in the United Kingdom is of the sinsemilla type, some has clearly been imported and the significance of domestic production is difficult to estimate. In some countries, seeds and specific equipment for indoor cannabis cultivation (e.g. lights, rock wool, nutrient media and irrigation systems) can be bought from retail shops, but the recent trend has been for on-line sales through the Internet.

Although fibre-phenotype cannabis is easily cultivated, even in northern latitudes, the climate in most European countries is not suitable for the economic outdoor production of drug-phenotype cannabis. Domestic production of cannabis resin in Europe is almost entirely located in the Netherlands, where it is produced from herbal cannabis grown indoors. But even here it is a minor contributor to the overall cannabis economy.

Cannabis content of cigarettes

On a weight basis, the content of cannabis cigarettes examined in the United Kingdom and Ireland over the past twenty years has been remarkably constant (Figure 14). Thus, the typical reefer cigarette contains about 200 mg of herbal

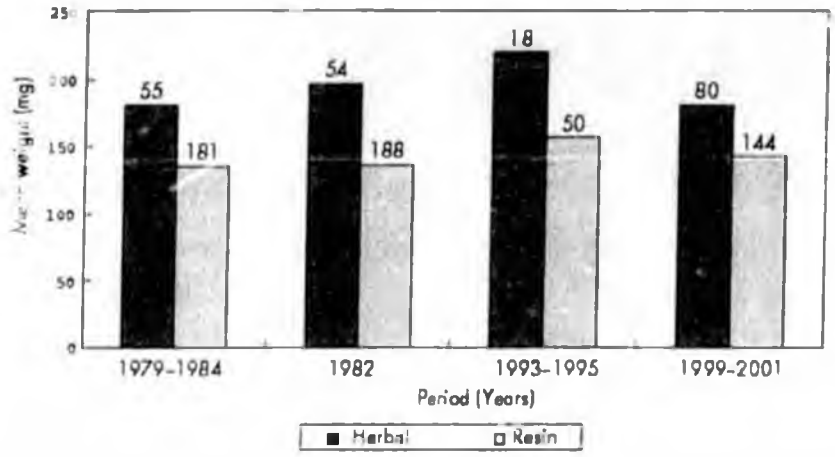


Figure 14: Mean herbal cannabis and cannabis resin content of reefer cigarettes examined in the Forensic Science Service (UK) over a twenty-year period. The sample size in each case is shown above the bar

cannabis or 150 mg of cannabis resin, equivalent to around 10 mg of THC (Humphreys and Joyce, 1982; Bal and Griffin, 2001). Similar findings were reported in Ireland by Buchanan and O'Connell (1998), where the mean herbal cannabis content of cigarettes was 260 mg (N = 179) and the mean resin content was 102 mg (N = 2 025). The absence of any decline in the amount of herbal cannabis or resin used may suggest that there has been no long-term increase in the THC content of the average cigarette. In other words, users have not felt a need to consume less herbal cannabis or resin in their cigarettes. The assertion by Ashton (House of Lords, 1998) that "... a typical 'joint' today may contain 60–150 milligrams or more of THC", suggests a potency of over 50%: a value far in excess of even the most extreme samples.

Street prices

In the absence of THC measurements, street prices of cannabis could provide indirect information on changes in the quality of cannabis, particularly if there is a price differential between different forms.

In the Netherlands (Trimbos, 2002) there has been a close correlation between the mean THC content of different products and the price (Figure 15). A correlation also occurs within samples of sinsemilla although factors other than the amount of active constituent, such as variety, may also be involved (Niesink et al., 2002).

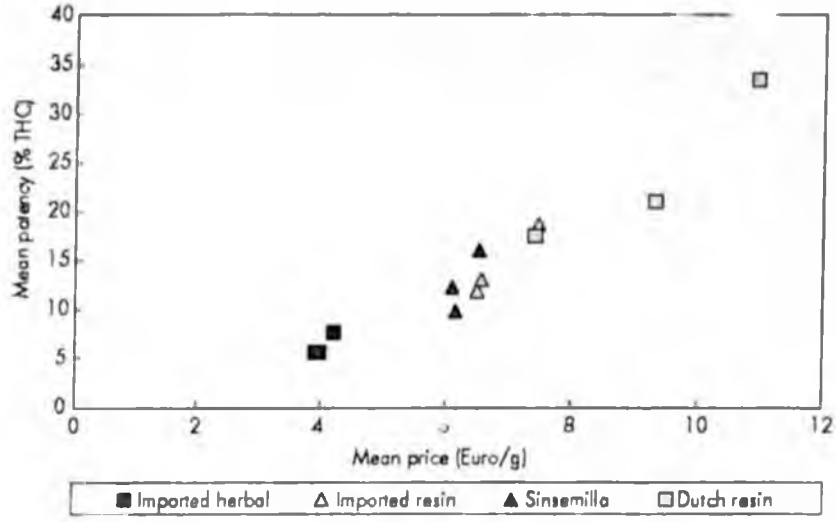
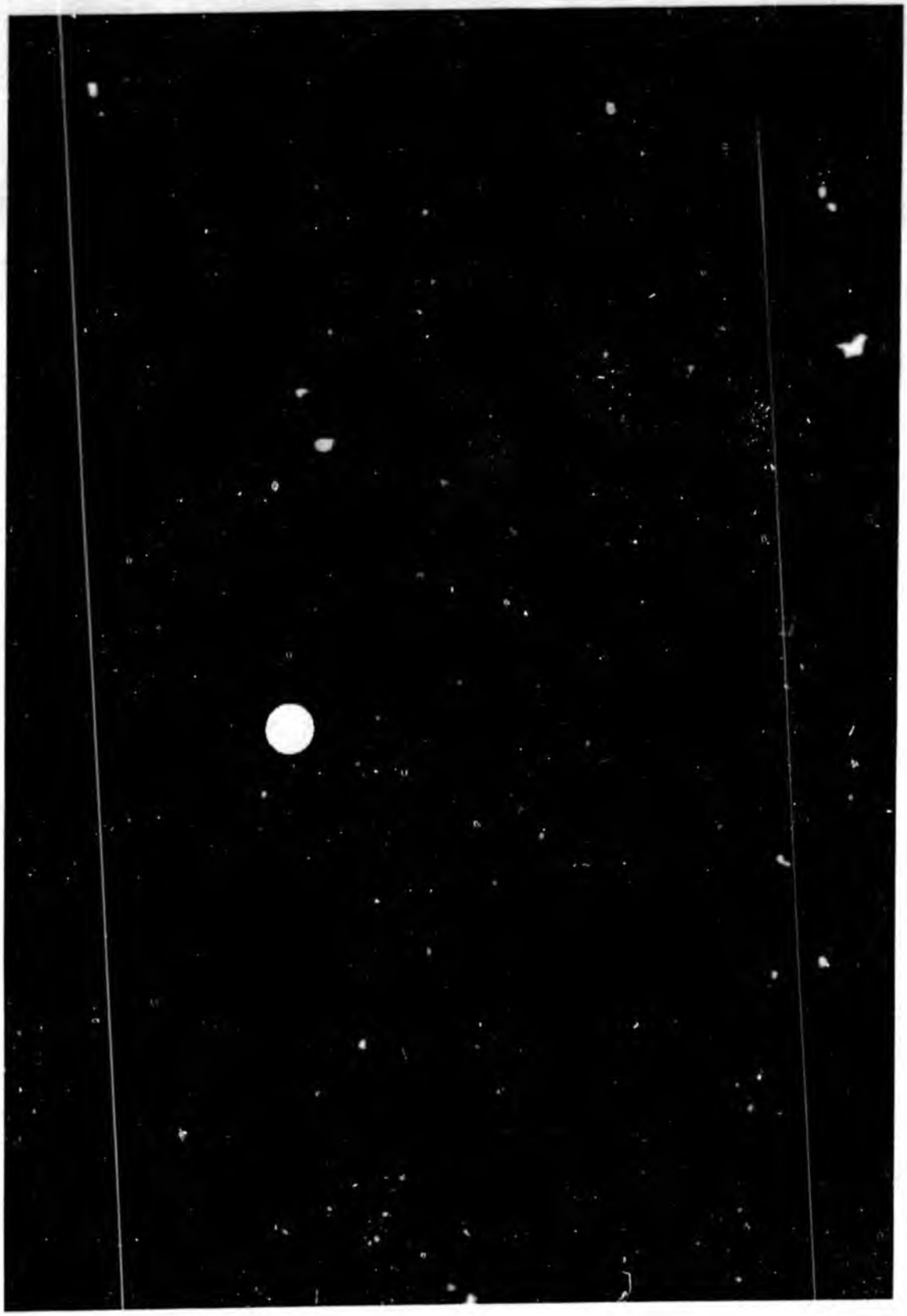


Figure 15: Correlation between price (EUR/g) and the mean THC content of various products in the Netherlands. Three sets of prices/THC levels are shown for each of the four products: they relate to measurements in winter 1999, 2001 and 2002 respectively.

In the United Kingdom, good quality sinsemilla sells for an average EUR 6-7/g, whereas imported cannabis and cannabis resin are mostly priced at an average of EUR 4-5/g (Atha, 2003). This differential (i.e. a factor of approximately 1.5) is consistent with the relative THC concentrations in recent years as shown in Figure 9. In Germany, resin is sold for EUR 4-9/g and herbal cannabis for EUR 5-11/g. In the Czech Republic, sinsemilla costs EUR 3 or more per gram, but other herbal cannabis is EUR 0.6-1/g. By contrast, in Portugal, resin sells for an average EUR 2.49/g whereas herbal cannabis, a lower potency product, sells for EUR 4/g. In Luxembourg, both herbal cannabis and cannabis resin sell for around EUR 8/g.

There was some inconsistency in the estimates of the price of cannabis products at street level between data collected specifically for the purposes of this study (questionnaire) and those provided by Reitox national focal points as part of the EMCDDA ongoing monitoring activities. This discrepancy is perhaps not surprising given the complexities of producing reliable price information on the illicit drug market. Nonetheless, it does suggest the need for more consideration of how methods can be improved to provide a better picture of this important facet of illicit drug use.



Chapter 5: Trends in cannabis potency in other countries

Chapter 5: Trends in cannabis potency in other countries

USA

Data on the THC content of cannabis products in the USA have been collected by ElSohly et al. (1984, 2000) for many years as part of the University of Mississippi Potency Monitoring Project. Samples were submitted by law enforcement agencies and it has to be assumed that they were representative of the market. Mean THC values are shown in Figure 16 for normal herbal cannabis, sinsemilla and resin. The anomalously high value for resin in 1997 (19.24%) has been excluded; it was based on only five values and is over nine standard deviations above the mean potency for the period 1980–1996. Although there has been an increase in the potency of herbal cannabis over the twenty-five-year period, cannabis resin (and hash oil) showed no long-term trends since 1980 when data were first collected. Although the potency of sinsemilla showed a clear upward trend in the final three years of the study, no such trend was obvious when the longer period of 1980–1995 is examined, particularly in view of the wide variations in potency that occurred from year to year (ElSohly et al., 2000). The THC content of herbal cannabis increased from around 1% before 1980 to around 4% in 1997. This increase, when seen in the European context, is deceptive. Before 1980, all mean herbal cannabis THC levels in the ElSohly study were less than 2.4%. By contrast, and as shown in Figure 10, comparable levels at that time in the United Kingdom were twice as great. In other words, it must be assumed that the quality of herbal cannabis consumed in the USA more than twenty years ago was unusually poor, but that in recent years it has risen to levels typical of Europe. So even the modest increase found by ElSohly et al. (2000) may be less significant than it seems. A recent analysis of cannabis seized in Florida in 2002 (Newell, 2003) showed amounts of THC found in samples ranging from 1.41% to 12.62%; the average THC content was 6.20%, which is almost identical to the 2002 value reported by the University of Mississippi Potency Monitoring Project.

However, there are major differences in the market between the USA and Europe. In most European countries, cannabis resin, originating almost entirely from North Africa, is more commonly used than herbal cannabis. Herbal cannabis imported into Europe originates from the Caribbean, Africa and the Far East. In the USA, normal forms of herbal cannabis are either grown domestically or imported from Mexico, with Canada a major supplier of sinsemilla (DEA, 2002). By contrast, cannabis resin is uncommon in the USA. Thus in the latter years of the studies by ElSohly et al. (2000), cannabis resin comprised less than 1% of samples.

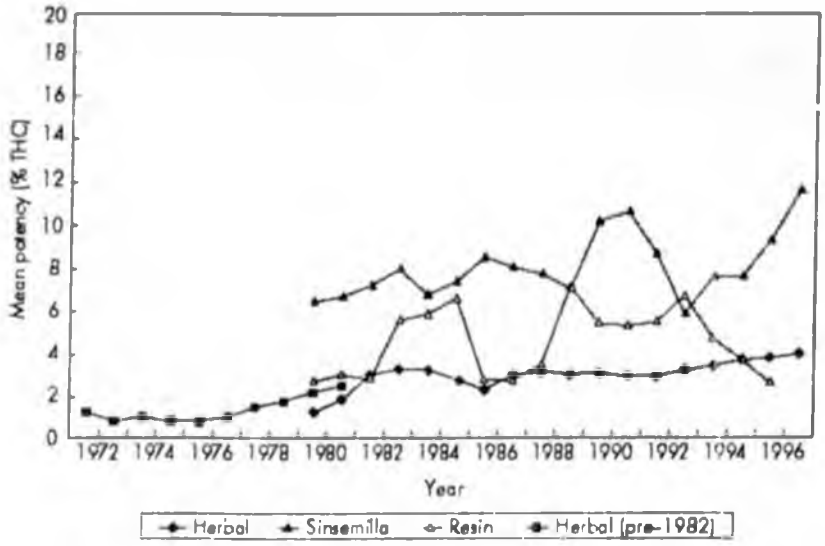


Figure 16: Mean potency (% THC) of cannabis products examined at the University of Mississippi, USA (1972–1997).

The effective THC level in the USA

The effective potency of cannabis products was defined in the section *The effective THC level in Europe* (Chapter 4). In the USA for the period 1980–1997, the approximate mean respective shares of the material examined were: herbal cannabis, 85%; sinsemilla, 5%; resin, 3%; other, 7%, where 'other' includes minor products such as 'ditchweed' (poor quality, locally grown cannabis), hash oil and Thai sticks. Figure 17 shows the effective potency experienced by users in the USA using data published by ElSohly et al. (2000) for the mean THC content of all samples examined. Although there is a slight upward trend over the period 1980–1997, the effective potency of the aggregated cannabis products has been low by European standards, largely as a result of the low proportion of sinsemilla consumed.

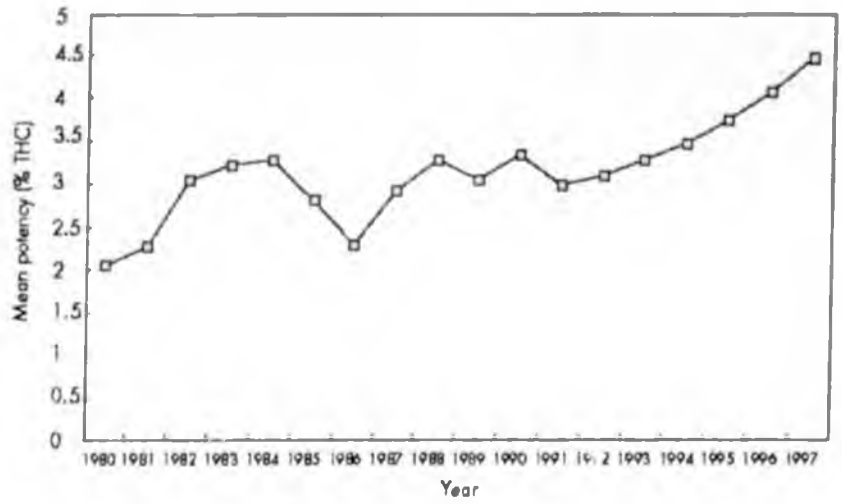


Figure 17: Effective potency (% THC) of cannabis products in the USA.

New Zealand and Australia

Poulsen and Sutherland (2000) reported the potency of cannabis products from 1976 to 1996 in New Zealand. In the earlier years of this study, the material examined was mainly imported cannabis oil and resin, and both local and imported cannabis plant material seized by the police. In later years, little imported material was seized: cannabis plants were grown locally, cannabis oil was manufactured locally and cannabis resin was rarely seized. Cannabis leaf contained on average 1 % THC and the female flowering heads contained on average 3.5% THC. The average potency of cannabis oil fell from a peak of 34 % THC in 1985 to 13% THC in 1995. Over the twenty-year period, the average potency of the cannabis products available to the user did not increase. In Australia, Hall and Swift (2000) found only a modest increase in the THC content of cannabis in recent years and suggested that the increase in cannabis-related problems among young Australians was more likely to be due to earlier and heavier use. The absence of any clear time trend in cannabis potency in New Zealand and Australia is similar to the situation reported above for most European countries, but despite the focus on domestic production in New Zealand in recent years, the THC levels are low by European standards.

Chapter 6: Identification of information gaps, priorities for future research and recommendations

Chapter 6: Identification of information gaps, priorities for future research and recommendations

There are a number of areas that require attention at national level if information on cannabis potency is to be collected, analysed and made available in a systematic way including: nomenclature, relative consumption of cannabis products, extent of domestic indoor cultivation, street prices, laboratory analysis, data collection and finally data presentation at the European level.

Nomenclature of cannabis products

At present, a variety of different names are used to describe similar materials. It is suggested that *herbal cannabis* (i.e. not 'marijuana', 'leaf', 'weed', 'grass', 'flowering tops', 'buds', 'drug-phenotype', etc.) should be used to refer to the fresh or (more commonly) dried leaves and flowering tops, but excluding stalk, roots and seeds of *Cannabis sativa*. The term *hemp* should be reserved, if necessary, for cannabis of the fibre-phenotype. When a distinction is required between imported and domestically grown herbal cannabis, then the former should be described as *imported herbal cannabis* and not 'seeded cannabis'. Since cannabis cultivated by intensive indoor methods invariably derives from unfertilised female plants, then this material should be called *sinsemilla* rather than 'unseeded', 'nederwiet', 'skunk', etc. *Cannabis resin* or just *resin* (i.e. imported products) should be used in preference to 'hashish' or 'hash', but when locally produced resin is involved, for example in the case of the Netherlands, *'Dutch' resin* may be more acceptable than 'nederhasj'. *Hash oil*, the term in most common use, and *cannabis oil* are both acceptable for solvent extracts of herbal cannabis or cannabis resin. Given that it is necessary to build a consensus of concerned authorities for the adoption of a common nomenclature, it may be desirable for the EMCDDA to work towards this objective within its work to harmonise definitions and produce standardised data on the European drug situation.

Relative consumption of cannabis products

In most countries, estimates of the relative consumption of different cannabis products are based largely on seizure data. Such data have limits and may not directly reflect drug availability as experienced by drug users or the relative

market share of different cannabis products. Given the importance of this information in estimating the potency of the cannabis being consumed in Europe there is an urgent need to improve data quality in this area. One possible way forward is to complement statistics from drug seizures with data from user surveys carried out at the retail level. Such information is necessary if it is required to track the health impact of cannabis potency, since this is more a function of product type (particularly sinsemilla versus cannabis resin) than other factors. Currently, such activities are limited, but methodologically feasible, and could be accomplished for relatively modest resource investment. Both focused surveys of cannabis users and general population survey approaches could prove useful.

Extent of domestic indoor cultivation

Following on from the previous recommendation, it is important to understand better the extent of domestic cannabis production, the different types of production methods used, as well as the use of domestically produced cannabis products compared to imported products and how this varies within Europe and over time. Experience in the Netherlands suggests that the availability of cannabis produced locally, with more sophisticated techniques and higher yielding varieties, has a major impact on potency, even within a single cannabis product. Even when herbal production is considered, it is important to note the relative potency of the products being produced, changes in overall potency over time and the proportion of the product that is of exceedingly high potency. In wider Europe, it is important to remember that home-produced cannabis may not always benefit from hydroponics or other sophisticated growing techniques. These factors all need to be considered in any comprehensive analysis of the cannabis market in Europe.

Content of cannabis cigarettes

Few countries have published data on the herbal cannabis or cannabis resin content of cigarettes. This information would be useful as a proxy measure for potency as well as a means of tracking methods of consumption (i.e. use with or without tobacco).

Pharmacology

Most pharmacological studies on the effects of cannabis potency have been carried out in North America. Because of major differences in overall potency levels and methods of consumption (i.e. use with or without tobacco) between North America and Europe, it would be useful to conduct similar studies in Europe, reflecting European consumption norms. As well as covering the relationship between smoking behaviour and potency, such studies should also include the relationship between potency and blood THC/metabolite levels. Monitoring over time the methods and practices used by cannabis consumers may also be important. For example, some anecdotal reports exist of a move towards the use of water pipes in some countries, and new smoking technologies have been advertised in the media aimed at cannabis smokers.

Street prices

In Europe, information is collected routinely by the EMCDDA on drug prices at retail level. However, as discussed earlier, the quality and comparability of this information needs to be reviewed and standard methods for collection and reporting developed. Important here is developing classification and reporting standards that distinguish between different cannabis products. Data from the Netherlands suggest a close relationship between potency and price.
It is necessary to explore this issue in other countries and in the context of consumer preferences and other drug supply side information.

Laboratory analysis

The data examined in this survey strongly suggest that there could be problems in the accurate analysis of THC. In the first instance, this suggests it is necessary to organise quality assurance trials to determine both precision and accuracy of laboratory measurements in all member states. From this, recommendations on best practice could be developed. Possible partners in this endeavour would be the European Network of Forensic Science Institutes (ENFSI) and the United Nations Office of Drugs and Crime (UNODC).

Statistical aspects of data collectio

When compiling data, many laboratories calculate simple mean values (often called averages: the sum of all values divided by the number of values). In a few cases, weighted means may be calculated (see, for example, ElSohly et al., 1984). The weighted mean takes account of the fact that not all samples may be of equal size. When considering seized material for example, the weighted mean is effectively the mean that would be found if all seizures were to be pooled and thoroughly mixed. Furthermore, few authors consider whether the distribution of potency is normally distributed or if other measures of central tendency such as the median or mode would be better. It is recommended that data submitted to the EMCDDA should always indicate details about the sampling strategy, sample size, the mean, and where possible more detailed descriptive statistical information (e.g. mode and median values, standard deviation, treatment of outliers).

Other policy issues

Statements in the popular media that the potency of cannabis has increased by ten times or more in recent decades are not supported by the data from either the USA or Europe. As discussed in the body of this report, systematic data are not available in Europe on long-term trends and analytical and methodological issues complicate the interpretation of the information that is available. Data are stronger for medium and short-term trends where no major differences are apparent in Europe, although some modest increases are found in some countries. The greatest long-term changes in potency appear to have occurred in the USA. It should be noted here that before 1980 herbal cannabis potency in the USA was, according to the available data, very low by European standards. A caveat here is that there is some question to how far the historical data provide a true representation of the situation. More recently, potency data suggest a convergence with the European situation. For the reasons discussed earlier in this report, caution should be made in drawing direct comparisons between Europe and the USA on this issue.

It should be noted that the modest changes that have occurred in THC levels in Europe appear largely confined to the relatively recent appearance on the market of intensively cultivated cannabis. Herbal cannabis is less commonly consumed than cannabis resin in most European countries, although this may be beginning to change. It should also be made clear that the THC content of cannabis products

is extremely variable and there have always been some samples that have had a high potency. Nonetheless, some hydroponically grown cannabis appears to be consistently of high potency. This product appears to have at present only a relatively small market share in most countries. A note of caution is required because the available data makes it difficult to judge with confidence the actual market share of high potency cannabis or to monitor trends. The issues raised by an increase or potential increase in the availability of high-potency cannabis may make it prudent to consider whether specific targeted demand or supply side activities are needed.

In considering individual dose exposure to cannabis and the relationship to health and other problems, it must be noted that cannabis potency is only one factor and possibly of limited importance. Hall et al. (2001) note that individual exposure to cannabis may have risen but this is more likely to be influenced by earlier initiation and more frequent and intensive patterns of use rather than the potency of the cannabis used in any one exposure. An evaluation carried out by the 'Co-ordination Centre Assessment and Monitoring New Drugs' (CAM) in the Netherlands concluded that higher-potency cannabis products did not pose any additional risk than those present for cannabis products as a whole, either to the individual, to society, to public order or criminality (W. Best, personal communication, 2004). In this respect, it is noted that cannabis with a potency of 18 % is available as a prescription medicine in the Netherlands. Even if some potency increases in illicit cannabis have occurred, the absence of direct evidence of any clear additional health risk should be noted. However, overall, the evidence base in this area is weak. If acute cannabis problems are considered, such as panic attacks, a short-term dose-related impact is plausible. The relationship of cannabis consumption to the development of psychiatric disorders is also poorly understood, and again it would be prudent to consider if high-potency cannabis might be an issue here. In summary, the extent to which high-potency cannabis increases the short and long-term dose to which individuals are exposed remains unclear, as does the evidence of any clear and direct additional health risks. This remains, therefore, a critically important area for future research studies as this information is a pre-requisite to understanding the potential public health impact of high-potency cannabis.

Glossary (1)

BC-bud: *Sinsemilla* produced in Canada (BC = British Columbia)

Bracts: Structures situated at the base of the flowers of *Cannabis sativa*, which may partly surround a developing seed and which are rich in *glandular trichomes*

Buds: Flowering tops of female *Cannabis sativa*

Cannabidiol: One of several *cannabinoids* in *Cannabis sativa*

Cannabinoid: One of a group of compounds found only in *Cannabis sativa* including *cannabidiol, cannabinol and tetrahydrocannabinol*

Cannabinol: One of several *cannabinoids* in *Cannabis sativa*

Cannabis oil: See *hash oil*

Cannabis resin: Material produced by mechanically separating the resinous parts of the *flowering tops* of *Cannabis sativa* from other vegetable matter

***Cannabis sativa* L:** Generally regarded as the only species in the genus *Cannabis* and sole source of *cannabinoids*. Classified by Linneaus in the eighteenth century

Ditchweed: Low quality *herbal cannabis* growing wild in North America

Dronabinol: Synthetic preparation of *tetrahydrocannabinol* with medicinal uses

Drug-phenotype: Variety of *Cannabis sativa* where the ratio [(% *tetrahydrocannabinol* + % *cannabinol*)/% *cannabidiol*] is greater than 1.0

Dutch resin: Light green or brown *Cannabis resin* produced mostly in the Netherlands from locally grown *herbal cannabis* using sieves or other separation methods

Fibre-phenotype: Variety of *Cannabis sativa* where the ratio [(% *tetrahydrocannabinol* + % *cannabinol*)/% *cannabidiol*] is less than 1.0

Flowering tops: *Herbal cannabis* excluding leaf. May be used to mean *sinsemilla* or seeded material

(1) Italicised words and terms are themselves defined.

Glandular trichomes: Microscopic features used to identify *herbal cannabis* or *cannabis resin*. They produce an exudate containing *cannabinoids* and are located mostly around the *flowering tops* of female plants of *Cannabis sativa*

Grass: *Herbal cannabis*

Hash oil: A dark green or black tar-like material made by solvent extraction of either *cannabis resin* or *herbal cannabis*. May contain 30-50% *tetrahydrocannabinol*

Hashish: *Cannabis resin* (North America and elsewhere)

Hemp: *Herbal cannabis* with low *potency* used for fibre production

Herbal cannabis: Normally restricted to the fresh or (more commonly) dried leaves and *flowering tops*, but excluding stalk, roots and seeds of *Cannabis sativa*

Imported herb: *Herbal cannabis* from non-European, often tropical, sources and generally found as a mixture of *leaf, flowering tops* and seeds in compressed blocks

Isolator (also ice-o-lator): Device consisting of a mesh bag used to separate resinous particles from *herbal cannabis* in the production of *nederhasj*

Joint: A cannabis cigarette (also spliff, reefer etc.)

Leaf: *Herbal cannabis* that may or may not contain *flowering tops*

Marijuana: *Herbal cannabis* (North America)

Nederhasj: See *Dutch resin*

Nederwiet: *Sinsemilla* produced in the Netherlands

Potency: The *tetrahydrocannabinol* content. Used in preference to *purity*

Purity: The proportion of active constituent in a product, but less suitable for cannabis products where *potency* is preferred

Sinsemilla: 'Without seed' (Spanish). The highest *potency herbal cannabis* comprising the *flowering tops* of unfertilised female plants of *Cannabis sativa* produced in open cultivation or, nowadays, by indoor methods

Skuff: Alternative term for *nederhasj*

Skunk: *Herbal cannabis* with a characteristic odour that has been typically grown by indoor intensive cultivation and may have a high *potency*

Spacecake: Cake made using *herbal cannabis* most commonly found in the Netherlands

Tetrahydrocannabinol (THC): The principal *cannabinoid* with sought-after psychopharmacological effects

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Contact details

Chloé Carpentier
European Monitoring Centre for Drugs and Drug Addiction
Rua da Cruz de Santa Apolónia 23-25
1149-045 Lisbon, Portugal
Tel. (351) 218 11 30 00
Fax (351) 218 13 17 11
Email: chloe.carpentier@emcdda.eu.int

Paul Griffiths
European Monitoring Centre for Drugs and Drug Addiction
Rua da Cruz de Santa Apolónia 23-25
1149-045 Lisbon, Portugal
Tel. (351) 218 11 30 00
Fax (351) 218 13 17 11
Email: paul.griffiths@emcdda.eu.int

Leslie A. King
27 Ivar Gardens
Basingstoke
Hampshire
RG24 8YD
United Kingdom
Tel. (44) 01256 363084
Email: la.king@btopenworld.com

European Monitoring Centre for Drugs and Drug Addiction

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"Psychological and social sequelae of cannabis and other illicit drug use by young people: a systematic review of longitudinal, general population studies"

John Macleod, et al.
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Psychological and social sequelae of cannabis and other illicit drug use by young people: a systematic review of longitudinal, general population studies

John Macleod, Rachel Oakes, Alex Copello, Ilana Crome, Matthias Egger, Mathew Hickman, Thomas Oppenkowski, Helen Stokes-Lampard, George Davey Smith

Summary

Background Use of illicit drugs, particularly cannabis, by young people is widespread and is associated with several types of psychological and social harm. These relations might not be causal. Causal relations would suggest that recreational drug use is a substantial public health problem. Non-causal relations would suggest that harm-reduction policy based on prevention of drug use is unlikely to produce improvements in public health. Cross-sectional evidence cannot clarify questions of causality; longitudinal or interventional evidence is needed. Past reviews have generally been non-systematic, have often included cross-sectional data, and have underappreciated the extent of methodological problems associated with interpretation.

Methods We did a systematic review of general population longitudinal studies reporting associations between illicit drug use by young people and psychosocial harm.

Findings We identified 48 relevant studies, of which 16 were of higher quality and provided the most robust evidence. Fairly consistent associations were noted between cannabis use and both lower educational attainment and increased reported use of other illicit drugs. Less consistent associations were noted between cannabis use and both psychological health problems and problematic behaviour. All these associations seemed to be explicable in terms of non-causal mechanisms.

Interpretation Available evidence does not strongly support an important causal relation between cannabis use by young people and psychosocial harm, but cannot exclude the possibility that such a relation exists. The lack of evidence of robust causal relations prevents the attribution of public health detriments to illicit drug use. In view of the extent of illicit drug use, better evidence is needed.

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Departments of Primary Care and General Practice (J Macleod PhD, R Oakes BSc, T Oppenkowski MSocSci, H Stokes-Lampard MRCGP) **and Psychology** (A I Copello PhD), **University of Birmingham, Birmingham, UK; Academic Psychiatry Unit, Keele University, Stoke on Trent, UK** (Prof I Crome MD); **Department of Social Medicine, University of Bristol, Bristol, UK** (Prof M Egger MD, Prof G Davey Smith DSc); **Department of Social and Preventive Medicine, University of Berne, Berne, Switzerland** (Prof M Egger); **and Centre for Research on Drugs and Health Behaviour, Social Science and Medicine, Imperial College, London, UK** (M Hickman PhD)

Correspondence to: Dr John Macleod, Department of Primary Care and General Practice, Primary Care Clinical Sciences and Learning Centre building, University of Birmingham, Edgbaston, Birmingham B15 2TT, UK
(e-mail: j.a.macleod@bham.ac.uk)

Introduction

The use of illicit drugs amongst young people seems to be widespread and may be increasing.[1] Cannabis is the most widely used illicit substance, although use of psychostimulants also appears quite common; use of opiates seems less common. Most of these drug users do not access drug treatment services and the consequences of their drug use are unclear. Physical health problems aside, there are concerns that illicit drug use, particularly cannabis use, could cause psychological and social problems.[2] Cannabis use has been shown to be associated with psychological health problems, use of other illegal drugs, reduced educational attainment, and antisocial behaviour.[3] The causal basis of these associations has not been established. If associations are non-causal, harm-reduction policies based on the prevention of drug use are likely to be ineffective. Conversely, a causal association could mean that "recreational" illicit drug use, in view of its apparent extent, represents an important, and substantially hidden, public health problem.

Causal explanations for associations between drug use and psychosocial harm compete with three alternative explanations: reverse causation, where drug use is a consequence, rather than a cause, of psychosocial problems; bias, where the association is an artifact of study methodology; and confounding, when drug use is associated with other factors that predispose to psychosocial problems.

A causal relation between drug use and psychosocial harm could plausibly be mediated by two principal mechanisms: directly, through neurophysiological pathways, or indirectly, through involvement in the criminal culture and commerce associated with use of an illegal substance.[1,4] Past reviews of the relevant evidence have often been non-systematic and have used restricted search strategies. Much evidence is cross-sectional and derives from highly selected samples. Such evidence is limited as a basis for inferring true causal relations and their possible relevance to public health. We therefore undertook a systematic review of general population, longitudinal studies relating illicit drug use by young people to subsequent psychological and social harm.

Methods

Search strategy and selection criteria

We searched the general electronic databases MEDLINE, EMBASE, CINAHL, PsycLIT, and Web of Science, and the specialist databases of the Lindesmith Center, DrugScope, US National Institute on Drug Abuse and Substance Abuse and Mental Health Services Administration, and Addiction Abstracts, with an agreed battery of search terms (available from the authors) in July, 2000. This search was updated in July, 2001, and again in June, 2003. Addiction Abstracts was hand-searched for the period not covered by the electronic database. Key individuals in the specialty of addictions

	Participants and setting*	Drug exposure measures†	Other measures‡	Main findings§
National Longitudinal Study on Adolescent Health[9,10]	National representative sample of 7–12th grade students sampled from 80 high schools and their "feeder" schools in the USA. Recruited in 1995. 79% of schools selected agreed to participate. 75% of eligible students in these schools (n=90118) completed a self completion questionnaire. Random sub sample of these selected for follow up home interview in 1996. 79·5% of these (12118) contacted	Self-reported frequency of cannabis and other drug use via standard instrument. Categorical scale derived from these data	Cigarette smoking, alcohol use, sex, family structure, parent education, age, ethnic origin	Cannabis use associated with violent behaviour (tobacco and alcohol use show similar associations)
The Boston Schools Project[8,9]	1925 students from three public schools in Boston, USA, recruited aged 14–15 years in 1969 and studied yearly until 1973. Surveyed again in 1981. 79% (1521) had complete follow up	Self-reported frequency of cannabis and other drug use via standard instrument. Categorical scale derived from these data	Socialisation, grade point average, self-reported physical and psychological health problems	Adolescent cannabis use associated with adult drug use. Little apparent association between use and psychological health or work related factors
The Children in the Community Project[6,11,12]	Population-based sample of families in New York State, USA. 976 participants aged 5–10 years at recruitment in 1975. 709 followed up until age 27 years	Self-reported frequency of cannabis and other drug use via standard instrument. Categorical scale derived from these data	Personality factors, family factors, parental drug use, sibling factors, peer factors, licit drug use; all self-reported via standard instruments	Little apparent association between cannabis use and either depression or anxiety. Association between cannabis use and antisocial personality although lower reported delinquency. Lower frequency of cannabis use associated with better parenting, higher frequency with unemployment and lone parenthood
The Central Harlem Study[6,13]	Population based sample of black adolescents recruited in 1968–69 from Central Harlem, New York City, USA. Initial sample of 688 aged 12–17 years. 392 (59%) followed up till 1990	Cumulative use index based on self report of lifetime use (more than once) of nine classes of substance (marijuana, LSD, cocaine, heroin, methadone, "uppers", "downers", inhalants, alcohol)	Lifestyle and health behaviours, social ties and networks, adult social attainment	Cannabis and cocaine use associated with greater reported psychological problems. Associations with opiate use inconsistent
The Christchurch Health and Development Study[6,14]	Birth cohort of 1265 children born in Christchurch, New Zealand, during mid 1977. Reassessed regularly until age 21 years. 80% had complete follow-up	Self-reported frequency of cannabis use via standard instrument. Categorical scale derived from these data	Licit drug use, family background and parental factors, childhood behaviour, early problem behaviour, early psychological problems, educational history, cognitive ability, peer affiliations, antisocial behaviour, social environment, history of sexual abuse; generally self-reported, some use of official records	Cannabis use associated with lower educational attainment, greater use of other illicit drugs, poorer psychological health, and greater involvement in antisocial behaviour
Dunedin Multidisciplinary Health and Development Study[6,15]	Birth cohort of all children born in Dunedin, New Zealand between April 1, 1972, and March 31, 1973, who were still resident locally when the study began in 1975. 1649 children born during study recruitment period, 1139 of these still resident locally at age 3 years, 1037 of these successfully recruited to study (91%). Reassessed regularly until age 26 years. 96% of survivors had complete follow up	Self-reported frequency of cannabis use via standard instrument. Categorical scale derived from these data	Perinatal assessment, early physical health and development, physical and psychological health in childhood, emotional and educational development, social and family environment, cognitive abilities, adolescent physical and psychological health, licit drug use, antisocial behaviour; generally self-reported, some use of official records	Cannabis use associated with greater reported psychological problems. Similar associations with tobacco and alcohol use
East Harlem Study[16]	1332 African American and Puerto Rican adolescents (mean age 14 years at recruitment) from 11 schools in East Harlem, New York City in 1990. 66% followed up 5 years later	Self-reported frequency of cannabis and other drug use via standard instrument. Categorical scale derived from these data	Adolescent personality attributes, family relationship characteristics, peer factors, residential area, acculturation measures	Cannabis use associated with later licit and illicit drug problems and with problem behaviours in participant, siblings and peers
The LA Schools Study[6,17]	1634 students in grades 7, 8, and 9 recruited from 11 schools in Los Angeles, USA in 1976. Assessed regularly over the subsequent 21 years. 477 (30%) had complete follow-up	Self-reported frequency of cannabis and other drug use via standard instrument. Categorical scale derived from these data	Social conformity, family formation, deviant behaviour, sexual behaviour, educational pursuits, livelihood pursuits, mental health including depression, social integration and conformity, relationship quality, divorce,	Drug use (generally judged as a latent variable dominated by cannabis use) associated with lower educational commitment. Little apparent association with psychological problems other than increased reported symptoms with cocaine use.

(continues next page)

	Participants and setting*	Drug exposure measures†	Other measures‡	Main findings§
			sensation seeking, parental support, academic aspiration, parental drug problems, psychological distress	Drug use associated with greater involvement in drug crime, lower involvement in violent crime, and higher income in young adulthood
New York Schools Study[20,29]	1636 adolescents enrolled in New York State public secondary schools in 1971. Aged 15 years at recruitment. Interviewed again in 1980, 1984, and 1990. 1160 (71%) had complete follow up	Self-reported frequency of cannabis and other drug use via standard instrument. Categorical scale derived from these data	Income, marital status, education level, ethnic origin, peer activity, employment history, self-assessed health	Initiation of drug use usually follows an orderly sequence from tobacco and alcohol, through cannabis to other drugs. Drug use associated with higher income in early adulthood, lower income in later adulthood
National Collaborative Perinatal Project (NCPP)[30]	Sub-sample of NCPP cohort (birth cohort followed till age 7 years); African-American participants in Philadelphia contacted again at age 24 years and again at 26 years. About 70% (380) of target sub-sample had complete follow-up	Self-reported frequency of cannabis and other drug use via standard instrument. Categorical scale derived from these data	Perinatal and early life environmental factors, early health and development, academic performance, school behaviour and adjustment (from school records), personality, social integration, reported illness symptoms, reported antisocial behaviour and sexual behaviour	Cannabis use associated with antisocial personality and reports of criminal offences
National Longitudinal Survey of Youth[31,32]	National representative sample of 12686 young people (aged 14–21 years) from the non-institutionalised civilian segment of the US population, recruited in 1979. Ongoing regular assessment with about 90% retention	Self-reported frequency of cannabis and other drug use via standard instrument. Categorical scale derived from these data (questions about drug use were added in 1984)	Alcohol use, educational attainment, ethnic origin, family background, parental factors, cognitive function, religion, employment history, social position	Cannabis and cocaine use associated with problematic interpersonal relationships. No apparent association with income
Pittsburgh Youth Study[33]	School based sample of 850 boys from public schools in Pittsburgh. Mean age 13.25 years at recruitment, followed up until mean age 18·5 years.	Self-reported frequency of cannabis and other drug use via standard instrument. Categorical scale derived from these data. Parent/teacher reports used to corroborate reports in some instances	Antisocial behaviour and conduct disorders, psychological symptoms, relations with parents, neighbourhood factors, sexual behaviour, educational attainment	Cannabis use associated with violent behaviour
Project Alert[34,35]	4500 adolescents from 30 junior high and middle schools in California and Oregon participating in evaluation of a preventive intervention. Mean age of participants at baseline 13 years, followed up for 4 years	Self-reported frequency of cannabis and other drug use via standard instrument. Categorical scale derived from these data. Salivary cotinine used to validate reported tobacco use (suggested to participants that sample could also be tested for cannabis—it was not, but this suggestion may have influenced validity of reported cannabis use)	Family and parental factors, social position and environment, employment history, educational history, anti-social behaviour, peer factors, religiosity	Cannabis use associated with lower educational attainment. No association with violent behaviour
South Eastern Public schools study[36]	Four longitudinal surveys within the US SE public schools. Participants recruited in grades 6–8 in 1985–87 and followed up till 1993–94. 1392 subjects (55·1%) had complete follow up	Indicator variable derived from self reported age of initiation of use of cannabis and other illicit drugs	Ethnicity, parental factors, educational attainment from combination of self-report and official records	Cannabis use associated with lower educational attainment. Similar but weaker association with tobacco use, no association with alcohol use
Swedish Military Conscripts study[37–39]	Different subgroups of 50 465 Swedish men age 18–20 years conscripted for national military service in 1969–70. Follow up in official records to 1986, recently extended to 1996	Self-reported frequency of cannabis and other drug use via standard instrument. Categorical scale derived from these data (90% of sample provided usable data)	Social position, licit drug use, parental and family factors, behavioural factors, psychological factors	Cannabis use associated with later injection drug use (association between use of other illicit drugs and injection much stronger). Cannabis use associated with incidence of clinical schizophrenia. Cannabis use not associated with increased mortality by middle adulthood after adjustment—specific mortality from suicide not reported
Woodlawn study[40,41]	1242 African American 1st grade students starting school in 1966–76 in a disadvantaged inner-city neighbourhood of Chicago. Follow up assessments in 1976–77 and 1992–94. (84% of original cohort located, 96% of those interviewed)	Self-reported frequency of cannabis and other drug use via standard instrument. Categorical scale derived from these data	Licit drug use, family factors, parental factors, behavioural development, psychological problems, social integration, sexual behaviour, anti-social behaviour, educational history, employment history religiosity	Cannabis use not associated with reported suicidal thoughts or attempts

*In some instances data on completeness of follow-up not reported. †"Standard instrument" means some details of validation given. ‡Main groups of other measures as reported, for complete list see individual publications. §Main findings related to psychosocial outcomes reported as of June 2003, only prospective associations noted (ie, those where exposure assessment preceded outcome assessment).

Table 1: **Description of studies reviewed in detail**

(details available on request) were asked to identify evidence unlikely to be found through the other sources. Both published and unpublished evidence, along with that not published in English (which was translated), was judged.

We included all prospective studies based in the general population that measured use of any illicit drug by individuals aged 25 years or younger at the time of use and related these data to any measure of psychological or social harm assessed subsequently.

Quality assessment

Quality assessment was undertaken after initial searches in July, 2000. Two reviewers assessed methodological quality of studies independently against set criteria (sample size and representativeness, age at recruitment, duration and completeness of follow-up, apparent validity and reliability of exposure and outcome measures, and degree of adjustment for potential confounding factors). Formal quantitative quality scoring was not used, since it can be misleading and give a false sense of objectivity.[9]

Reviewers made an independent overall assessment of study quality based on the above criteria, and assigned studies to categories of higher quality, uncertain quality, or lower quality. Studies were judged to be of higher quality if the probability of selection bias seemed low, exposure to drugs was assessed with a validated instrument, follow-up was over several years, and analyses were adjusted for important confounding factors. Validity and relevance of psychosocial outcome measurement was also considered. Initial agreement between reviewers was high (weighted κ>0·9). Reviewers then discussed, and agreed, which studies of higher or uncertain quality warranted more detailed consideration. Corresponding authors on papers deriving from these studies were contacted and asked to supply any relevant unpublished data.

We assessed the potential for quantitative synthesis of study results against criteria for combinability. Results were also summarised descriptively.

Role of the funding source

The sponsors of the study had no role in study design, data collection, data synthesis, data interpretation, or writing of the report

Results

We located more than 200 publications deriving from 48 longitudinal studies reporting associations between drug use by young people and psychological or social outcomes. Five studies were not published in English. All studies were observational. All had published results in peer-reviewed journals; however, some additional publications in books and unpublished papers were identified through personal contact. Many studies used composite measures of illicit drug use, making it impossible to infer effects of specific drugs. Most drug-specific results related to use of cannabis. Many studies reported substantial losses to follow-up and made either no, or little, attempt to adjust estimates for possible confounding factors. 16 studies were classified as of higher methodological quality (table 1). The remaining 32 studies are summarised, in terms of their ostensible findings and with a brief methodological critique, in table 2. All studies were judged, but appraisal was focused on evidence from the 16 in table 1.

Recruitment strategies, and thus the precise relation of the study population to the general population, varied substantially (tables 1 and 2). In all studies, exposure to illicit drugs was measured through uncorroborated self-report. Although some measures were similar across studies, no two studies measured either illicit drug exposure or psychosocial outcome in the same way. Additionally, potential confounding factors were inconsistently assessed across studies. Because of these considerations, we felt that quantitative synthesis (meta-analysis) was likely to be misleading and did not attempt to do this.[10]

We report our principal findings on relations between cannabis use and educational attainment, use of other drugs, psychological health, antisocial behaviour, and other social problems. Illustrative crude and adjusted effect estimates in relation to these outcomes are described in table 3. Findings on relations between use of other illicit drugs and psychosocial problems are also summarised. Key publications are cited; a full list of publications is available on request.

Cannabis use was consistently associated with reduced educational attainment. Most relevant studies indexed this outcome through objective and apparently valid measures. The strength and magnitude of the association varied. Adjustment of estimates for potential confounding factors generally led to their attenuation, which was often substantial.

Cannabis use was consistently associated with use of other drugs. In all but one relevant study, other drug use was indexed by uncorroborated self-report (in one study, use of injected drugs was corroborated by inspection of injection sites).[11] The strength and magnitude of these associations varied, although in one study, both were substantial.[11] In this study, as with most studies, the outcome reported was other drug use, rather than drug problems. Adjustment of estimates for potential confounding factors generally led to their attenuation.

Cannabis use was inconsistently associated with psychological problems. Some studies found no association, although others reported associations between increased use and increased problems. Within these latter studies, patterns of association with specific psychological problems were inconsistent. In most studies, psychological problems were indexed through self-report of symptoms, some assessed according to standard diagnostic criteria. The outcome was clinical mental illness (schizophrenia) in only one study.[16] This report also mentioned a crude association between cannabis use and mortality from suicide, but did not report actual estimates.[16] A crude association with all-cause mortality disappeared on adjustment for confounding factors. Adjustment of other estimates of increased psychological problems for potential confounding factors generally led to their attenuation, which was often substantial.

Cannabis use was inconsistently associated with antisocial or otherwise problematic behaviour. In most studies these outcomes were indexed through uncorroborated self-report. In some studies corroboration was sought from other sources. In studies that did report associations between greater use and behavioural problems, adjustment of estimates for potential confounding factors generally led to their attenuation, often substantially so.

Evidence of effect modification according to sex and ethnic origin (where these were reported separately) was inconsistent across studies. Cannabis use at a younger age was consistently associated with greater subsequent problems.

Two studies reported associations between use of cocaine and opiates and subsequent psychological

	Participants and setting	Main relevant findings*	Comments*
Studies reporting outcomes related to general drug exposure			
Sadava 1973, Canada[42]	College "freshmen"	Low expectations of goal attainment and more "pro-drug" attitudes associated with drug problems	Probable selection bias, limited adjustment for confounding, significance of outcome measures unclear
Annis 1975, Canada[43]	High school students	Use of both licit and illicit drugs positively associated with school dropout from official records	No adjustment for confounding
Benson 1984 and 1985, Sweden[44,45]	Male military conscripts	Drug use associated with higher rates of criminality, health problems and mortality as ascertained from official records	Crude exposure measurement and no adjustment for confounding
Friedman 1987, USA[46]	Volunteer high school students reporting drug use	Drug use and self-reported psychological distress higher amongst this sample than in a reference cohort	Probable selection bias, little adjustment for confounding, arguably a case control study
Choquet 1988, France[47]	High school students	Drug use associated with higher self-reported health problems and use of health services	No adjustment for confounding in analyses reported
Farrell 1993, USA[48]	High school students	Drug use associated with lower self-reported emotional restraint in a reciprocal manner	Probable selection bias, limited adjustment for confounding, significance of outcome measure unclear
Hutzinga 1994, USA[49]	"High risk" youths	Positive association between drug use and self-reported antisocial behaviour	This association is alluded to in text though actual analyses are not presented. Impossible to critically appraise
Sanford 1994, Canada[50]	Population based sample of adolescents	Heavy drug use associated with a greater risk of reporting work-force involvement (as opposed to continued schooling)	Potential selection bias due to large loss to follow up
Schulenberg 1994, USA[51]	High school students	Drug use and lower grade point average positively associated with later self-reported drug use	Focus of the surveys is on patterns and antecedents, rather than consequences, of drug use
Anthony 1995, USA[52]	Population based sample of adolescents reporting drug use	Earlier drug use associated with greater risk of developing later self-reported drug problems	Possible selection bias and limited adjustment for confounding. Focus of the epidemiological catchment area programme (of which this was a sub-study) is on the descriptive epidemiology of mental illness in the community rather than the consequences of drug use.
Farrington 1995, UK[53]	"Working-class" male school children	Positive association between drug use and measures of anti-social behaviour derived from self-report, school reports and official records	Specific relation between drug exposure and subsequent behavioural outcomes not reported. Focus of the study is on antecedents of "delinquency". Drug use is reported as part of the delinquency spectrum
Krohn 1997, USA[54]	"High risk" school children.	Drug use positively associated with earlier school leaving, earlier independent living and earlier parenthood—particularly among women	Possible selection bias. Limited adjustment for confounding
Luthar 1997, USA[55]	High school students	Drug use associated with increased risk of self-reported depression, maladjustment and internalising of problems	Small study, short follow-up limited adjustment for confounding
Stanton 1997, USA[56]	Black adolescents recruited from an HIV risk reduction project	Drug use weakly associated with self-reported risky sex, fighting, and weapon carrying	Possible selection bias, limited adjustment for confounding
Rao 2000, USA[57]	Female high school students	Substance use disorder positively associated with self-reported depression	Possible selection bias, small sample, limited adjustment for confounding
Weiser 2002, Israel[4]	Male military conscripts	Drug abuse associated with doubling of risk of schizophrenia	Drug abuse only assessed in high risk sub-sample, limited adjustment for confounding†
Studies reporting outcomes related to specific drug exposure			
Epstein 1984, Israel[58]	High school students	Alcohol and tobacco use associated with earlier sexual intercourse and earlier leaving of education. Cannabis use also reported to be associated with the latter (analyses not shown)	Small study, no adjustment for confounding. Since latter analyses not reported impossible to critically appraise in this regard
Kaplan 1986, USA[59]	High school students	Early cannabis use along with use associated with self-reported psychological distress, associated with greater reported escalation of use and later psychological distress	Potential selection bias. Focus of the study is not on consequences of drug use
Tubman 1990, USA[60]	Children of "middle class" families	Alcohol, tobacco and cannabis use all positively associated with self-reported symptoms of psychological distress.	Small study, possible selection bias, focus on antecedents rather than consequences of drug use
Scheier 1991, USA[61]	High school students in drug prevention programme	Cannabis use positively associated with risk of use of other illicit drugs and with socially negative attitudes	Probable selection bias, limited adjustment for confounding
Hammer 1992, Norway[62]	"High risk" adolescents	Cannabis use positively associated with self-reported symptoms of psychological distress	Possible selection bias, limited adjustment for confounding
Degonda 1993, Switzerland[63]	Population based sample of young adults	Cannabis use positively associated with self-reported symptoms of agoraphobia and social phobia	Possible selection bias, limited adjustment for confounding
Romero 1995, Spain[64]	High school students	Cannabis use inconsistently associated with different dimensions of self-reported self-esteem	Loss to follow-up not reported, limited adjustment for confounding, relevance of outcome unclear
Andrews 1997, USA[65]	Adolescents responding to an advertisement	Tobacco and cannabis use associated with lower academic motivation in a reciprocal manner.	Self-selected sample with high loss to follow up Limited control of confounding
Patton 1997, Australia[17]	High school students	Frequent cannabis use strongly positively associated with reported risk of self-harm in females. Weak, negative association in males.	Short follow up, limited adjustment for confounding
Hansell 1991 and White 1998, USA[66,67]	Telephone survey of adolescents	Cannabis and cocaine use associated with higher self-reported aggression and psychological distress	Possible selection bias, limited adjustment for confounding, relevance of outcome measures unclear

(continues next page)

	Participants and setting	Main relevant findings*	Comments*
Costello 1999, USA[46]	"High risk" adolescents	Alcohol, tobacco, cannabis, and other drug use positively associated with self-reported psychological distress and behavioural problems	Probable selection bias, limited adjustment for confounding
Duncan 1999, USA[11]	"High-risk" adolescents	Alcohol, tobacco, and cannabis use all positively associated with risky sexual behaviour. Association strongest for tobacco	Small sample, possible selection bias, limited adjustment for confounding
Perkonigg 1999, Germany[12]	Population based sample of adolescents	Cannabis use and dependence were generally sustained over the follow-up period	Focus of publications to date from this study has not been consequences of drug use
Huertas 1999, Spain[13]	High school students	Cannabis, alcohol, and tobacco use positively associated with poorer school performance	No adjustment for confounding
Braun 2000, USA[14]	Population based sample of adolescents	Cannabis and tobacco use weakly associated with lower income and less prestigious employment. Association stronger with tobacco and amongst white participants	Possible selection bias, limited adjustment for relevant confounders (focus of the study is on development of cardiovascular risk)
Brook 2002, Colombia[15]	Population based sample of adolescents	Cannabis use associated with risky sexual behaviours	Limited adjustment for confounding†

*Summaries and comments are based on evidence available following initial searches and quality assessment in 2000, except †study identified through subsequent searches or contact with experts.

Table 2: **Summary of other studies identified in review listed in chronological order of relevant publications**

symptoms; results were mixed.[13,14,16] Amphetamines and ecstasy (3,4-methylenedioxymethamphetamine, MDMA) seem to be widely used illicit drugs.[1] We identified no studies meeting our selection criteria that reported effects of either amphetamine or ecstasy use.

Discussion

In this review, we found little evidence from longitudinal studies in the general population about the outcomes of exposure to any illicit drugs other than cannabis. We confirmed the existence of evidence of associations between cannabis use and psychosocial harm; however, the extent and strength of this evidence seemed less than is perhaps sometimes assumed. Furthermore, the causal nature of these associations is far from clear. Some seem to fulfil at least some of the traditional criteria for establishing causality.[18] They are fairly consistent; cause seems to precede effect, and a plausible mechanism can be advanced. The criterion of specificity of association was less consistently fulfilled. In several studies (tables 1 and 2) tobacco and alcohol showed similar associations as cannabis with psychosocial outcomes. This finding does not suggest a causal mechanism mediated through drug-specific neurophysiological effects or involvement in criminalised commerce, since tobacco and alcohol have distinct neurophysiological effects, and they are not illegal. Existence of a dose-response relation, in which magnitude of the outcome varies with magnitude of the exposure is another criterion often invoked. In many studies, existence of such a relation was impossible to assess since only binary exposure categories were examined. Where effects of more than two exposure categories were reported, a graded association with outcome from higher to lower exposure was sometimes noted. Interpretation of these gradients was complicated by the fact that in almost all studies, frequency of drug use, rather than dose, was assessed. Quantity used was probably closely related to frequency, and frequency measures allowed inference of extent of drug involvement, which is of relevance to social mechanisms of causation.

However, empirical evidence has shown that associations can fulfil these criteria, and still be unlikely to

	Measure of cannabis use and measure of outcome	Crude estimate	Adjusted estimate
Outcome/study			
Educational attainment			
Christchurch[16]	Any use before age 15 years and odds ratio for school dropout	8·1 (4·3–15·0)	3·1 (1·2–7·9)
Project Alert[46]	One point increase on frequency of use scale and odds ratio for school dropout	1·68 (p<0·001)	1·13 ("not significant")
Australian schools*[17]	Weekly use at ages 15, 16, and 17 years and odds ratio for early school leaving	6·8 (2·8–1·6)	5·6 (2·0–1·5)
		3·2 (1·4–7·3)	2·2 (0·91–6·0)
		1·8 (0·69–4·6)	1·1 (0·40–2·9)
Use of other drugs			
Swedish conscripts[11]	Report that cannabis "most used illicit drug" and odds ratio for later injection drug use	6·8 (4·9–9·4)	3·3 (1·9–5·9)
Christchurch[16]	Weekly use and odds ratio for use of any other drug	142·8 (92·3–222·9)	59·2 (36·0–97·5)
Psychological health			
Christchurch[14,16]	Any use before age 15 years and odds ratio for reported anxiety, depression or suicidal thoughts	2·7(1·3–4·1)	1·2 (0·5–2·8)
		2·9(1·6–5·1)	1·4 (0·7–2·7)
		3·6(2·1–6·1)	1·4 (0·7–2·8)
	Cannabis dependence at age 18 years and rate ratio for reported psychotic symptoms	2·3 (1·7–3·2)	1·8 (1·2–2·6)
Dunedin[11]	Any use at age 15 years and odds ratio for any mental disorder (sexes combined)	2·69†	0·97 (0·59–1·60)
	Any use at age 18 years and odds ratio for any mental disorder in males and in females	3·59†	2·00 (1·29–3·09)
		1·54†	0·75 (0·47–1·17)
Swedish conscripts[48]	Use on more than 50 occasions and odds ratio for clinical diagnosis of schizophrenia	6·7 (4·5–10·0)	3·1 (1·7–5·5)
Australian schools*[18]	Daily use at age 15 years and odds ratio for reported depression in males and in females	1·9 (0·93–3·8)	1·1 (0·55–2·6)
		8·6 (4·2–18·0)	5·6 (2·6–12·0)
Antisocial behaviour			
Christchurch[16]	Any use before age 15 years and odds ratios for conduct disorder, reported offending and police contact	7·0 (4·3–11·4)	1·0 (0·5–2·1)
		5·7 (3·3–10·0)	0·8 (0·6–2·7)
		4·8 (2·5–9·3)	2·1 (0·9–4·8)

*Study summarised in table 2, relevant results published subsequent to initial quality assessment. †95% CIs were not reported. Adjustment factors for individual estimates are not given. Measures available are described in table 1, but adjustments did not necessarily include the full range of available measures.

Table 3: **Crude and adjusted estimates of effects of cannabis use on selected psychosocial outcomes**

be causal.[66,67] Alternative explanations of reverse causation, bias, and confounding are discussed.

Psychosocial problems might be more a cause than a consequence of cannabis use, especially with regard to associations between use and mental illness. Some studies adjusted for psychological symptoms reported at baseline or excluded incident problems occurring during early follow-up. Nevertheless, unreported or subclinical psychological problems might have preceded and precipitated cannabis use. Individuals with a pre-existing tendency to experience psychological difficulties might have a greater inclination to develop problematic patterns of drug use (for example, depressed individuals are more likely to start smoking tobacco and less likely to stop than those who are not depressed).[82] Cannabis use might also exacerbate existing predispositions to psychological problems.

Exposure to cannabis use and experience of psychosocial problems might have been associated with both study recruitment and retention leading to selection bias that could affect the apparent association between cannabis use and harm. Measurement bias is another possibility. Some empirical evidence suggests reasonable validity of self-reported drug use, although other evidence shows that in some situations, especially general population studies in which the drug-use status of participants has not been previously recorded, this method can be unreliable.[83,84] Random misclassification of drug-use status will simply lead to dilution of apparent effects, but systematic misclassification, especially when it affects both exposure and outcome measurement, can generate spurious effects. For example, an individual may have a general tendency to value either conformist or non-conformist, behaviour, and this tendency may influence their reporting. In this situation one would expect artefactual associations between greater reported use of cannabis and greater reported use of other drugs or other non-conformist behaviours. Since most associations of cannabis use with use of other drugs, and with antisocial behaviour, are based exclusively on self-reported measures, the effect of this type of bias must be considered. In other contexts, reporting bias has been shown to be capable of generating strong and substantial associations between measures that, individually, seem to have high validity.[85]

Discounting confounding is probably the most serious interpretational challenge in observational epidemiology.[65] Both cannabis use and adverse psychosocial outcomes seem to share common antecedents related to various forms of childhood adversity, and factors relating to peer-group and family.[66,67] The relation between cannabis use and harm might simply reflect these associations; cannabis use could be a marker, rather than a cause, of a life trajectory more likely to involve adverse outcomes.

There are no completely reliable means to identify confounded associations within observational data, and instances where apparently robust observational evidence has later been shown to be seriously misleading are common.[65] The importance of this issue to the epidemiology of drug use might have been underestimated. In particular, the extent to which confounding can be overcome through statistical adjustment seems to have been overestimated. Adjustment is useful, but its power to abolish the confounded component of an association depends on the completeness and precision of measurement of the confounders.[68] Only three studies[18–20,30] included in our analysis had any prospectively measured indices of the early life factors that may covary with both cannabis use and harm. It seems unlikely that even these measures were complete or precise.

Unmeasured, as well as measured, potential confounders can be taken into account through techniques such as fixed effects regression and latent variable modelling.[17,69] These approaches allow more sophisticated adjustment. The main value of adjustment is to allow the comparison of adjusted with unadjusted estimates, but few studies provided both of these estimates. The most informative examples of those that did are summarised in table 3. Attenuation of estimates towards the null value, on adjustment, suggests confounding by the adjustment factor. In this situation, residual confounding can be assumed to be present. Unchanged or strengthened estimates suggest that confounding by the factor adjusted for is unlikely—confounding by another factor is still possible. In table 3, almost all adjusted estimates are substantially attenuated towards the null value. With attenuation of this relative magnitude even small degrees of measurement imprecision in the confounders could account for the residual effects.

Sensitivity analyses are another means to explore the possibility of confounding. A recent application of this principle to North American data showed that confounding by a factor termed "propensity for drug use" could explain associations between cannabis use and use of other drugs.[69] Both environmental and genetic factors could underlie such a propensity.[81]

Further evidence against a simple causal explanation for associations between cannabis use and psychosocial harm relates to population patterns of the outcomes in question. For example, incidence of schizophrenia seems to be strongly associated with cannabis exposure over a fairly short period (four-fold to five-fold relative risks over follow-up of 10–30 years). Cannabis use appears to have increased substantially amongst young people over the past 30 years, from around 10% reporting ever use in 1969–70, to around 50% reporting ever use in 2001, in Britain and Sweden.[70] If the relation between use and schizophrenia were truly causal and if the relative risk was around five-fold then the incidence of schizophrenia should have more than doubled since 1970. However population trends in schizophrenia incidence suggest that incidence has either been stable or slightly decreased over the relevant time period.[71,72]

The above considerations suggest that a non-causal explanation is possible for most associations between cannabis exposure and both psychological and social harm. It is important to clarify these questions, and evidence meeting this requirement could come from several sources. Birth cohorts provide the ideal prospective design within which to investigate the role of early life factors.[54] They are expensive and time consuming, and ensuring complete follow-up is challenging. However two of the studies we identified successfully adopted this design.[15,20] Other ongoing birth cohorts whose participants are now entering adolescence exist.[73] These studies could provide valuable information, especially if they incorporated approaches to measurement other than those completely reliant on uncorroborated self-report.

The principle of "Mendelian randomisation" is proving useful in cardiovascular and cancer epidemiology.[74] If level of exposure to a putative environmental cause is substantially affected by a particular genetic polymorphism, then analysis of effect by genotype is unlikely to be confounded by environmental factors. Study of polymorphisms affecting neuroreceptor affinity for the psychoactive components of cannabis may have potential in this regard.[75] The statistical power is generally

low in such studies, however, and sample sizes need to be large.[98,99] Finally, experimental studies are the traditional approach to overcoming problems of selection bias and confounding. If experimental reduction in cannabis exposure were associated with reductions in psychosocial harm, this would be stronger evidence for a true causal relation. Currently, this approach is limited by the absence of interventions that substantially or reliably reduce exposure to cannabis.[100] Concerns have been expressed about the public health effects of ecstasy use;[101] the same principles should guide research to provide evidence relating to this drug. Evidence on public health effects of opiate use seems likely to be most feasibly obtained through follow-up of population-based cohorts of opiate users.[102]

In this review we did not consider physical health outcomes. Clearly, some types of illicit drug use lead to serious physical harm, but the extent of this problem outside known treatment populations is unclear. It is probable that cannabis use is associated with some physical harm, since most users apparently smoke the drug with tobacco. Intermittent use confined to adolescence or early adulthood might have small effects, but data confirming that this pattern of use predominates, or measuring the prevalence of other usage patterns, are limited. Little reassurance is available from the evidence we identified. Only one study reported mortality up to middle adulthood and found no increase with cannabis use, however the same study showed no mortality increase associated with tobacco use.[39]

Drug policy is sometimes justified on the basis of a causal relation between drug use and psychosocial harm. We have shown that evidence for this relation is not strong. However it would be naive to assume that scientific evidence is generally an important determinant of policy, especially in this area.[103,104]

No search strategy can ensure identification of all relevant evidence. Our search was the most comprehensive of any we are aware of in this field and was recently updated. However, it is probable that we missed some potentially relevant evidence. Given the general issues of interpretation we have discussed, it seems unlikely that such omissions would have substantially altered our conclusions. Our quality assessment was inevitably subjective; however, we undertook it as a guide to readers and to make the task of the review more manageable. We contacted only authors of higher-quality studies to identify further evidence, although again it seems unlikely that this procedure introduced substantial bias.

Despite widespread concern, we have found no strong evidence that use of cannabis in itself has important consequences for psychological or social health. This finding is not equivalent to the conclusion that use of cannabis is harmless in psychosocial terms; problems with the available evidence render it equally unable to support this proposition. Better evidence is needed in relation to cannabis, which is widely used, and in relation to other drugs that, although less widely used, might have important effects.

Contributors

J Macleod, A Copello, I Crome, M Egger, M Hickman, and G Davey Smith devised the search strategy. Electronic searches, expert contact, and retrieval of references were undertaken by R Oakes and T Oppenkowski. Hand searches were undertaken by J Macleod and I Crome. Quality assessment was undertaken by J Macleod, M Egger, and H Stokes-Lampard. Data synthesis and interpretation was discussed by J Macleod, A Copello, I Crome, M Egger, M Hickman, H Stokes-Lampard, and G Davey Smith. J Macleod wrote the first draft of this report, all authors contributed to the final draft.

Conflict of interest statement

None declared.

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A REPORT OF THE NATIONAL COMMISSION ON GANJA TO

Rt. Hon. P.J. PATTERSON, Q.C., M.P. PRIME MINISTER OF JAMAICA

PREPARED BY:

Professor Barry Chevannes, **Chairman**

Reverend Dr. Webster Edwards

Mr. Anthony Freckleton

Ms. Norma Linton, Q.C.

Mr. DiMario McDowell

Dr. Aileen Standard-Goldson

Mrs. Barbara Smith

August 7, 2001

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EXECUTIVE SUMMARY

The National Commission of Ganja, pursuant to its terms of reference and after a period of exhaustive consultation and inquiry from November 2000 to July 2001, involving some four hundred persons from all walks of life, including professional and influential leaders of society, is recommending the decriminalisation of ganja for personal, private use by adults and for use as a sacrament for religious purposes.

The Commission, after reviewing the most up-to-date body of medical and scientific

research, is of the view that whatever health hazards the substance poses to the individual — and there is no doubt that ganja can have harmful effects, these do not warrant the criminalisation of thousands of Jamaicans for using it in ways and with beliefs that are deeply rooted in the culture of the people. Besides, there is growing evidence that the substance does have therapeutic properties.

The Commission interviewed over three hundred and fifty persons in all the parishes, and received written submission from over forty. The overwhelming majority of these share the view that ganja should be decriminalised for personal, private use. Many of them are personally opposed to the smoking of it. The Commission is persuaded that the criminalisation of thousands of people for simple possession for consumption does more harm to the society than could be done by the use of ganja itself. The prosecution of simple possession for personal use and the use itself diverts the justice system from what ought to be a primary goal, namely the suppression of the criminal trafficking in substances, such as crack/cocaine, that are ravaging urban and rural communities with addiction and corrupting otherwise productive people.

Decriminalisation of ganja will require appropriate amendments to the Dangerous Drugs Act, in particular Sections 7C and 7D.

The Commission, after very careful consideration of the legal issues involved, concludes that decriminalisation will in no way breach the United Nations Drug Conventions, which have been ratified by Jamaica. Especially is this so, when arguments of human rights, including the proposed Charter of Rights being discussed by Parliament, are taken into account.

Accordingly, the National Commission is recommending:

1. that the relevant laws be amended so that ganja be decriminalised for the private, personal use of small quantities by adults;
2. that decriminalisation for personal use should exclude smoking by juveniles or by anyone in premises accessible to the public;
3. that ganja should be decriminalised for use as a sacrament for religious purposes;
4. that a sustained all-media, all-schools education programme aimed at demand reduction accompany the process of decriminalisation, and that its target should be, in the main, young people;
5. that the security forces intensify their interdiction of large cultivation of ganja and trafficking of all illegal drugs, in particular crack/cocaine;
6. that, in order that Jamaica be not left behind, a Cannabis Research Agency be set up, in collaboration with other countries, to coordinate research into all aspects of cannabis, including its epidemiological and psychological effects, and importantly as well its pharmacological and economic potential, such as is being done by many other countries, not least including some of the most vigorous in its suppression; and
7. that, as a matter of great urgency Jamaica embark on diplomatic initiatives with its CARICOM partners and other countries outside the Region, in particular members of the European Union, with a view (a) to elicit support for its internal position, and (b) to influence the international community to re-examine the status of cannabis.

ACKNOWLEDGEMENT

The National Commission on Ganja acknowledges with gratitude the hundreds of people,

old and young, male and female, artisans, workers, farmers, clerical workers, health, legal and other professionals, managers, unskilled and unemployed persons, policemen, clergy, self-employed, and visitors, who thought the work of the Commission serious and worthwhile enough to be interviewed or to send written submissions, letters and electronic mail.

We thank the Staff of the Office of the Prime Minister (OPM), in particular Mrs Deta Cheddar, the Secretary to the Commission, for facilitating our work, to the OPM in Montego Bay, and to the Local Government Officers and Social Development Commission staff in the parishes, who provided logistic and other support. The Jamaica Information Service made invaluable contribution by bringing the work of the Commission to the general public. Our thanks go as well to the various members of the communications media, who kept alive public interest in the work of the Commission.

Our thanks are extended also to Chantal Ononaiwu and Natalie Ebanks for providing summaries of the laws and oral depositions, respectively, and to Ethnie Miller and Sonjah Stanley for surfing the Internet. Jacqui Getfield, an Assistant to the Dean of the Faculty of Social Sciences at the University of the West Indies, Mona, worked closely with the Chairman. We thank her and other members of the Dean's Office for their support. A special thanks to Dr Stephen Vasciannie and Lord Anthony Gifford for preparing briefs at the Commission's request.

Without the verbatim transcripts provided by the team of stenowriters led by Mrs Lilleth Haughton, the Commission's report would have been seriously handicapped. Special thanks, therefore, to Mrs Winnifred Mannaham and Ms Marjorie Goodgame, and to Miss Elaine Walker, Mr Garfield McKoy, Mrs Yvonne Jenkins, Mrs Clementina Barrett, Mrs Dorothy Ramsay and Ms Ursela Farquharson.

Professor Barry Chevannes, **Chairman**

Reverend Dr. Webster Edwards

Mr. Anthony Freckleton

Ms. Norma Linton, Q.C.

Mr. DiMario McDowell

Dr. Aileen Standard-Goldson

Mrs. Barbara Smith

PREFACE

For well over a hundred years, ganja has become the subject of considerable debate and investigation, beginning with the much celebrated India Hemp Commission of 1894, which was followed by no fewer than ten landmark Commissions and studies. Notable among

these was the Commission of scientists and experts set up by Mayor La Guardia of New York in 1938, which took six years to complete its Report. Despite the favourable reviews of both these Commissions, yet another study was commissioned by the United States National Institute of Mental Health, subsequently renamed the National Institute of Health, on the long term effects of cannabis use. Led by Dr Vera Rubin of the Research Institute for the Study of Man and Professor Lambros Comitas of Columbia University, the study assembled a panel of United States and Jamaican scientists from the University of the West Indies, and carried out their extensive study in Jamaica from in 1970 and 1971. This study did not find any negative effect that might be attributable to chronic ganja use, but although it provided a basis for some States in the United States to ameliorate their positions, the debate has not only continued but intensified, in the wake of considerable increase worldwide in the smoking of cannabis, especially in the North Atlantic countries.

Then in 1977 the Jamaican Government set up a Joint Select Committee "to consider the criminality, legislation, uses and abuses and possible medicinal properties of ganja and to make appropriate recommendations." The Committee while rejecting legalisation, on account of Jamaica's obligation to the 1961 Convention, unanimously concluded that "[t]here was however a substantial case for decriminalizing the personal use of ganja." It recommended specific amelioration of the law, and that there should be "no punishment prescribed for the personal use of ganja up to a quantity of 2 ozs. by persons on private premises." It further recommended that ganja be lawfully prescribed for medicinal use.

The fact that these recommendations have been shelved, and that the work of reputable scientists have been ignored would lead the sceptic to suggest that that could well be the fate of the present Commission. Contributing in no mean way to the scepticism is the factual consideration that the original proscription against ganja was never based on medical evidence, but now medical evidence is being sought to justify its continued ban.

In recommending decriminalisation for personal use, we do not share the pessimism.

After nine months of consultation and reflection, visits to every parish and hearings amounting to 3776 pages of transcriptions, the Commission is convinced that its recommendations will not go the way of those of all previous commissions and studies, notwithstanding the difficulties that will confront the Government due to Jamaica's ratification of UN Conventions that seek to prohibit cannabis, except for research and medical-scientific purposes. The reason for the Commission's sanguineness is what it has uncovered as an overwhelming national and growing international consensus that cannabis should be decriminalised, or at least differentiated from other banned substances.

Nationally, the consensus reaches across the lines that once divided us historically, and that continue to divide us socially, to wit party, class and religion, where none seemed to have existed before, even at the time of Joint Select Committee twenty-five years ago.

Internationally, hardly a week goes by without some intimation of changing attitudes to cannabis. In many States of the United States of America the use of cannabis for medical purposes has been declared legal. Earlier this year Health Canada, Canada's Ministry of Health, issued regulations to create a government-regulated system for using cannabis for medical purposes, the first country to do so. This action has been quickly sanctioned by Parliament which now makes cannabis legal in Canada for terminally ill patients and those suffering certain painful debilities. In June 2001 the British press reports on the launch of a pilot scheme in London in which cannabis offenders are simply warned and sent on their way, instead of being cautioned, arrested, charged and tried. A British Parliamentary Committee is soon to review the matter. British practice lags far behind those of the Dutch

and of a growing number of other European countries which have simply decriminalised the personal use of small quantities of cannabis. Portugal, according to press reports, has taken the very bold step of decriminalising the use of all banned substances. An international momentum is clearly underway.

The Report seeks to capture the extent of this national consensus. This is set out in Chapter 3, the main body of the report, but not before a discussion of the methodology (Chapter 1) by which we have undertaken our work and arrived at our conclusions, and a review of the most up-to-date scientific reports (Chapter 2). Having presented this, the Report turns to consider the legal and political implications of our general recommendation, in Chapter 4. One critical issue raised by many experts and witnesses is the attitude of the United States, and this too is taken into account in the context of discussion on our international treaty obligations. The Report concludes with a summary of the recommendations, in Chapter 5, which is followed by the Appendices.

TERMS OF REFERENCE

Whereas there has been long and considerable debate in Jamaica regarding the decriminalisation or non-decriminalisation of ganja in well-defined circumstances and under specific conditions,

Whereas differing views have been urged on the advisability of allowing the possession of specified quantities of ganja, its permissible use by adults within private premises, while continuing to prohibit its smoking by juveniles or by anyone on premises to which the public ordinarily has access,

Whereas some Groups have proposed that its use as a sacrament for religious purposes ought to be sanctioned,

Whereas there is a body of scientific opinion which attests to its medicinal qualities and clinical value,

Whereas serious questions have been raised as to its impact on health, on patterns of social behaviour, its implications for the economy and possible effects relating to crime and security,

Whereas there are international treaties, conventions and regulations to which Jamaica subscribes that must be respected,

In consideration thereof a National Commission is hereby established, with the following of Reference:

i. To receive submissions or memoranda, hear testimony, evaluate research and studies, engage in dialogue with relevant interest Groups, and undertake wide public consultations with the aim of guiding a national approach.
ii. To indicate what changes, if any, are required to existing Laws or entail new legislation, taking account of the social, cultural, economic and international factors.
iii. To recommend the diplomatic initiatives, security considerations, educational process and programme of public information which will need to be undertaken in light of whatever changes may be proposed.

iv. To consider and report on any other matter sufficiently relating to the foregoing.
v. To make such interim reports as it may deem fit and a final Report within a period of nine months from the first sitting.

September 2000

CHAPTER 1

METHODOLOGY

1. Guided by our Terms of Reference the National Commission of Ganja (NCG) visited every parish capital except one, in addition to several other townships. Exception was Black River, the capital of St Elizabeth, substituting instead, on advice, the market town of Santa Cruz and the seaside village of Treasure Beach.
2. Hearings were of two sorts. The first was *in camera*, in order to provide those who wished the privacy to state their own views in confidence, and without fear of intimidation, recrimination or exposure.

3. The Commission also held hearings in public, in squares, markets and street corners of inner city communities and rural townships, in an effort to reach people who might not have been aware of the Commission or its presence, or who, though aware would otherwise not bother to respond.

4. Aware that a Commission set up to look into the decriminalisation of ganja at the present time would necessarily attract more of those in favour of changing the laws than those against any change, and fearing that in the midst of a vocal majority in favour of decriminalisation those against any amelioration might be inclined to be reticent, the Commission made it a special point of inviting the views of those it believed held conservative positions. Thus, apart from declared Christians interviewed as part of the general public, the Commission interviewed members of the Linstead Baptist Church, the President and students of the United Theological College of the West Indies, His Grace the Archbishop of Kingston, the Lord Bishop of Jamaica, the Chairman of the Church of God in Jamaica, the Reverend Dr Garnet Brown, and two theologians of St Michael's Seminary.

5. Written submissions were also received voluntarily from many persons, most of them living in distant parts of Jamaica or abroad, by post or electronic mail.

6. Scores of organisations and professionals were targeted and invited to submit. While no more than 40% of organisations responded, due largely, we believe, to the fact that most had not worked through a position, those that did were of enormous import to the Commission.

7. The Commission also undertook a literature review, focusing on the most up-to-date

summaries, owing to the voluminous corpus of medical and scientific studies that have been on-going all over the world in the course of the last twenty-five years.

8. A comprehensive review of the relevant laws and United Nations Conventions was made, and expert advice sought from legal luminaries.

9. Finally, the Commission availed itself of the opportunity of one of its members on a business trip to The Kingdom of The Netherlands to familiarise itself with practices in that country, one of a few in Europe to have *de facto* decriminalised and regulated cannabis use in small quantities.

CHAPTER 2

THE MEDICAL-SCIENTIFIC LITERATURE

INTRODUCTION AND BACKGROUND

Cannabis sativa plant is called 'ganja' in India and Jamaica, 'marijuana' in North America, 'hif' in North Africa and 'dagga' in South Africa. The plant produces a resin often referred to as 'hashish'.

As early as 2737 BC the Chinese Emperor Sheng Nun described cannabis as a superior herb and for centuries it was embraced unreservedly (Cole 2000). There are records of its use in Arabic medicine dating back to the 8th century. Cannabis sativa was used for over a thousand years as a textile and medicine in Arabia, Mesopotamia, Persia, Egypt, China, India and extensive areas of Europe (Lozano 2001). In 1901 a United Kingdom Royal Commission concluded that cannabis was relatively harmless and not worth banning (Cole 2000).

Cannabis sativa was classified in the 18th century by Carl von Linne. It was first admitted to western pharmacopoeias in the 1800s. In 1839 W.B. O'Shaghnessy at the Medical School of Calcutta observed its use in the indigenous treatment of various disorders and found that tincture of hemp was an effective analgesic, anticonvulsant and muscle relaxant (Grinspoon 2000). It was included in the British, United States and Indian Pharmacopoeias up to 1932, 1941 and 1966, respectively.

Ganja was brought to the West Indies in the middle 19th century by East Indian labourers who came primarily to Guyana, Trinidad and Jamaica. Up until the early years of the 20th century it was widely used as a folk medicine and did not appear to constitute a major social problem.

Beginning in the 1920s, interest in cannabis as a recreational drug grew. During the 1960s and 1970s there was a large increase in the use of smoked cannabis as an intoxicant in the USA and Europe. Starting in the 1980s there has been renewed interest in the potential medicinal uses of cannabis and its derivatives.

RESEARCH

There have been many commissions over the years looking at the effect of cannabis. Some

of these are:

- Indian Hemp Drug Commission
1894

- Panama Canal Zone Report
1924

- LaGuardia Commission Report
1944

- The British Wooten Report
1969

- The Canadian La Dain Commission Report
1970

- National Commission on Marihuana and Drug Abuse (USA)
1972

- The Dutch Baan Commission
1972

- Commission of the Australian Government
1977

- National Academy of Science Report (USA)
1982

- Report by the Dutch Government
1995

- Report to the House of Lords (Britain)
mid 1990s

There is also extensive research at a number of levels. The use of cannabis engenders strong feelings and many of the research reports reflect this. There is a strong body of opinion that sees cannabis as harmful and advances 'scientific evidence' to prove this. On the other hand there is an equally strong body of opinion that feels that cannabis has been unnecessarily vilified and that it has relatively minor harmful effects and great potential for medicinal use. This group also advances 'scientific evidence' to prove its point. It is therefore necessary to analyse the 'scientific evidence' bearing in mind the source and especially to note those items agreed on by both groups and done by independent groups such as the World Health Organization (WHO).

EPIDEMIOLOGY OF GANJA USE IN JAMAICA

Ganja is widely used for recreational, medicinal (folk medicine) and religious purposes in Jamaica. The 1990 Carl Stone study among respondents age 15 and over island wide showed 47% in the Metropolitan areas and 43% in the rural areas who had ever used ganja. The usage was higher among males than females but cut across all social, educational and economic groups. In the upper income group 46% of males and 25% of females had tried ganja, the figures for the middle income group were 33% of males and 10% of females, and for the lower income group 52% of males and 18% of females.

A national lifestyle survey carried out by the Ministry of Health in 1993 reported that among Jamaicans 15 — 49 years old 37% of the men and 10% of the women had ever used ganja.

A 1997 survey by Ken Douglas among 8,000 in-school adolescents, grades 9 to 13, found 27% had had lifetime ever-use of smoked ganja, a significant increase from the 20% reported in a 1986 school study. In the 1997 study 20% reported ever use of ganja tea. Turning to current use over the preceding 30 days, the study showed 8% had smoked ganja and 6% had had ganja tea.

Recent data coming out of Treatment and Rehabilitation Centres published in the National Council on Drug Abuse *Infosum* for October 2000 shows that some of the clients admitted with a history of smoking ganja had their first use as early as between 5 and 9 years old.

Of 282 clients who went into treatment for a ganja habit in 1999-2000, 4% started using the drug from age 5 to age 9, 26% from age 10 to age 14 and 3% from age 15 to age 19, that is one-third of them started smoking ganja at the age of 19 or below. These figures show the widespread use of ganja in Jamaica and the early age of initiation.

Other studies have sought to look at any link between traffic accidents, trauma and drug use. The role of alcohol is well recognised but the possible causative role of ganja is less clear. Francis *et al.* (1995), in a pilot study of alcohol and drug-related traffic accidents and deaths in two Jamaican parishes, found evidence of alcohol intake in 77.5% of fatalities and 35.5% had alcohol levels above the legal acceptable limits; 22.5% of road traffic fatalities tested positive for cannabis and 3.2% for cocaine.

McDonald *et al.* (1999) took sera and urine samples from 111 trauma patients seen at the Accident and Emergency Department of the University Hospital of the West Indies, Jamaica, over a three-month period. Alcohol levels were tested in the blood and the urine was tested for metabolites of cannabis and cocaine. Results showed 38% of patients negative for any drug, 62% positive for one or more drugs; 15% for alcohol only, 15% for alcohol and cannabis, 25% for cannabis only, 5% for cannabis and cocaine, 1% for cocaine only, and 1% for all three.

Many patients admitted to the psychiatric services on the island report ganja use. For example, approximately 60—80 % of males admitted to the Cornwall Regional Hospital Acute Psychiatric Unit in 1999 gave a history of ganja use, although this was not necessarily the reason for their admission (Abel 2001).

PHARMACOLOGY

Cannabis sativa contains 400 known chemicals. The family of chemically related 21-carbon alkaloids found uniquely in the cannabis plant are known as cannabinoids. There are sixty different cannabinoids. One of these, *delta-9- tetrahydrocannabinol* (THC), is the most abundant and accounts for the intoxicating properties of cannabis. THC dissolves readily in fat but not in water. When smoked, THC is rapidly absorbed into the blood stream, giving perceptible effects within minutes. When taken by mouth peak effect may not occur for hours but last much longer. The THC also persists in the brain longer than in the blood, so that psychological effects persist for some time after the level of THC in the blood begins to fall.

THC is widely distributed in fatty tissue of the body, whence there is slow release, thus producing low levels of THC in the blood for several days after a single dose, although

there is no evidence that any significant pharmacological effects persist for more than 4-6 hours after smoking and 6-8 hours after ingestion.

It is now recognised that THC interacts with a naturally occurring system in the body, known as the cannabinoid system. THC takes effect by acting upon cannabinoid receptors. Two types of cannabinoid receptors have been identified, namely the CB1 receptors and the CB2 receptors.

CB1 receptors are present on nerve cells, in the brain and spinal cord as well as in some peripheral tissues; CB2 receptors are found mainly in the immune system and are not present in the brain (NCDA1998).

The CB1 receptors are distributed differentially in the various regions of the brain, in a pattern that is similar throughout a variety of mammalian species, including humans. Most of the receptors are in the basal ganglia, cerebellum, cerebral cortex and hippocampus. A rough correlation appears to exist between the distribution and some of the effects of cannabis. For example, binding sites in the hippocampus and cortex are linked to the subtle effects of cannabis on cognitive function, while those in the basal ganglia and cerebellum may be associated with cannabis produced ataxia (WHO 1997).

From animal experiments, CB1 receptors seem to mediate pain relief, memory impairment, control of movements, lowering of body temperature and to reduce gut activity. It is also assumed that they mediate the intoxicant effects of THC (NCDA 1998).

Little is known about the physiological role of the more recently discovered CB2 receptors, found in macrophages (white blood cells) in the spleen, but they seem to be involved in the modulation of the function of the immune system.

The presence of this cannabinoid system has implications for further research into the effects of cannabis on the body and the potential beneficial uses of cannabis.

EFFECTS OF CANNABIS

Acute effects

A state of euphoric intoxication is induced. There is mild intoxication, relaxation, increased sociability, heightened sensory perception and increased appetite. In higher doses acute effects can include perceptual changes, depersonalisation and panic (WHO 1997).

Other behavioural changes associated with cannabis intoxication include loss of time sense, sensation of 'high', anxiety, tension and confusion (Matthew *et al.* 1993).

Intoxication with cannabis leads to slight impairment of psychomotor and cognitive function, which is important for those driving a vehicle, flying an aircraft or operating machinery. Subtle impairment of cognitive function may persist for twenty-four hours.

There is sufficient consistency and coherence in the evidence from experimental studies and studies of cannabinoid levels among accident victims to conclude that there is an increased risk of motor vehicle accidents among persons who drive when intoxicated with cannabis (WHO, 1997). Cannabis can impair various components of driving behaviour, such as braking time, starting time, and reaction to red lights or other danger signals. However, persons under the influence of cannabis may perceive that they are impaired and where they can compensate, they do so.

Such compensation may not be possible when they are presented with unexpected events and hence the risk of accidents remains higher following cannabis use (WHO 1997).

A study carried out on the effects of cannabis on aircraft pilot performance showed that cannabis use impaired flight performance at 0.25, 4, 8, and 24 hours after smoking. These results suggest that human performance while using complex machinery can be impaired as long as 24 hours after smoking as little as 20mg of THC, and that the user may be unaware of the drug's influence (Leirer *et al.* 1991).

There is a short-term effect on the cardiovascular system. There can be an increase in the heart rate and lowering of the blood pressure. This would be of concern in persons with ischaemic heart disease (angina).

A single dose of cannabis for an inexperienced user, or an over-dose for a habitual user can sometimes induce a variety of intensely psychic effects, including anxiety, panic, paranoia and feelings of impending doom. These effects usually persist for only a few hours.

Signs of intoxication include blood-shot eyes, lack of coordination, enhanced sensations and perceptions, increased appetite, dry mouth, possible dizziness and nausea.

Effects on the Brain–Psychiatric/Psychological

Cannabis (THC) is said to affect the neurons (brain cells) in the information processing section of the hippocampus, the part of the brain that is responsible for memory and the integration of sensory experiences with emotion and motivation.

Literature on both sides recognise that short-term memory can be affected in the acute phase of ganja intoxication. This does not seem to affect recall of previously learned items but does appear to interfere with the learning of new material. Researchers note great variation in results to cognitive testing and point out that individual response to marijuana varies considerably (Zimmer and Morgan 1997).

Marijuana's effect on cognition in the real world seems to depend on the time and place people choose to use marijuana and the tasks they are performing. In the laboratory, marijuana temporarily impairs short-term memory and learning. In real world structured settings, such as the classroom, it is likely to have similar effects (Zimmer and Morgan 1997).

Several studies have shown that cannabis appears to increase the perceived rate of the passage of time. Cannabis is also known to impair psychomotor performance in a wide variety of tasks, such as handwriting and tests of motor coordination.

There is less agreement about the long-term effects of ganja on the brain. Some authorities state that chronic marijuana use interferes with the interplay of chemical and electrical impulses between brain cells, causes shrinkage and death of brain cells. However, other authorities point out that the experiments showing death of brain cells were carried out in animal models exposed to concentration of THC about 100-fold higher than even a heavy marijuana user would be exposed to. It is stated that in other studies exposing monkeys to amounts equivalent to 4-5 marijuana cigarettes a day for a year these findings could not be replicated (Zimmer and Morgan 1997). The early claims of gross anatomical changes in the brains of chronic cannabis users have not been substantiated by later studies with high-resolution computerized tomography, in either humans or primates (Rimbaugh *et al.*1980; Hannerz and Hindmarsh 1983).

It is felt that learned behaviours, which are dependent on the hippocampus, deteriorate after chronic exposure to THC and that chronic abuse of cannabis is associated with impaired attention and memory. It is also reported that prenatal exposure is associated with impaired verbal reasoning and memory in pre-school children (Abel 2001).

Zimmer and Morgan point out that during the past thirty years, researchers have found, at most, minor cognitive differences between chronic marijuana users and non users, and the results differ substantially from one study to another. Based on this evidence, it does not appear that long-term marijuana use causes any significant permanent harm to intellectual ability. Even animal studies, which show short-term memory and learning impairment with high doses of THC, have not produced evidence of permanent damage.

Studies (Fletcher *et al.* 1996) have shown that the long-term use of cannabis leads to subtle and selective impairment of cognitive functioning. Prolonged use may lead to progressively greater impairment, which may not recover with cessation of use for at least 24 hours (Pope and Yurgelun-Todd 1995) or 6 weeks (Solowij *et al.* 1991), and which could potentially affect functioning in daily life.

Not all individuals are equally affected. The basis for individual differences needs to be identified and examined. There has also been insufficient research to address the impact of long-term cannabis use on cognitive functioning in adolescents and young adults, and on different age groups and genders (WHO 1997).

The Diagnostic Statistical Manual IV for classification of disorders and diseases recognises the following conditions:

Cannabis Dependence
Cannabis Abuse
Cannabis Intoxication
Cannabis Induced Psychotic Disorder
Amotivational Syndrome
Cannabis Induced Anxiety Disorder
Cannabis Induced Mood Disorder.

Cannabis dependence is seen as compulsive, habitual use and not a physiological dependence or addiction. Tolerance to most of the effects of cannabis has been reported in individuals who use cannabis chronically (Abel 2001).

Studies conducted over many decades in a variety of settings have found that when high-dose marijuana users stop using the drug, withdrawal symptoms rarely occur and when they do, they tend to be mild and transitory (Zimmer and Morgan 1997). The presence of withdrawal symptoms is one of the markers for addiction. It is therefore felt that cannabis is a weakly addictive drug but does induce dependence in a significant minority.

However, in the WHO report, **Cannabis: a health perspective and research agenda**, it is stated that clinical and epidemiological research has clarified the status of the cannabis dependence syndrome. A reduced emphasis on the importance formerly attached to tolerance and withdrawal symptoms in diagnostic criteria for dependence has removed a major reason for scepticism about the existence of a cannabis dependence syndrome.

Research using standardised diagnostic criteria has produced good evidence of a cannabis dependence syndrome that is characterized by impairment, or loss of control over use of the substance, cognitive and motivational handicaps which interfere with occupational performance and are due to cannabis use, and other related problems such as lowered self-

esteem and depression, particularly in long-term heavy users. As with other psychoactive substances, the risk of developing dependence is highest among those with a history of daily cannabis use. It is estimated that about half of those who use cannabis daily will become dependent (Anthony and Helzer 1991).

Since tolerance and withdrawal symptoms are still widely regarded as diagnostic criteria of substance dependence, it is worth noting that there is abundant experimental evidence of tolerance to many of the effects of cannabis. There is not yet universal agreement about the production of a withdrawal syndrome (WHO 1997).

Apart from the acute psychic effects noted previously, cannabis intoxication in some instances may lead to a longer lasting toxic psychosis involving delusions and hallucinations that can be misdiagnosed as schizophrenic illness. This is transient and clears up within a few days of termination of cannabis use.

It is well established that cannabis can exacerbate the symptoms of those already suffering from schizophrenic illness and may worsen the course of the illness (NCDA 1998; WHO 1997).

The occurrence of an "amotivational state" in long term heavy cannabis users with loss of energy and the will to work has been postulated. However some feel that this represents nothing more than an ongoing intoxication (NCDA 1998).

Studies of high school students show that heavy marijuana use is associated with academic failure. Heavy marijuana users have lower grades and lower career aspirations than occasional users or nonusers. Heavy marijuana users are also more likely than occasional users or nonusers to drop out of school before graduation. However, most high school students who use marijuana heavily were performing poorly in school before they began using marijuana. Most have a number of emotional, psychological, and behavioural problems, often dating back to early childhood (Zimmer and Morgan 1997). It is therefore possible that the underlying problems lead to the marijuana use rather than the marijuana being the cause of all the problems. When studies control for other factors marijuana use makes no significant contribution to high school student's academic performance (Zimmer and Morgan 1997).

It is noted that there are a number of factors that influence the effects cannabis may have on an individual. These include:

- Potency of the cannabis (the THC content of marijuana is said to have increased from the 1960s to the present time and varies among different plants)
- The route of administration
- The smoking technique
- The dose
- The setting
- The user's past experience
- The user's unique biological vulnerability to the effects of cannabis.

Effects on other organ systems

Respiratory System

Tobacco smoking causes a number of lung diseases, including chronic bronchitis, emphysema and cancer. Except for their active ingredients–nicotine and cannabinoids–bacco smoke and marijuana smoke are similar with a greater concentration of the

carcinogenic benzathracenes and benzpyrenes in marijuana smoke.

In the United States, marijuana smokers typically inhale more deeply and retain smoke in their lungs longer than tobacco smokers. As a result, marijuana smokers deposit more dangerous material in the lungs each time they smoke. However it is said to be the total volume of inhaled toxic material over time that matters and not the amount inhaled per cigarette. It is further postulated that even heavy marijuana smokers never reach the smoke consumption levels of heavy tobacco smokers (Zimmer and Morgan 1997).

Theoretically, the risks to the respiratory tract of smoking marijuana are similar to those of tobacco smoking. In human studies, it has been shown that the principal respiratory damage caused by long-term cannabis smoking is an epithelial injury of the trachea and major bronchi (WHO 1997). The alveolar macrophage, the key cell in the lung's defence against infection, has been shown to be impaired by cannabis smoke in both animal and human studies (WHO 1997). Studies suggest that regular cannabis consumption reduces the respiratory immune response to invading organisms. Further, serious invasive fungal infections as a result of cannabis contamination have been reported among individuals who are immuno-compromised, including a series of patients who were affected by AIDS (Denning *et al.* 1991).

These findings suggest that persistent cannabis consumption over prolonged periods can cause airway injury, lung inflammation, and impaired pulmonary defence against infection. Epidemiological studies that have adjusted for sex, age, race, education, and alcohol consumption, suggest that daily cannabis smokers have a slightly elevated risk of respiratory illness compared to non-smokers.

Reproductive System

Studies, including a Jamaican study, have shown lowered sperm count and motility in ganja smokers compared to non-smokers (NCDA 2001). There is no demonstrable difference in testosterone level or levels of female sex hormones. In neither male nor female have researchers produced evidence of permanent harm to reproductive function from either acute or chronic marijuana administration. There is no convincing evidence of infertility related to marijuana consumption in humans (Zimmer and Morgan 1997).

Results from research looking at effects of cannabis smoking in pregnancy vary. Some reports point to an increased risk of early foetal death, decreased foetal weight and premature birth. In animal studies, THC has been shown to produce spontaneous abortion, low birth weight and physical deformity–but only with extremely high doses, only in some species of rodents, and only when the THC is given at specific times during pregnancy. Studies with primates show little evidence of foetal harm from THC (Zimmer and Morgan 1997).

There is reasonable evidence that cannabis use during pregnancy impairs foetal development, leading to a reduction in birth weight, perhaps as a consequence of shorter gestation, and probably by the same mechanism as cigarette smoking, namely, foetal hypoxia (WHO, 1997).

There is ongoing research, for example the Ottawa Prenatal Prospective Study, looking for possible effects of prenatal exposure to cannabis on later development. So far there is no consistent evidence of any significant difference in the development of children exposed to prenatal cannabis as against those not so exposed. The study suggests that any long-term consequences of prenatal exposure to the child are very subtle. (Fried 1980; Fried 1995).

Another study suggests that in utero exposure to cannabis can affect to some degree the mental development of the growing child (Day *et al.* 1994).

MEDICINAL USES OF CANNABIS

The medicinal uses of cannabis are well documented in the modern scientific literature. Using either smoked cannabis or extract preparations from the cannabis, researchers have conducted controlled studies.

The broad range of potential therapeutic applications of cannabinoids reflects the wide distribution of cannabinoid receptors throughout the brain and other parts of the body. The possibility of distinct subtypes of cannabinoid receptors and the probable development of new compounds to bind selectively to these receptors, as either agonists or blockers, may well open the door to the selective treatment of a number of disorders.

Areas in which cannabis has been shown to have therapeutic use are:

- Reducing nausea and vomiting
- Stimulating appetite
- Promoting weight gain
- Diminishing high intraocular pressure from glaucoma

There are also reports of use of cannabis for:

- Reduction of muscle spasticity from spinal cord injuries
- Reduction of muscle spasticity and tremors in multiple sclerosis
- Relief of migraine headaches
- Depression
- Seizures
- Insomnia
- Chronic pain

Although an anti-emetic effect of THC had been suggested as early as 1972, the first report of a placebo-controlled trial came in 1975 from one of the top oncology centres in the USA (Hollister 2001). An oral preparation, dronabinol, has been used especially in cancer chemotherapy patients for control of the side effects of nausea and vomiting. Although smoked marijuana is often preferred by the patients, whether it is superior to orally administered THC has not been tested in controlled comparisons (Hollister 2001). Smoked cannabis is more immediate in its effects than oral THC. Cannervert is also available for use in motion sickness.

The use as an appetite stimulant is of particular use in cancer and AIDS patients. In the USA, approximately 16 per cent of the total AIDS population suffer from the progressive anorexia and weight loss known as AIDS wasting syndrome. An open pilot study of dronabinol in patients with AIDS-associated wasting syndrome showed it effective in increasing weight as well as being well tolerated (Hollister 2001).

The international literature recognises the role cannabis can have in reducing intraocular pressure in glaucoma. Local researchers, Professor Hon. Manley West and Dr. George Lockhart developed the extract Cannasol, which is now registered and used in the treatment of glaucoma. Another product, Asmasol, was developed based on the Cannasol research, for the treatment of cough, cold and bronchial asthma. There was also work done by the late Professor Sir John Golding and Professor West towards developing a protocol for use of a cannabis preparation in the control of pain in terminally ill patients (NCDA 1998).

In Europe, cannabis has been anecdotically reported to help in the symptoms associated

with multiple sclerosis. Published trials have shown some positive results especially for spasticity, the pain associated with spasticity, tremor and urinary bladder control (NCDA 1998). An antispasmodic action of THC was confirmed by the first clinical study (Petro and Ellenberger 1989).

There is undoubtedly need for much further research into the potential of the medicinal use of cannabis and its extracts.

CONCLUSION

Information on the effects of cannabis on physical and psychological functioning has increased greatly, as has knowledge of the extent and patterns of use. However, there is still a need for further research in several important areas, including clinical and epidemiological research on human health effects, chemistry and pharmacology, and research into the therapeutic use of cannabinoids. Moreover, there are important gaps in knowledge about the health consequences of cannabis use (WHO, 1997).

There needs to be continued objective research and ongoing public education about all aspects of Cannabis sativa use.

CHAPTER 3

THE FINDINGS

A. WIDE PUBLIC CONSULTATION

The overwhelming majority of persons appearing before the Commission feel that ganja should be decriminalised, but are united in restricting its use to private space and to adults. Their arguments are presented in this section.

(1) personal benefits

These range from miraculous-like cures to relief from simple colds, but they include well-known ailments and symptoms such as asthma and glaucoma. The Commission received many personal testimonies of benefits from either smoking ganja or ingesting it as tea or medicine steeped in rum. We heard the tale of a woman whose beast of burden was cured from the ashes stuffed in a wound; of a man stricken as a schoolboy with dengue fever, who drank the tea and was cured overnight; of a former Jamaica Constabulary Force member whose chronic hypertension, after nineteen years of prescribed medication, completely disappeared with the now regular smoking of ganja. We quote the story of a prominent professional stricken with cancer, who not only was "violently against ganja in the first place", but also at one time shared responsibility for ensuring that the country's exports were drug-free. Saved by the anti-nausea properties of ganja, but carrying a moral burden of falling on the wrong side of the law, he carefully and in measured wording argued that "*to impose restrictions and to impose the taint of illegality on something that may be used really as a home remedy, like mint tea or ginger tea or cerasse tea or whatever it is, creates an additional burden for those who are ill and imposes, it seems to me, a situation which reduces their ability to fight and overcome the condition which they are in*".

The stories of the personalised benefits of ganja are so deeply entrenched in the folklore of the people that we do not think any warnings as to its danger or attempt to suppress its use by punitive sanction stand any chance of success. More so because of recent scientific advances in manufacturing legal drugs from it as well as much publicised changes permitting "medical marijuana" at State levels in the United States and in Canada.

(2) God and the natural order

The Commission interviewed many people for whom the present laws fly in the face of God, the Creator. Their argument is that ganja is a natural, not a man-made, substance, given by God to be used by mankind as mankind sees fit, the same way that He provides other herbs and bushes. As a natural substance, ganja does not even have to be cultivated. Spread by birds and other vectors, it grows wild. It therefore cannot be eradicated. God also created other poisonous herbs but none of these is subject to the prohibition imposed by the law. In the simple words of a thirty-two year old handyman in Montego Bay, "*the weed don't really have no revenge carrying because it comes from God. He created all earth, trees, seeds, you know, so if you are going to fight against it you are fighting against what He does. You already know that man fight against a lot o' things that He does. If you are going to charge a man for it you have to charge God bec[illegible]e God make it.*" Or in the words of a sixty-five year old retired postal service worker, "*I hate to hear the word* legalise, *because how can you legalise the thing that God create? People must think weh dem talking, man. God say every herb is made for man, so God wen wrong when he mek ganja? God wen wrong? I tell you I hate to use the word* legalise *because you can't legalise weh God create, because God a God!*"

Among many people we spoke with in the streets, the influence of Rastafari mythology was clearly felt. One eighty-year old male Evangelist, who spoke of ganja as a creation of God, echoed the belief that it first appeared on the grave of King Solomon.

With such deeply-held religious views, which cut across gender and age, many regard the existence and prosecution of the laws against ganja as evil.

(3) not a crime

We met no one who regarded the simple possession or use of ganja as a crime in itself. There were those few, who, opposed to any change whatever, saw it as criminal by definition, that is criminal because the law says it is. But of the hundreds of people who spoke no one saw the drinking of ganja tea, or folk remedy use, as a socially harmful act belonging to the category of offenses against other persons. In other words, ganja use to them is not immoral. Many Christians found smoking in general to be reprehensible, if not sinful, and so categorised ganja smoking, but they too saw nothing essentially criminal about drinking it for tea or using it for medication.

(4) inequity

Universally, in the Commission's visits throughout the island, the views were everywhere the same: it was grossly unfair that alcohol and tobacco already proven to be more harmful substances were legal but ganja was criminal. "*What happen to tobacco weh a kill nuff people and a give people cancer*", angrily asked a young man in an inner city community, "*how dem legalise that and have that pon di shelf?*" His colleague-participant in the street corner interview before the Commission, replied: "*A pure hypocrisy dem keep up pon we. You know what a man tell me se and me have fi look pon him? The man look pon me and say, 'Is not everybody weh you see poor is fool'. And one o' di thing weh dem a use pon wi is dem thing deh like herb*" [This is all hypocritical. Do you know what a man told me that

made me respect him? The man said, 'Not everyone poor is a fool.' And herbs is one of those things that think we do not see through].

The difficulty of reconciling the legal status of tobacco, a known cause of lung cancer, or alcohol, a known cause of death, with the illegal status of ganja, not known in its entire history for having been the cause of a single death, led some to speculate that this was a form of the whiskey-drinking classes trying to keep down the poor man from having his "poor man whiskey", or of the "white people" suppressing the colonial peoples of Asia, Africa and the Americas, or, finally, of the liquor and tobacco companies stifling potential competition.

(5) alleviation of stress

Stress alleviation is a personal benefit, but we single it out because of the peculiar psychological effect attributed to it by so many we spoke with. A man told us of his experience, when, as a young man, he had taken a resolve to kill a policeman who was relentless in harassing him, but how a smoke of ganja calmed him, put the conflict in perspective, and saved the lawman's life as well as his own.

This calming effect was cited by many. According to one rural landowner who himself has been a chronic user, the legalisation, which he believed could not be mooted at the present time, would "*reap untold benefits in terms of social calm, in terms of reducing the friction that exists between the people and the police*". His views were echoed by a thirty-two year old inner city resident, who explained that "*more time you wi deh pon the road and some likl punk wi get you pissed off, and you do so bam, you burn a spliff, you cool, you just easy. It calm you down. That is what me know it do, it do for the body. It calm you.*"

A resident in yet another inner city community explained to the Commission the importance of ganja in the prisons: "*You see all a man weh deh pon long sentence? A herbs a man use and run him sentence! That is why you see herbs haffi smuggle inna jail, no care what happen–herb dem man-deh use and run dem sentence!*" [Take the case of a man on long sentence. It's the herbs he uses to cope with his sentence. That's why the herbs has to be smuggled into prison, no matter what–it's herbs those men use to cope with their sentences].

He went on to say of themselves, "*We weh deh pon di road, we a prisoner, too, because we deh in a little segment. A herb we have fi use fi keep our control said way! A it mek we can go on day to day underneath dem stress ya weh wi a face. A herb wi have fi bun more time fi hold it and so that we don't do silly things!*" We understood him to mean that they too, although technically free, were prisoners of the ghetto, their "little segment", and resorted to ganja to keep control over themselves, to keep from doing "silly things", that is running afoul of the law.

(6) criminalising the non-criminal

Many were the submissions to us that addressed the danger to society already posed by criminalising ganja. A corollary of (c) above, the lumping of ganja users together with men who have committed serious crimes against the person only serves to corrupt them. According to many, the jailed ganja offender is often forced into a situation where unless he exhibits "bad man" ways he cannot survive the lock ups, or where he develops sympathy for hardened criminals or enter into relations with them. Having gone in as a law-abiding person, except for ganja, which no one regards as wrong, he returns a bitter opponent of the rule of law.

Others, including one officer of the law, identify the criminal problem with ganja as coming not from its effect on the user but from the illegal and immoral activities surrounding the growing and trafficking of it. Their views coincide remarkably with the views of experts who cite the effect of Prohibition in the United States up to the 1930s. Complete legalisation of all banned substances, these experts argue, would cripple the criminal syndicates and organisations that are reaping vast amounts of wealth controlling the production and distribution, and by placing the emphasis on education and rehabilitation would be less costly to State and society than the efforts to suppress.

crack/cocaine

Almost everywhere it went, in town, in country, the Commission heard tell of the scourge which crack/cocaine addiction has had on communities. In terms of social impact, ganja use was far less a threat than cocaine addiction. A sixty-two year old housewife in a passionate statement, told the Commission:

As I stand up here, I have a son and him have eight subjects in CXC. And if I stand up here him will sell me. I can't take mi eye off him. Him break mi place and him do all manner of evil. Sometimes me say me would a buy something and poison him kill him. Me naw tell you nuh lie, you know. Mi say I woulda give him a good plate a food and see him dead. Mi tired a it, me get fed up. Well if him did a smoke the ganja, me nuh think him woulda gwaan so. The coke mash up the people-dem. A dat the people must hail out on, not the ganja. I don't smoke and I don't know what dem get from it, but I believe a di coke dem fi stan up pon.

This mother's pain was intense and personal. But other depositions made before the Commission represented that serious erosion of the social fabric, which once guaranteed the stability and sociality of community life, has been taking place. The corruption crack/cocaine has brought about poses, they believe, a serious threat to the society. They link the call to decriminalise ganja to the urgent need to curb the cocaine menace.

B. VIEWS OF EXPERTS AND INFLUENTIAL LEADERS

Written and oral submissions were made by a number of professionals, volunteers and persons of influence in the country, whose expertise and special interest make their views compelling.

(1) Professional and volunteer workers with Addicts

In their own individual capacities, several professionals and volunteers declared their support for the decriminalisation of ganja to the extent set out in the Terms of Reference. Their arguments cover some of those proffered by the general public, for example the inconsistency where tobacco and alcohol are concerned, but include as well:

i. the fact that ganja is not manifestly harmful for the majority of people who use it in one form or another;
ii. the inability to suppress it by legal means;
iii. the wasteful use made of the criminal justice system, in terms of its human and financial resources; and
iv. the compromising of the anti-drug message.

In relation to (iv) the views of two experts are well worth quoting *verbatim*.

Expert 1: In our school programme there is no perception of harm in the use of ganja, none whatsoever. So, let us say the education is the key.

Expert 2: It is very, very hard to convince these young people that they should not smoke it.

Expert 1: Personally, I am not so sure whether decriminalising would make a big difference. Our young people are trying to give us a message and we are not listening to them. They have not bought [our] message, and for some reason the education that we have been giving them maybe has not been clear. They are getting cross-[illegible] sages.

Chairman: Are you saying that young people are using...ganja as a way of telling us something?

Expert 1: I think the fact that the usage is so widespread and it is growing, not just here, but right throughout the world, I think they are trying to tell the world that "we are not buying your message".

Expert 2: I think what you are saying is that the type of education that is out there, what young people are saying is that "we don't believe that is so". So it comes back to who develops the policies and who develops the materials. Most of them [who develop the policies and materials] don't really understand what this drug is all about anyway. And if you tell a child that marijuana is going to impair their memory, but their mothers and their grandmothers and everybody around them have been using it for the last twenty years and they don't see any harm, they are not going to believe the message. So I think, when we look at the message, the type of education, it needs to be developed by people who really know, people who are in recovery, people who work with young people every day, people who used the drugs themselves.

Expert 1: Not tying the message of ganja in with other drugs. There has been a tendency that a drug is a drug is a drug. And drug education went across [like that]. And, really, from my own experience working with young people, that is not working. We have to be much more specific in the fact that we are doing education on ganja, that it is specific and we are not linking it with a drug like cocaine.

The gist of this excerpt is that current education to discourage ganja use by children lacks credibility. For it to succeed, ganja should be separated from hard drugs, its criminal status reversed, and the education around it framed and carried by people with personal experience of the substance. All the experts, and indeed all but a very few of the over two hundred users and non-users who made depositions, argue that ganja, particularly in the form of smoking, should be kept away from children. Many were the examples brought to us of students, almost always boys, who became demotivated after beginning to smoke ganja. To convince such young people to refrain requires an entirely different strategy from that adopted for the control of other substances, particularly crack/cocaine.

(2) Counselling Psychologist

A trained Counselling Psychologist, with many years experience working at the Bellevue Mental Hospital, and in managing a drug rehabilitation centre, spoke on his own behalf.

Carefully distinguishing between the legal status of cannabis and its effects, he presented a case that the legal status of the substance was not due to its effects. The same was true of the 1919 ban on cocaine under the Harrison Act in the United States, as well as the ban on alcohol and the lifting of the prohibition in 1933. The 1937 ban on marijuana was not guided by medical knowledge. What motives there were, he opined, could have been economic, but he was convinced from his historical research that medical motives were not

the reason. Turning to the effects, the Psychologist pointed out that it was true that ganja had ill effects, in particular as a dis-inhibitor in young users. But both those who supported and those who opposed the status quo, by being one-sided, were victims of a jaundiced view. "Those who support the legalisation sometimes speak as if the drug has absolutely no harmful effect. I think they are speaking maybe not out of ignorance but out of anger for the lies that have been told on the drug, to the extent that they ignore some of the truths in their defense of it. The harm that marijuana can cause cannot in any way justify it being illegal. If that were the case, we should maybe make ackee illegal, because by far ackee contains one of the most deadly substances that human beings can ever come in contact with."

He supports decriminalisation, pointing to the threat to the rule of law entailed in maintaining laws that cannot be enforced.

(3) CODAC

Under the National Council on Drug Abuse, scores of Community Development Action Committees (CODACs) operate at community level. The Commission heard from individual members in several areas of the country, all of them supporting decriminalisation. One of the most persuasive, however, was the Coordinator of a CODAC from a working-class community in Kingston.

"The community supports conditionally the decriminalisation of possession of ganja for personal use, not because it is harmless–all smoking is harmful, but under the present law otherwise law-abiding persons are treated as criminals. The smoking of ganja should be a health concern and not a criminal matter; not an act for punishment but a matter of medical instruction and help. In addition, for every individual arrested and charged, several are not apprehended. One youth is held at a corner and taken to the police lock-up, but hundreds of individuals blow ganja smoke in the face of other spectators at the National Stadium unchallenged. Feelings of partiality and injustice are harboured and people lose respect for the system of law."

The Coordinator addressed several critical issues. One was the gap created between the community and the police. Young men refrain from joining the well organised Police Youth Clubs because as ganja smokers the clubs bring them too close to the police, who they feel more easily frame a smoker than a non-smoker.

The women also–mothers, sisters, girlfriends–dislike the police for harassing their sons, brothers and spouses over a spliff "while they, the police, are having dealings with the ganja men."

More critical is the need to look beyond the fact that young people are using cannabis, to **why** they are using it. Faced with deep emotional and psychological problems, some of them peculiar to their stage of development, others to their social and economic status, they turn to ganja.

"We have found that in our community six youngsters who were involved in firing guns–they say they were defending the area from others, in all these cases their fathers were gunmen, killed by gunmen. In two instances the fathers were thieves, killed by the police. Now, somehow they seemed able to go along with this, until they reach fifteen, sixteen, and then the anger starts to come out.

One young person says he hates every May and June. Why? We found out. Mother's Day is in May and Father's Day is in June, and he knows neither mother nor father. And this is somebody who has been to a Technical High School, and he is under so much stress

sometimes. So when he said, 'Do you know that I used to defend a gun?' I said, 'Well, I am not surprised.' He said, 'I used to hold up people, too, you know.' The emotional problems, what happens inside! They are having real problems, emotional problems. I think we tend to talk to them but we don't listen to them. We don't hear what they have to say.

I think it is established that most of the youngsters are regularly abusing ganja because of these other emotional and psychological problems and they all tell us that it is a comfort. It relaxes them. Nearly every single one whom we have spoken with tell us this, that, you know, when you are out there the weekend, [and] you don't have anything to eat and there is no work, nothing, and somehow these things come across to you. And then they sit down there and the pressure comes on, and then they take it [ganja].

Now, two boys are having similar problems, stressed out. One his mother takes to her doctor and the doctor prescribes a tranquilizer. The other on the street has no mother, no money–his tranquilizer is a splif. The trouble is that he keeps using it because I suppose it is like you are having a headache, you take Panadol or Phensic. When this comes up for him, he just takes another splif and forgets what is happening. Now when you try to take that away from him, he becomes very angry and turns against the whole system, and says, 'Look, all of you are against us!'"

The CODAC's answer is a strategy that focuses not on the evils of ganja but on demand reduction, in the context of attending to the root problems. In this way the respect of the youths is won and they are inclined to take advice. Such a strategy, however, necessarily demands decriminalisation as the first step, before being able to tackle the emotional and social problems. Hence, the CODAC's recommendations:

(1) For private personal use as a cigarette splif and bush tea, a lineament, on private premises–no arrest.

(2) Smoking it in public places, public gatherings, a misdemeanour, and that is for openly disrespecting the law, and putting non-smokers at the risk of intoxication. In that case–a ticket, as in a traffic offence. The person receives a ticket to appear in the Drug Court.

(3) Students eighteen years and under smoking it in public should be taken to the Principal for the school to decide if the school will undertake to provide counselling or other support for that student, or if the Principal feels that the case should go to the Drug Court."

The Coordinator drew attention to the canvassed opinion of Guidance Counsellors from fourteen schools, most of whom opposed decriminalisation, their major concern being that it would remove the one barrier preventing students from smoking ganja. But in his opinion, the Counsellors were ill-informed, "they do not fully understand what is involved".

(4) The National Council on Drug Abuse (NCDA)

The Chairman of the NCDA presented to the Commission the position of the Council on the decriminalisation of ganja. Premised on its mission to reduce the supply and demand of illicit substances and the abuse of licit ones, the Council works with other agencies in implementing prevention projects.

The Council notes the important derivatives of ganja being marketed for medical use, but is aware of its acute effects, which have implications for learning and motor skills, and the possible negative effects of chronic use on production in both the private and public sectors. It is aware as well of the psychosis produced by excessive use and of marijuana-modified psychiatric states, which worsen certain psychiatric illnesses.

Notwithstanding all this, and in light of the worse effects produced by other substances that are legally available, the Council "support[s] the decriminalization of ganja, such as to allow the possession of small, specified quantities, by adults for use within private premises," with a number of measures aimed at primary prevention, protection of the general public, and rehabilitation of habituated users.

Decriminalisation would have to take into account Jamaica's obligations to the treaties and conventions it has signed and ratified, but the Council "is aware that many countries are considering the modification of their laws in respect to Ganja."

What led the Council to adopt such a position? "I can tell you," replied the Chairman of the Council. "One–the way it became a criminal act was totally unacceptable in this day and age. It should not have been there in the first place.

Two–when we examined the other substances now which are available and legal, we see that the damage that those things cause are much more potent than the evidence we have for ganja.... When you think of alcohol, the organ damage which results from alcohol you would be appalled–cancer of the throat, cancer of the stomach, cirrhosis of the liver, cancer of the liver, testicular atrophy, brain damage, pancreatitis, heart disease–can I stop there? Okay, let's talk about tobacco–lung cancer, throat cancer, cancers, emphysema, heart disease, hypertension. Those substances are legal and available. So, ... even though it has psychological influence, to use a splif should not be a criminal act."

The Council's position is the result of seminars and workshops, which included scientific and legal presentations.

(5) Medical Association of Jamaica

The President of the Medical Association of Jamaica spoke on behalf of the Association.

The Association is of the view that the present laws of criminalising people for small amounts "is probably having a worse effect than if it had been legalised," though the Association is not recommending legalisation. Possession of small amounts for personal use, within the confines of the home and not in public places, as long as this does not impinge on the rights of others to be at peace with themselves, could be decriminalised."

(6) The Chief Medical Officer

The Chief Medical Officer of Health, Dr Peter Figueroa, spoke to the Commission in his own individual capacity as an epidemiologist. He began by reminding the Commission of the widespread cultural significance of ganja, substantiated by a 1993 lifestyle survey which found an "ever smoked" incidence of 37% among men of ages 15 to 49, and 10% among women of similar age. Forty percent of these men and 22% of these women were what he would define as heavy users, that is they smoked three or more times weekly. Listing some of the side-effects to both short-term and long-term use, he drew the conclusion that "the use of ganja is adverse to good health and needs to be discouraged," but proposed that a different approach ought to be adopted to those substances that are culturally endemic from those that are newly introduced into society. "I am of the view," he said, "that criminalising ganja use when the use is personal and private does not make any sense." It does not, because, if the objective is to reduce use, experience (certainly with cigarette smoking) shows that prevention is more effective than treatment and rehabilitation. "[F]or me decriminalisation is simply a platform in order to better control and prevent the use of ganja. My own view is that to try any kind of educational programme in a climate of

criminalisation, you are not going to get anywhere, given the endemic use and the strongly-held confirmed views."

But even in a decriminalised context, education, though necessary, will not be enough to make prevention successful.

Again, drawing from his wide experience with tobacco use, the Chief Medical Officer said: "There are studies to show that where educational programmes are put in place with young people–serious programmes, starting from young age right through school, if you don't have the other measures in place, what happens is [that] the cigarettes are promoted." Other measures include limiting access through taxation and banning use in certain spaces, and serious health warnings with every purchase. In the case of ganja these must include measures that provide an environment supportive of the education, such as banning its use in public. "Decriminalisation," he emphasised, "is a platform for a strategic reduction of ganja use in the society, not for freeing up a lifestyle."

(7) Political Leaders

The Commission presents the views of two leaders in representative politics, one a medical practitioner and member of the Jamaica Labour Party (JLP), the other a practicing attorney and member of the People's National Party (PNP).

i. According to Dr Horace Chang, from a professional point of view "I don't see the risk involved in the use of ganja justifies it being made an illegal drug." He reminded the Commission that from as early as the 1970s a youth organisation he had established within the JLP called for decriminalisation. This position was taken to Parliament by Dr Percy Broderick, and resulted in the setting up of a Joint Select Committee of the House and Senate. Nothing came of it, however, so "we have kind of come full circle twenty-three years later".

The medical problem with ganja, as far as he saw, was ganja

psychosis, which affected no more than 0.5% of users. Most legal drugs had side effects, anyhow, often more serious and far-reaching than ganja. It was better, he felt, to educate around the risks than to ban wholesale a substance that was quite clearly cultural.

He raised what he saw as a far greater problem, that of cocaine, and shared with us his opinion that for the amount of cocaine seemingly passing through Jamaica, the number of persons addicted ought to have been greater. That it was not he attributed to ganja. "Culturally the strongest opponents [of cocaine] I find at the street level and in our poorer socio-economic group are people who actually use ganja. I find [they] just take a position that the 'white lady' will ensnare them". In other words, the culture around ganja functions as a buffer against the spread of cocaine.

ii. According to Mr Ronald Thwaites, ganja use by the young people in the constituency he represents in the city of Kingston, "is very much an antidote to boredom, a sense of uselessness and an inability to, by other means of occupation and recreation, actualise [their] best dreams."

He cites the example of some young men taken from his communities, the type who would have been smoking ganja, many of them with criminal records, put through the National Youth Service programme of personal discipline and social reconstruction, and who were so completely rehabilitated, that they were able to move into positions of assistant sports masters in primary schools. Thus, once gainfully employed they have little need ganja.

For him, the prosecution of ganja, especially with respect to small

quantities, and the way the interdiction is carried out, only serves to bring the law into disrepute. "One thing that the law must never do is fly in the face of the mores of a people for an extended period of time, where despite consistent interdiction, education and a standard being maintained by the law, it is still consistently at odds with their dominant social pattern".

Of far greater concern is crack/cocaine. "If I", said Mr Thwaites, "were ever to resile from being an abolitionist [as far as capital punishment is concerned], it would not be so much for murder as for the purveyors of the hard drugs, and cocaine especially. Those who spread cocaine in this community and crack, are not only murderers, they are mass murderers. And it is a reproach to the system of Government and the canons of law-abiding behaviour that we spend our time and our money voted for national security running after small quantities of ganja when I can identify for you–and I have identified for the police and the Ministry of National Security, at least four crack houses in this constituency, and nothing has been done!" This double standard, he was sure, was not lost on the people. It set "their teeth on edge against the law, against the whole tissue of social authority."

He concluded that, though not personally in favour of the use of ganja, it ought no longer to be proscribed by criminal law.

(8) Law Enforcement Officers

Also not to be ignored are the views of law enforcement officers. We first interviewed a retired Assistant Commissioner of Police, and a Sergeant of Police.

i. The retired Assistant Commissioner of Police, with forty active years in the JCF at all levels, interacting with the general public, observing the changes in beliefs over the period, and being party to the enforcement efforts before, during and after the period of mandatory sentencing, comes to the position that the possession of cannabis below a certain weight should not be a crime. That it has remained for so long on our statutes as a crime, which, aside from the sentence one serves, remains on one's record "is one of the most destructive aspects", one that has "a most deleterious effect on our young people".

In support of decriminalisation for private purposes, he is of the opinion that the relations between police and citizen, in particular the poor, was flawed by our failure at Independence to inculcate within the Force "a deep respect for the individual and the individual's home, however humble". The power to enter and search a home is a power that normally should not be granted easily in legislation to the law enforcers.

ii. "To be frank", according to a Sergeant of Police of a very large station, "for the small amount I think it costs the Government more to bring a person to court, than it costs the person. Because the paper that you write it on maybe costs more."

The officer expressed the view that ganja smoking does not of itself contribute to crime. What does is the prohibition that drives cultivation and trafficking underground. "Whatever contribution to crime is like a person plants [and] somebody comes in to steal it. That is where the crime comes in. But to say that because somebody use it they go out there and steal, I don't think that is a fact".

(9) His Grace the Most Reverend Roman Catholic Archibishop of Kingston

His Grace, the Archbishop, presented to the Commission the view that ganja use ought not to be criminal. He based this conclusion on three principles. The first was the theological approach that in creating the world and everything in it, God created them good and created them for the use of mankind. Second, God invested in mankind stewardship and dominion over all things. This required mankind to investigate, with a view to understanding, the qualities and capabilities of the various plants and herbs, including even noxious ones. And third, in the exercise of dominion, mankind was also expected to exercise responsibility. "We always teach people, 'Everything in moderation'. Anything that we do in excess, or abuse, is going to have ill-effects upon us."

Based on these principles, His Grace confirmed that the decriminalisation of ganja for private use would have the blessing of the Roman Catholic Church. He emphasised that the views he expressed were personally shared by his fellow Bishops in Jamaica.

Moderation being one of the principles on which their position stood, His Grace saw no necessity to regulate quantities, and would therefore support the conscientious use by certain people for religious purposes. "My thing is to respect a person's conscience and anything done in moderation, not abused. And if they see that it is something than can assist them in their prayer life and in approaching the divine, and [if] they genuinely and sincerely believe that God has provided it for them to assist them in that, then I can't say to that 'It is immoral'. And I can say to the Government to decriminalise it, unless the Government can say it is going to be abused in [the] act of worship."

(10) His Lordship, the Anglican Bishop of Jamaica

"[To] be consistent with Christian morality," the Lord Bishop said, "the fact that you are against something does not mean that it should be a criminal offence. I can think of maybe a thousand things that I would classify as one, and they are not criminal offences. In saying that, I would have no problem in decriminalising limited private use by adults of marijuana, without compromising my position that it is not something that [one] would consider to be good or healthy or right." Sharing with the Commission views from a paper he had written on the subject in 1977 at the request of the Bishop at that time, which he remains in substantial agreement with, he distinguishes the recreational from the medicinal and religious uses of ganja. He supports the decriminalisation for private medicinal and religious use, but has reservations about recreational use, because, although ganja is not addictive, it exposes young people to other more dangerous substances. But, agreeing that in practical terms, it would be difficult to decriminalise for private and religious but not for recreational use, he declares it unjust for any law to target, as this one does, the young, vulnerable and poor. "If the intention is to protect the morality of these young people, then you certainly cannot protect it by sending them to prison where they will mix with hardened criminals and come out as criminals, whereas they were not before and needn't have been." Morality cannot be legislated, he says. Ways need to be found, he concludes, to reduce demand through alternative activities "that people could find more wholesome" in achieving the same objectives.

(11) Lord Anthony Gifford

Lord Gifford in an early appearance before the Commission spoke to a written brief he presented in support of the decriminalisation of ganja, but arguing as well for its complete legalisation. Cautioning that he was not himself a user of ganja, but that his approach was that of a human rights advocate, Lord Gifford made the following points.

In the first place, "if there is a substance which is derived from something naturally grown

which gives a lot of pleasure to some, it should not in principle be bad just because it may be abused by others." From a spiritual point of view, it is better to encourage people to use responsibly what God has given. Secondly, educating people, especially young adults, is more effectively done on the basis that something is permitted but that they should exercise caution with it. Thirdly, the prosecution of so many unfortunate defendants, most of them for smoking splifs, is nothing short of a violation of their human rights.

Drawing attention to the conundrum that would ensue were possession and use to be decriminalised but production and trafficking not, he urged the Commission "to grasp the nettle" and recommend that it be legalised. Only thus would ganja be extracted from the criminal fraternity, and a regime laid down to allow it to be grown, bought and sold, subject to basic controls.

He found The Netherlands solution, where ganja is decriminalised for use in specially designated cafes, but still illegal, as "a kind of half-way compromise", which nonetheless, by separating ganja from hard drugs, has had the partial effect of reducing the use of the latter.

Lord Gifford drew the attention of the Commission to a recent judgment handed down by the Canadian court, which found the sanction against self-administered use of marijuana for medical conditions a violation of the right to liberty. In his opinion the Jamaica's ganja laws are in violation of human rights.

(12) The Rastafari

It would have been remarkable, indeed, if the Commission did not receive depositions from the Rastafari community. Apart from the many Rastafari adherents interviewed in the course of the Commission's hearings in various parts of the country, three delegations presented. The first, led by Abuna Foxe, came from the Church of Haile Selassie I, with branches in Kingston, New York and London. The second comprised elders of the Nyabinghi order, from Pitfour in the Montego Bay area, and led by Bongo Mannie and Ras Tafari, and the third was a team of three non-affiliated believers, led by Ras Iya. Two of these three delegations included women.

As is well known and in need of no repeating, the Rastafari cultivate the use of ganja for their religious purposes, although the tradition of giving it sacred status is of Indian derivation. As a community Rastafari have been advocating for its legalisation, or certainly defying its criminal status at great personal costs, for over half a century. Their appearance, therefore, presented the Commission with a valuable opportunity the more fully to appreciate the theological and ethical premises on which they justify and use ganja as a sacrament and a part of their way of life.

(a) The Church of Haile Selassie I

The leaders of the Church of Haile Selassie I base their justification of the use of the sacramental use of ganja on an analogous argument, using the doctrine of transubstantiation. In transubstantiation the bread and wine are transformed by the words of the priest into an entirely different material substance, namely respectively the body and blood of Jesus. In the same way, seeing that "in Rastalogy anything the word does not give a name to does not exist", the pronouncement of the Rastafari priest transforms the herb into "the body of the mighty Trinity".

In their ritual practice the sacred herb is placed on an altar, called a tabu, and blessed by the priest. Some of it is separated and placed into a censer and the congregation blessed with it. "The women is on the right hand side, the men on the left. So, what the priest do: him went

over the women and she say 'Bless me', and him make a chant over her head, and ... she inhales and she says a prayer on herself. And she let it out. That send it to the heavens–it is a communion."

Thus is the administering of the sacrament done, all present taking turns inhaling the sacred fragrance. The rest of the substance is distributed *ad libitum* in small quantities to adult male members–"our women don't smoke ganja", to take home at the close of the ceremony for their own private use. The leaders limit this distribution to members twenty-one years old and over, and stress their rejection of the recreational use of it. Ganja is "not for any form of enjoyment or desire", explains Abuna Foxe. "In Rastalogy we believe that the Goliath is the lower self and David is the higher self. For us to kill that lower self we have to control the five senses, kill desire. We believe that when one is being initiated into those principles then one would see herb not as something to get high on, but as part of the body of Christ which gives strength. ...It is not like I want to get a drink of white rum to get high off, but [to] become one with the Creator."

This ritual the Church has been able to perform in London and in New York, where there is greater discourse on and respect for human rights. Not so in Jamaica, however. "Historically, Rasta in Jamaica is a criminal, murderer, etc."

(b) The Nyabinghi Elders, Pitfour Tabernacle

The exposition of the Nyabinghi elders begins with the well-known Rastafari cosmological argument that God created all things–plants and animals, and mankind itself, to which He has given knowledge of them. Herbs, according to the Bible, were created for the use of man. But by creating a man-made world, placing it in opposition to God's creation, "man has become God. He starts to dictate to us or to those that take the divine law, [that] lead to the divine law–because God create herbs [and] gave man the knowledge. Who therefore should come between [man and] that plant? You smoke it, I eat it. You drink it. Who cares if they that smoke want to kill themselves, you understand?" The law, as a man-made imposition, ruptures the divinely created relation between man and the natural order.

Of all the herbs, ganja occupies a special, spiritual place in the livity of Rastafari. First and foremost is its place in the ceremonial rituals held five or six times a year, known as a nyabinghi, or "binghi" for short, which takes place in one of the tabernacles dedicated for these purposes. The tabernacle itself and its grounds being sacred, all commercial transactions are taboo for the duration of the binghi, which could last up to twelve days. In preparation, therefore, Rastafari farmers will grow the herb solely for the binghi, which they present as gifts to the High Priest on their arrival. The Priest places some on the altar, to be later used as incense, and stores away the rest, which he dispenses in a centrally located calabash for personal use, or on request.

Apart from the communing among and between brethren, sistren and entire families, two main activities characterise the binghi, one formal at night, the other informal, during the day. The lighting of a large bonfire, whose flames are kept alive for the duration of the binghi, signals the start of the ceremony at sunset. Just about then, the High Priest along with seven priests and seven matriarchs, followed by the children, enters the Tabernacle. After each priest and matriarch has prayed, the High Priest lights the herbs on the altar.

He will see to it that it is kept burning throughout the night, until sunrise. He makes an offering of ganja to each elder and matriarch, which they will smoke at will, while the children start the drumming and chanting. When the time comes for the House to enter and begin the formal binghi, the children withdraw, the drummers take over, the High Priest prays, and the chanting begins, continuing without break throughout the night. This ritual is

repeated every night.

The informal activity is the reasoning. It will take place throughout the day. Ras Tafari described it for the Commission as "foundation reasoning," because it is there that Rastafari attitudes to politics, theology, repatriation, reparation are shaped. "So the daily event is much more than the rituals at nights," he concluded. The herb is integral to the reasoning "because herb stimulates that part of the thought that keeps us lucid, open and receptive, bearing in mind that we have one common interest. Before you talk you have got to make sure [that] what you talk does not disrupt the peace or the unity. And so, you have to find your own consciousness. With smoking herb everyone can go within themselves to find their own consciousness."

The herb centrally available, every man builds a little spliff as he desires, but with a self-discipline that is mindful of the needs of others and wary of excess. But where they prefer, the group may send for a chalice. To use the chalice, "you have to be very mature, I would say clean-spirited." One of the senior elders prays over the herb, calling on the name of Haile Selassie I for a blessing on those about to partake, and as the herb is cut up and sprinkled with water, the participating circle chants a psalm. In preparing the herb the elders more often than not mix it with ground tobacco, "which signifies balance. " The pure or ital herb, which a few prefer, makes some people cough a great deal, others to develop a big appetite, or fall asleep. When balanced, however, it enables most "to sit and reason and smoke the whole night without getting overloaded." After the substance is prepared and stuffed into the kochi, another psalm is said, and the pipe lit as someone holds a stick of matches or a piece of paper or corn trash. Each then takes his turn, the chalice moving from right to left, until the matter is exhausted.

Reasoning, declared Brother Tafari, "is what you call the most integral part of the Rastaman–to sit and reason and come into one common interest, whether it is political, economical, business, or about the state of the Jamaican Government." The philosophy behind reasoning posits the Rastaman as the temple of God, within which God dwells. Smoking the herb is in actual fact burning "this fragrant incense within this temple unto Him, the Head, the Divine, the Highest Thought of man," in order to stimulate this inner being through spiritual discourse, putting it above the mundane, the political. The herb, whether in the chalice or spliff, helps them to rise to this level and penetrate knowledge. To cite one example, it is through reasoning under the help of the herb, the Rastaman comes to the knowledge that Moses could not possibly have seen God "from the burning bush", but "from burning the bush." Moses "must have taken a spliff, because there was no God in no bush, because we read the Bible biblically, prophetically, literally, and so on.

So when we look at it, we see it is a cup, a chalice, and when him [Moses] sit up inna himself from a panoramic vision, he sees."

The herb is thus "a sacred part of the Rastaman's life, where he finds his inner self." As he wakes in the morning he may smoke a spliff, say his prayers and be one with himself as he focuses to face the day. He uses herb not for recreation but for meditation, for finding the divinity in man. "We know God is one, but God is also found in man and it is out of that consciousness and presence of God in man that the Rastaman function and go and live day by day, knowing that He is dealing with him and direct[ing] him. And he could sit down with his herb and his consciousness within him. You find that the brethren walk five, ten miles to share that with his brethren–just to burn a spliff or chalice."

(c) Ras Iya, Sister Ita and Sister Wood

In this third excerpt, the Rastafarians explain the meaning of the herb as a part of a way of

life. Ras Iya does not smoke the herb, he eats and drinks it. "For me, eating and drinking it is full healing of the people, because it is medicinal control by creation." Using a mortar to beat it into a pulp, if green, or to grind it, if dry, he combines it with other herbs, nuts and honey. As preventive medicine, he mixes it with other spices, such as bissy, nutmeg, garlic, pimento, ginger and orange peel. "That means if one keeps using this thing, no one would sick by accident." In forty years of ingesting it in this way he has never experienced what it means to be sick or in pain.

Sister Ita gives an explanation that could shed light on what many experienced educators describe as a fall off in the motivation of many, sometimes brilliant, students. According to her ganja slows down those who smoke it, but in a beneficial way, taking them out of the world and into the hills, where "you will prefer the breeze of natural creation more than being in town." It induces, she says, a state of mind in which material things become secondary and one begins to see oneself as a part of creation. "Most youths who use herbs are into a more sober, normal lifestyle than the downtown rush. It sobers one to a certain point where it takes you out of the rush, as I say, and it makes you more humble as well, more satisfied with what you have." She describes it as "a kind of escape route for some youngsters", from the pressure of life, by "creat[ing] a space where one can go, like [how] people would go to church. For it is the same way a youngster would go to the weed for." And in this space they become satisfied with the little pennies from their little garden and the bowl of porridge they can afford.

(13) Independent Jamaica Council for Human Rights (1998) Limited

In a presentation to the Commission, the Independent Jamaica Council for Human Rights, led by Mr Dennis Daly, Q.C., made a case for removing ganja from the list of dangerous drugs altogether.

The Council based its position on several arguments: the smoking and possession of small quantities of ganja, representing the majority of cases prosecuted, do not infringe the rights of others; arrests and prosecutions are a drain on the justice system; rehabilitation, the objective of sentencing, is seldom realised because the activity is not considered wrong; the rights to liberty, privacy, security and freedom of religion are violated; the right to work, which the cultivation of ganja as a cash crop represents, is infringed; and sentencing does more harm than the use of ganja could cause an offender. The Council recommends that every individual should be able to cultivate, possess, sell, smoke and use ganja, that Rastafarians should not need any special permit to use it for their religious purposes, and that the court should have the power to treat addiction as a medical problem.

(14) Dr Ronald Lampart

A retired Medical Officer of Health, once in charge of the Princess Margaret Hospital, Dr Lampart traced for the Commission the "very sad, sad history" of the prohibition of ganja in the 1930s, charging racial motives in its suppression, since "up to that time marijuana was being smoked by the Blacks and the Hispanics." He read from the biography of Anslinger, the Commssioner of Narcotics who in association with the Hearst-owned press led the campaign, to show the hysterical basis on which the legislation was passed, despite the objections of the American Medical Association. Dr Lampart testified that he worked for ten years with the Coptics, whose members smoked very hard and never once committed any offence other than breaches of the dangerous drugs law. If for no other reason than ganja's proven medicinal value, he argued, it should be decriminalised. His position was that since it could not now be legalised, it should be made a regulated instead of a prohibited substance.

C. VIEWS AGAINST DECRIMINALISATION

The Commission heard from a very small but important minority, who expressed considered views that the law should not be changed. There were people who in their opening depositions opposed any amelioration of the law, but who on being posed questions by members of the Commission conceded that criminalising young people for small amounts or older people for medicinal use was not what they intended. Such positions, however cautious and reserved, are excluded from this Section, being considered part of the general body of opinion in favour of some measure of decriminalisation. We present only those of people who are definitively against it.

(1) ill-effects

The main argument among those in favour of the criminalisation of ganja possession and use is the negative effects they either see or have heard of. These seem to be of three sorts. The first, from their description of the symptoms, would seem to fit the now well-documented personality disorder referred to as ganja psychosis.

Having smoked it, the person loses control of himself, often behaving aggressively. But the aggression may follow only after other personality changes, including uncontrolled levity and paranoia.

In a letter to the Commission two parents wrote of their painful experience of seeing their twenty-two year old son gradually turn into someone they no longer knew. Their first sign of noticeable change was when "he began to appear amused at times when there was no apparent joke." With increased use, a "new, unusually 'philosophical' person began to emerge, expounding on irrelevancies," and manifesting mood swings, anger and frustration, "not entirely due to ganja smoking we must add in fairness, but certainly likely to be complicated by it." Then came an aggressive stage, in which he threatened others and verbally and even physically attacked his own friends. At that stage he was smoking heavily. Now twenty-six years old, he remains like this, a member of the family, but one, who, compared to the son they knew, is like a "stranger in our house."

With an experience like this, "we say an emphatic NO to legalization in today's Jamaica", at least not until "a reasonable and proper assessment of the effects of the majority of the many chemicals is made". Ganja use "is a form of chemical Russian roulette. You don't know what its effects are going to be on you! Our son gambled, and lost!"

A second effect would seem to be a sort of amotivational syndrome. The anecdotal evidence brought before the Commission is too repetitive to be ignored. The profile of the victims describes an adolescent male, whose interest in scholarly activity declines fairly sharply, who sleeps a lot in class, achieves below his potential and sooner or later drops out of school. Even those strongly in favour of decriminalisation are aware of this reaction and would like to see a ban imposed on the smoking of ganja by all students of primary and high school age.

The third effect is mainly physical, where the effect of smoking knocks out the person, or causes hallucination. Although the remedy of a quick infusion of sugar and water is well known, the experience is enough to convince some people that ganja is a dangerous substance and to harden their resolve that it should be kept illegal and criminal.

(2) proliferation

A second argument advanced is that decriminalisation is going to cause ganja to be more widely available than currently exists and more widely used. And if it is more widely used,

there is bound to be more schoolboys using it. "Because, if it free, too much ruption, and no behaviour, and dem just come and smoke in front you face." Among the likely consequences, then, according to this thirty-two year old mother, is the loss of respect that young children ought to show adults by not smoking in their presence. In addition, to quote an inner city resident, more people smoking ganja wil mean more people that "it sheg up."

(3) gateway

A third argument is that ganja is a gateway drug, leading to other substances,particularly crack-cocaine. Those who advance it see a progression from ganja toseasoned spliffs" (ganja laced with cocaine), to crack-cocaine. Or, they see ganja as part of a "culture" of drugs. "Addiction didn't start from just crack-cocaine, you know, it starts from little small use of drugs–tek a one beer, tek a drink o' rum, smoke a small spliff." Decriminalising the use of ganja seems a small step but it would lead to"a big blown out thing", such as now affect many communities.

(4) smoking

Many who are adamant that ganja should remain criminal see smoking as essentially a harmful activity, regardless of the substance. Tobacco is bad enough already, and to add another substance is to make the situation worse. Some would be for criminalsing the smoking of tobacco itself.

(5) Resident Magistrate

The position of a Resident Magistrate of twelve years of service in many parts of Jamaica, including the west and the Corporate Area of Kingston, was put to the Commission. Her Honour exhorted the Commission not to rush to recommend a change in laws "which our forefathers in their wisdom embraced, unless we have clear and sufficient justification for doing so."
She argued that many persons brought before the court, though admittedly a small minority–a mere one or two out of every twenty, displaying violent, anti-social and aggressive behaviour, sometimes to the point of having to be restrained for a period of time, were, according to their own families, acting under the influence of ganja.

It would be, she suggested, a backward step to decriminalise ganja, in light of the damage already being done by tobacco, and in light also of the fact that "the jury is still out", where the scientific evidence on ganja was concerned.

Many people alleged that ganja has stress-alleviation properties, but she did not believe changing its legal status on that account was justified.

"Are we therefore saying that we are going to legalise the sedation of our people? Is that what we are saying, so that they don't experience emotional pain, stress, etc.? Should our effort [not] be instead in calling them out of themselves to look to their Creator to find solutions to their problems? All pain is not a bad thing. It can alert us that something is wrong and when we get past our threshold of pain tolerance then we can do something about it, like our forefathers who rose up against slavery. It is not okay for everything to be 'irie' and 'no problem'. It is not okay. If this nation is going to go forward in this new millennium, we need to deal with the wounds, the psyche of our people–because certainly, the psyche of our people is wounded, and not give them legal justification for putting their pain to sleep."

A better alternative to decriminalisation, she suggests, is what is now presently being envisioned in the setting up of the Drug Court, which will effectively remove drug offenders out of the ordinary justice system and treat them in a rehabilitative way.

In answer to the Commission's question whether preventing the use of smallamounts of ganja in specified circumstances was acceptable as a matter of justice when the use of alcohol was not, she maintained that the abuse of other legal substances was enough of a problem already.

In short, her position was for amelioration of the laws, not for decriminalisation. And to that end she felt that with greater discretion the court could determine whether a certain quantity was being intended for trafficking as against use.

(6) The Church of God in Jamaica (COGJ)

According to its Chairman, "[t]he Church of God in Jamaica does not support the use of ganja privately or publicly. It is a moral position of the Church." Nonetheless, his view is "that if someone is using it privately on the advice of a medical practitioner, then to me it is quite alright." For those caught with the substance, "a first offence should not be seen as an habitual offence", and such persons should be made to undergo counselling instead of punitive sanction.

Commissioner: This lady is inadequately advised that this little ganja that she has in the vial helps some sort of pain. She is caught using it once, using it twice, she is caught using it thrice–now, remember you said that the first should be counselling. Are you suggesting that after the third time it would be just to really prosecute her and let her face the consequences, even if it means serving time in prison?

COGJ Chairman: No, I would not agree for someone, you know, [who] have a little thing in a vial and they really believe it helps the pain, and may well help too, I would not be in favour of criminalising her.

Commissioner: You wouldn't be in favour of criminalising her?

COGJ Chairman: No, I would not.

Commissioner: What about treating it as a misdemeanour then?

COGJ Chairman: Yes, I think there should be some form of sanction, but not as a criminal offence. ...

Now, you asked about the lady caught once, twice and three times. Well, I would say, this is the fourth time now, and maybe we should just take the bull by the horn and say people are going to use it, and so we will have to now specify the amounts, the form in which it is used, and so on, rather than the frequency.

Commissioner: That is right.

COGJ Chairman: Provided we are convinced that it is not going to be dangerous to their health or affect their body. I think we could stratify that and say for this group [it] will not be regarded as a criminal offence."

Upholding the moral position of the Church of God in Jamaica against the use of ganja, the

Chairman nevertheless believes that prescribed medical use should be permitted, that first offenders should be treated to counselling instead of criminal sanction, and that habitual folk medicinal use should be treated as a misdemeanour.

CHAPTER 4

THE LEGAL AND INTERNATIONAL CHALLENGE

Based on the foregoing, bearing in mind its terms of reference, and weighing carefully the issues raised and the arguments presented to us, the Commission has come to the unanimous conclusion that ganja should be decriminalised for adult personal private use.

Its criminal status cannot be morally justified, notwithstanding the known ill effects it causes in some people. It contravenes natural justice, seeing that it has been, like other natural substances, a part of the folk culture in Jamaica for decades prior to its criminalisation, a part of recognised medical practice for centuries, and a part of herbal lore for millennia in other parts of the world. Nor was its criminal status first recommended by scientific evidence, in any way remotely resembling the proliferation of research, some of it of questionable value, now being called on to justify its current status. Totally ignored is the centuries of accumulated folkways, which through common sense and native wisdom make up for what they lack in modern scientific rigour, and have developed their own modes of uses and limitations, providing valuable clues to well-being for the scientific community.

The Commission takes the view that, ironically, the criminal status of ganja poses a serious danger to society. By alienating and criminalising hundreds of thousands of otherwise law-abiding citizens, and by making the State in their view an instrument of their oppression rather than their protection, the law and its prosecution create in them disrespect for the rule of law. When the rule of law goes, anarchy sets in. Any law that brings the rule of law into disrepute is itself thus a threat to the stability of society.

Thirty years ago the eminent jurist, the late Aubrey Fraser, concluded that cannabis use could not be controlled by the punitive sanctions of the law. Thirty years on, from all the available evidence ganja use not only has spread, but has become defiantly more open. The justice system is severely challenged, its manpower diverted from focusing on more serious crimes, and its material resources consumed in the prosecution of a war that it cannot win.

The inequity that governs the legalisation and control of tobacco and alcohol, but the illegality of ganja cannot be rationally justified, and is indeed iniquitous, given that from all available medical evidence it is the least deleterious and harmful of all. Thousands of people die from cirrhosis of the liver due to alcohol abuse and from lung cancer caused by excessive, chronic smoking of tobacco, but from our research and the evidence presented to the Commission not a single death has ever been recorded from the use or abuse of cannabis.

This is not to say that ganja is not harmful. The Commission is convinced, in the face of the folk anecdotal and medical scientific evidence before it, that many, if only a small percent, of those who use or have attempted use of it are victims of harmful psychological effects. Of great concern are those of school age, many of whom are reported to experience a fall in

motivation, that intellectual and emotional condition for educational achievement.

One group that has made recognised contribution to the development of the arts, and through it brought to our country wide international recognition and acclaim, deserve to be heard for the claims they make on the spiritual significance of ganja to them. It would be a sign of grave disregard and rejection not to accept as serious the meanings which the Rastafari attach to ganja use. That would be like appropriating the inspired achievements of Bob Marley for the glory he has brought our country, but dismissing as trivial and of no consequence the source of his inspiration, namely his religion.

The Commission is persuaded also, given the deeply rooted place of ganja in the culture of the people, that its decriminalisation could provide a buffer against the spread of the evil cancer, crack/cocaine. Decriminalisation separates it from cocaine and heroin, and offers a much better framework in which to focus the efforts against those substances. Under its criminal status ganja is classified alongside the others, even though its effect is nowhere the same. If it were declassified, we think ganja users could be enlisted in the fight against drugs, while at the same time become more open and receptive to sustained education as to its harmful effects.

And so, we turn to the knotty question, how is ganja to be decriminalised. Were it simply a matter for our country alone to decide, a simple repeal or amendment of the laws is all that would be necessary, seeing that there is such wide consensus. However, if Jamaica is not to isolate itself from the international community or to ignore geo-political sensibilities, it has to take careful account of its obligations.

The Laws

There are six Acts relevant to ganja in Jamaica, all of them the results of ratifying certain United Nations Conventions. The Acts are:

1. The Dangerous Drugs Act
2. The Money Laundering Act
3. The Drug Offences (Forfeiture of Proceeds) Acat
4. The Mutual Assistance (Criminal Matters) Act
5. The Sharing of Forfeited Property Act
6. The Drug Court (Treatment and Rehabilitation of Offenders) Act, and The Drug Court Regulations.

The Dangerous Drugs Act addresses measures required under the *Single Convention on Narcotic Drugs, 1961, as amended by the 1972 Protocol Amending the Single Convention on Narcotic Drugs, 1961.*

The remaining five Acts address measures required under the *United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988.* A third Convention to which Jamaica is a party is the 1971 Convention on Psychotropic Substances. As this Convention seeks to control of psychotropic chemical substances, including certain derivatives of cannabis sativa, rather than cannabis sativa itself, it need not detain us.

For the purposes of this Commission the *Dangerous Drugs* and the *Drug Court Acts* are the relevant statutes.

Dangerous Drugs Act

The *Dangerous Drugs Act* responds to the legislative and administrative measures parties to

the *1961 Convention* are required to adopt to limit the production, manufacture, export, import, distribution of, trade in, use and possession of drugs, except for medical and scientific purposes. The drugs defined by the Convention include cannabis, cannabis resin, extracts and tinctures of cannabis. In conformity, the *Dangerous Drugs Act* includes under its purview all parts of the plant known as ganja (cannabis sativa) from which the resin has not been extracted, as well as any resin, extract or tincture obtained from the plant.

Part IIIA of the Act renders it unlawful to import, export, or take steps to export ganja, and imposes a fine of up to $500 for each ounce of the substance on conviction before the Circuit Court, or imprisonment of up to thirty-five years, or both. On conviction before a Resident Magistrate, the maximum fine is between $300 and $500 for each ounce, but not exceeding one-half million dollars, or three years imprisonment, or both.

The Act prohibits as well cultivating, gathering, producing, selling or otherwise dealing in ganja. It prohibits using the premises one owns or occupies for such purposes, or knowingly permitting such premises to be so used, and bans using a conveyance for transporting, selling or otherwise dealing in ganja, or knowingly permitting a conveyance to be so used.

But it is the prohibition of possession and smoking that is most relevant to the work of the Commission. Sections 7C and 7D of the Act state:

7C. Every person who has in his possession any ganja shall be guilty of an offence and–

a. on conviction before a Circuit Court, shall be sentenced to a fine or to imprisonment for a term not exceeding five years or to both such fine and imprisonment; or

b. on summary conviction before a Resident Magistrate, shall be liable–

i. to a fine not exceeding one hundred dollars for each ounce of ganja which the Resident Magistrate is satisfied is the subject-matter of the offence, so, however, that any such fine shall not exceed fifteen thousand dollars; or

ii. to imprisonment for a term not exceeding three years; or

iii. to both such fine and imprisonment.

7D. Every person who–

a. being the occupier of any premises knowingly permits those premises to be used for the smoking of ganja; or

b. is concerned in the management of any premises which he knows is being used for such purpose as set out in paragraph (a); or

c. has in his possession any pipes or other utensils for use in connection with the smoking of ganja; or

d. smokes or otherwise use ganja,

shall be guilty of an offence and shall be liable on summary conviction before a Resident Magistrate, in the case of a first conviction for such offence, to a fine not exceeding five thousand dollars or to imprisonment for a term not exceeding twelve months, or to both such fine and imprisonment, and in the case of a second or subsequent conviction for such offence, to a fine not exceeding ten thousand dollars or to imprisonment for a term not exceeding two years or to both such fine and imprisonment.

These are the Sections of the *Dangerous Drugs Act* which thousands of our citizens run afoul of and are punished. They are mainly young persons, but there have been cases of